Research Methodology

LOGIC, METHODS, AND CASES

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and
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Published in India by
Oxford University Press
YMCA Library Building, 1 Jai Singh Road, New Delhi 110001, India

First published in 2016

ISBN-13: 978-0-19-945378-8
ISBN-10: 0-19-945378-0

Typeset in Times New Roman
by Exemplarr Worldwide Ltd, Chennai
Printed in India by Magic International (P) Ltd, Greater Noida

For my beloved daughter,
Kshiteeja (Sonu)

In life you gave me immense joy,
In your death I am learning about life

Thoughts reduced to paper are generally nothing more than the footprints of a man walking in the sand. It is true that we see the path he has taken; but to know what he saw on the way, we must use our own eyes.

– Schopenhauer

Author's Note

My Journey from '!' to '?'

On the morning of 5 September 2007, (Teacher's day in India), my daughter Kshiteeja breathed her last, peacefully, at home, and in our arms. She was all of twelve years old and had been suffering from bone cancer for the last nine months.

I was familiar with the 'black swan' concept made popular by Nassim Nicholas Taleb, but could never in my life had imagined that destiny would arrange a stark demonstration of the idea by serving such an intensely dark swan in my personal life.

I believe a book preface, by its very definition, must place on record, as honestly as possible, a meta-view of the book, including the significant circumstances and experiences associated with its writing. However, in my particular case, there is also a pressing reason for doing so, in that, the very process of working on the book, has been cathartic for me, to say the least.

Viktor Frankl, the internationally acclaimed Viennese psychiatrist, has expressed despair (D), mathematically, as the difference between suffering (S) and meaning (M), D = S – M. Man struggles to discover meaning in his life to alleviate his despair. Dr Frankl should know — he was a survivor of the Auschwitz and Dachau concentration camps during World War II. I can, indeed, claim that I have experienced the legitimacy of Dr Frankl's philosophy first hand, for the writing of this book helped me discover new meaning in my life, and this meaning kept me going, and assuaged my grief to a large extent.

Through the years after 2007, I have moved from, to express it symbolically, '!' to '?'. The intense grief and frustrated, stupefied helplessness I plodded through earlier has been replaced, gradually, by a quiet puzzlement about why I had to lose my dearest Kshiteeja at all. Incidentally, I also lost my father in 2008, but the writing of this book transported me to a fascinating world of endlessly wonderful ideas, spectacular possibilities, and intellectually fulfilling experiences, which has been partly instrumental, I believe, in the healing metamorphosis of my mental state from '!' to '?'.

I would like to think that Taleb would classify my overall response to this intense personal tragedy of losing my child as typifying anti-fragility. I certainly didn't give up (fragility), neither did I just bear the deep loss stoically (robustness), rather, I searched for meaning in what I perceived was left in my life. I reinvented myself, dived deep within to improve, got a PhD, and wrote this book on research. I do not say this with any pride, vanity or defiance, (after losing a child, I can vouch that any pride or vanity just disappears), I just say it with plain, matter-of-fact neutrality. I have just opened my most private thoughts to the world at large for the first time.

Why *this* book?

I have been in the field of management consulting and research for close to a quarter of a century now. Along the way I added political strategy consulting and research, along with part-time lecturing to my portfolio. When I started with my PhD, I developed an insatiable thirst for knowledge about research. I was never satisfied with learning about standard practices or picking what I perceived as

superficial knowledge. I craved for that essential logic and philosophy, which I strongly believed, drove research decisions and research protocol. There was never one single book, or even a handful, for that matter, that I could rely on completely to understand research methodology in toto.

I discovered that research knowledge was spread over vastly innumerable sources from varied disciplines, and published across a wide time period. Research methodology is of an essentially philosophical nature and hence less vulnerable to the varying norms of disciplines, the vagaries of time, changing ideas, or technology, than many other subjects. Older publications are as relevant, and sometimes more so. In fact my personal conviction, based on a fairly extensive study of the relevant literature, is that some of the books published decades back are truer to the essence of methodology than most of the more recent and current literature.

I realized how limited, lopsided, and shallow my knowledge and skills in research were. Like most practitioners, I was too focused on methods than on the more strategic, methodological tenets. I realized the sheer quantum leap in research quality that one could achieve with an informed application of basic methodological canons. Better research naturally would translate into better decisions for clients, sponsors, students, scholars, academicians, and other key stakeholders. The best part, however, is that once you realize the rationale associated with research concepts, things fall in place so beautifully and naturally that you get into the 'flow' and start achieving almost effortlessly, and truly enjoy the entire process. I want my readers to experience first-hand, this intellectually fulfilling and professionally rewarding experience.

A lot of painstaking effort has gone into the making of this book, but I have no complaints, for I have truly enjoyed most of the journey. Of course, there was no plan to write any book early on. I just wanted to lose myself in some distracting activity. I have enjoyed hours and hours of bliss amongst the lonely corridors and dust filled book-racks of renowned libraries, leafing through endless number of titles, and often been rewarded by the serendipity of discovering gems of research knowledge in humble, apparently long-forgotten titles, published decades, and sometimes centuries back. Thinking, making my notes, and sketching figures that expressed my understanding were so intellectually satisfying and liberating, to say the least, that it made all the time and effort so much worth it.

In a way, writing this book is an attempt to create that elusive, mythical book on research that could explain as clearly as possible; a book I always craved for, and which I could never find. I certainly do not claim my book answers everything; nor that it explains in the best possible manner, but it certainly attempts to expose the foundations of research concepts in a logical, fresh, and insightful way.

As a visiting faculty for PhD coursework sessions, postgraduate courses in research, and faculty development programmes, I have had the opportunity to evaluate, as well as design, the research course contents of many universities and institutes and am reasonably aware of the attitude as well the aptitude of students of varied backgrounds, for research. I have also observed students' learning responses to methodological concepts and research techniques, in class-rooms, as well as in the field, during the execution of research assignments, and internships. I have been privy to students' deepest fears and doubts about research theory and applications, have closely observed their misconceptions and noticed what best helps to communicate subtle research ideas. Many of the notions, figures and questions in this book have been introduced, evaluated, and modified based on student response and feedback.

I have also observed the sheer dearth of good material on the fundamental aspects of research. Most available titles seem to devote greater attention to research execution and description of methods at the cost of the more crucial 'critical thinking', which is so imperative in research. How should one

think scientifically about one's research? What is the rationale of a specific research method? When should one opt for a particular research technique and why? The list can go on. Many titles leave several such key questions, not just unanswered, but worse still, unarticulated!

Naturally, then, methodology takes a back seat. This consistent step-motherly treatment to methodological issues is indeed puzzling as well as alarming for a rising nation like India that can greatly gain from a flourishing research culture and an extensive researcher base. But India needs researchers trained to confidently conceptualize and resourcefully act, and not those who mechanically mimic and act. We need ingenious researchers who command a comprehensive research tool kit, and are capable of making a judicious tool selection to match the real world situation, not researchers trained to expertly use one or two tools whatever be the situation!

I hope the readers of this book will gain from the material provided and progress successfully along this enlightening path, from tentative and limited, methods specialists, to methodologically sound and technically proficient researchers!

Sameer Phanse

Preface

Research Methodology and Research Methods—The Confusion

Usually, few people care to appreciate the difference between 'methodology' and 'method'. They use the words alternatively, not only in day to day communication, but also in technical contexts and formal communication.

Research methodology is the science behind research methods. It essentially involves the philosophy and logic of research. Methodology and methods share a symbiotic relationship. A good grounding in methodology naturally leads to a wise selection and informed application of methods, and such an enlightened application, in turn, provides a richer and practical learning experience. This is an enduring positive reinforcement loop.

Methodology and methods are not bi-poles, the one to be studied, the other to be practised! The most meaningful research is possible only when the wisdom of methodology is consciously integrated into the practice of research.

This title offers methodologically rich material along with accounts of methods. The 'balanced' view it offers is rightfully a weighed one, in that it consistently maintains its stance about the greater strategic value of learning how to think in research, than merely being proficient in executing research methods.

Who should read this book?

Besides postgraduate students of multiple disciplines desirous of pursuing research, the book will be handy for students appearing for the PhD entrance examinations and for doctoral scholars working on their research projects. This is because of the focused exposition of the logic of research concepts, approaches, and methods, as well as the fact that numerous, original, critical thinking challenges have been included in the book to test the reader's understanding of key research concepts. Besides, lots of ideas and principles have been depicted and explained lucidly through novel figures and diagrams.

Researchers, academicians, consultants, practitioners, and managers in the industry will also do well to dip into the volume for reference, since the focus on methodology as a strategic research asset is itself a valuable novelty that can address virtually any real world research circumstance, and besides, many of the ideas discussed herein are not to be found easily elsewhere, and certainly not in any single source.

What is *unique* about this book?

This author has been, in the field of corporate, political, and academic research for about 25 years. Based on his experience of real world research and the requirements of academic courses, he has made a concerted effort to scan a vast range of available literature and choose the most valuable sources from philosophy, logic, and research, in order to distil the essential wisdom necessary to understand and execute good quality research.

The essential education philosophy of the author is more inclined towards adaptive learning than analogous learning. To this end, it follows that methodology gets greater credence to methods, answering the 'why' is more critical than just answering the 'how'. The author strongly believes that the 'how' knowledge can be helpful only in limited, well-defined circumstances, but the 'why' knowledge is more liberating and much more widely applicable.

Some argue that methods are more practical, and that methodology is rather theoretical. But this is the very strength of methodology. Paradoxical as it may sound, the 'practicality' of methods curtails their theoretical scope of application, while the 'theoretical' nature of methodology proves to be its practical forte! The 'why' of research, that methodology addresses so eloquently, empowers one to tackle almost any research situation. Whereas the 'how' of research, which is a description of how to apply research methods in defined settings severely curtails the scope of application.

One of the unique attributes of this book is its single-minded focus on exposing and discussing the fundamental rationale of research decisions and research principles. This book also introduces a novel and very effective technique of understanding research concepts by interpreting nature in terms of the non-empirical and empirical worlds, and then demonstrating how research situations can be most insightfully analysed and interpreted.

The book is generously embellished with a profusion of original and illustrative figures, case situations, numerous research examples, as also interesting and challenging critical-thinking problems. Many aspects of the book have been put to test in classroom situations with a wide range of students from varied academic backgrounds. The book is ably supported by an online resource centre that provides supplementary as well as complementary material and which will be regularly refreshed and updated.

Methodology is, by definition, a timeless topic, and its implications are relevant to any research context, including such modern developments as data analytics, big data, and advanced statistical computing assets. The important issue of methodological considerations when selecting and using statistical computing resources has been discussed at length in an appendix dedicated to that topic.

What does the book *contain*?

Chapter 1: Introduction to Research and Research Methodology

This opening chapter provides a concise overview of research. It demonstrates the importance of research methodology and very clearly depicts how it differs from research methods; much of this information is novel and distinctive to this title. Evaluation of the true value of research and the concept of research ethics are also discussed. The chapter, additionally, presents valuable material on the logic and essence of preparing an effective research proposal.

Chapter 2: Science and Scientific Thinking

Chapter 2 discusses key ideas about science and the significance of thinking in a scientific manner. These ideas are critical to understanding the basic principles of research. This chapter introduces a very unique and valuable tool to understand the logic of scientific structure. This tool is most beneficial in exploring science as a system, as also in comprehending the process of research. Among other things, the chapter also talks about the significant interrelation between probability, logic, and information.

Chapter 3: The Research Process

This chapter discusses how the philosophy of science gets executed in terms of the research process. It includes exclusive material on research as a blend of the prelogical and the logical domains. Also included are three prominent models of the research process, in addition to aspects of the interrelation between the manager and the research process.

Chapter 4: Research Design

It talks about the various critical aspects of research strategy that are central to guaranteeing the validity of research inferences. A rather novel comparison between designing and predicting helps the reader to view research designing in a discerning, new light. Macro and micro influences on design are revealed and their implications deliberated upon.

Chapter 5: Formal Logic, Deduction, and Induction

This chapter demonstrates the crucial function of logic in good research thinking. Deductive and inductive arguments and their place in a scientific inquiry are deliberated upon. The indispensable role of logic in deriving valid conclusions and developing plausible theories and testing hypotheses is also considered.

Chapter 6: Theories and Hypotheses

This chapter discusses the rationale of two critical and invaluable conceptual tools of research; theories and hypotheses. The broad ideas of verifying and testing theories and hypotheses are presented with the aid of diagrams. The nuances of hypotheses testing proper are left to a dedicated, subsequent chapter (Chapter 11).

Chapter 7: Explanation, Prediction, and Laws

Scientific research is all about explanations and predictions based on relevant laws. This chapter relates how good decisions are fostered by comprehensive explanations of decision circumstances. It discusses the logical interrelation between explanations and predictions in the context of the prevailing laws. Various models of explanations and types of laws have been treated and explained using appropriate diagrams.

Chapter 8: Observation, Measurement, and Data

This chapter discusses the nuances of the process by which observations get transformed into data through the critical process of measurement. It explains the rationale of the measurement process and also introduces the four types of variables prevailing in research. Illustrative diagrams have been put to good use while communicating the ideas of measurement, measurement scales, data validity, and reliability.

Chapter 9: Statistical Sampling

Sampling is the cornerstone of most empirical research. The basic logic of sampling and its vital role in research is expounded in this chapter. The rationale and nuances of various probability and non-probability sampling designs are also discussed. The chapter compares probability theory with the statistical approach. Sample size determination gets due logical consideration.

Chapter 10: Parametric and Non-Parametric Statistics

Chapter 10 discusses the statistical tests related to the four types of variables, discussed in chapter 8. This comprises parametric (z, t, F) as well as non-parametric tests (Chi-square). Parametric and non-parametric testing approaches are also comprehensively compared.

Chapter 11: Hypothesis Testing and Managerial Decision-making

This chapter expounds in detail the essential rationale involved in evaluating the veracity of hypotheses. The function of the null hypothesis and the elegant logic involved in its testing is comprehensively explained. Some very original and instructive figures are presented while discussing the two types of errors prevalent in the testing of a hypothesis.

Chapter 12: Introduction to Advanced Statistical Concepts and Applications

Chapter 12 deals with some advanced statistical ideas and techniques in multivariate statistics, including interdependent and dependent techniques. In particular, the chapter discusses discriminant analysis, conjoint analysis, factor analysis, cluster analysis, multidimensional scaling, regression analysis, and data mining. Real life examples and exclusive drawings are used to facilitate effective comprehension.

Chapter 13: Data Collection Methods

This chapter presents numerous prominent methods of gathering data, including many commonly employed methods of data collection. The special feature of the treatment is that the rationale of each data collection method is explicitly explained.

Chapter 14: Reporting the Research

The chapter interprets research communication in a most novel manner. It gives due attention to the need for, and, the modalities of reporting the findings of research. It addresses the logical and psychological considerations related to communicating research, and research inferences, while deliberating upon written as well as oral reporting.

Chapter 15: Questionnaire Design

This chapter exclusively discusses the methodological significance and construction of what is arguably, the most popular, the most used, and the least understood data collection instrument, the questionnaire. It discusses in an original manner and in comprehensive detail the function and design considerations concerning a research questionnaire. It offers a valuable interpretation of questionnaire planning as a blend of psychological, social, and logical (methodological) aspects. In particular, it gives attention to the very critical methodological concept of the role of the questionnaire and the interviewer as a conjoint measuring instrument, as also pretesting of questionnaires and piloting of studies.

Chapter 16: Field Operations

The last chapter explains the significance and discusses the practical aspects related to field operations. The chapter discusses the attributes of an ideal interviewer. It also includes the all-important reflection on potential ethical transgressions during field work. The vexing problem of non-response and inducements as a possible solution is also discussed.

Appendices

The two appendices included in the book are complementary to the material in the chapters. They include:

Industrial Marketing Research Amazing as it may sound, an overwhelming majority of literature does not specifically address the concerns associated with, and the considerations that go into research in the business-to-business (B2B) domain. This appendix presents the essential fundamentals of industrial marketing research, while providing a concise, fish-eye lens view of some of the important principles and practices of industrial marketing research.

Statistical Computing Resources: A Strategic Viewpoint In today's era of big data, analytics, and business intelligence, data processing has taken centre stage. Statistical computing resources leverage the power and sophistication of computing to process large data sets and deliver fast and accurate output. But statistical analysis cannot be carried out in isolation from research methodology. This appendix is a most unique write-up that emphasizes the critical role of methodological tenets in the consideration, selection, and use of statistical analysis resources. It raises a red flag against the indiscriminate and uninformed use of statistical software. Besides discussing numerous key methodological implications in the use of modern data processing tools, the appendix also presents exhaustively the strengths and limitations of the following commonly used data analysis tools; Excel, SPSS, SAS, and R.

Online Resources

The following online resources are available for faculty using this text:

- A set of key PowerPoint slides for each chapter
- Instructor's manual with suggested answers to all critical thinking questions appearing in the book, along with hints and guidelines to discussion questions based on the chapter end case studies
- Critical thinking questions, not available in the book, including MCQs, along with suggested solutions

Acknowledgements

Many people and institutions have directly or indirectly contributed to the making of this book.

I thank the editorial team at Oxford University Press for all the excellent support and guidance. It has indeed been a pleasure and an honour to be associated with the Press.

I also thank those institutions who have invited me as a visiting faculty and I love my students for their curiosity, enthusiasm, and the wonderfully searching questions they often come up with. Their verbal and non-verbal response to my teaching has been an important factor in the design of this book.

Many of the insights I have shared in the book occurred to me while working on the consultancy assignments for my clients. I thank many of my clients for consenting to include the research dilemmas and opportunities I addressed for them as disguised case situations in this book.

My scholarly pursuit would probably have not been possible without the rich store of knowledge and wisdom that opened before me in the vast collection of literature at the libraries of the Mumbai University (Fort and Kalina libraries), the Tata Institute of Social Science (TISS), Mumbai, and The American Library, Consulate General of the USA, Mumbai. I am indeed obliged to these institutions.

I am deeply indebted to all those authors from whose works I have been inspired. I have been amazed by their genius and insights, many of these works find mention in this book, but many, might remain, inadvertently unacknowledged. I sincerely believe I am just a dwarf who stood on the shoulders of these giants and reported what I saw!

I am grateful to Dr Raghavendra Hebsur and Dr Mrs Rajlaxmi R Hebsur for the many technical discussions, suggested readings and constant moral support, as also Dr Dilip Sarwate, my PhD guide, for his encouragement.

I thank all my friends and relatives for support during the course of writing. In particular, Mr Vishwasasrao Kher and his wife, Dr Mrs Indira Kher, both eternal devotees of Shri Sai Baba of Shirdi, have been my steadfast spiritual anchors.

I thank my son Ishaan for patiently bearing with my almost perennial unavailability during the years of writing this book. My wife, Dr Mohini, as in every endeavour of mine, has been a friend, counsellor, sounding board, agony aunt, trusted aide, and of course a strict but just disciplinarian. She helped me stick to a demanding schedule that balanced my professional commitments, book researching, and personal life. Some people one cannot, and indeed, need not thank. For me, she is one of them.

Finally, I pay obeisance to the two beacons in my life, the great spiritual masters Shri Sai Baba of Shirdi, and Shri Ramanna Maharshi of Tiruvannamalai, in whose philosophy and writings I will always find succour.

I welcome suggestions, queries or any other feedback which may be directed to me on my email, drsameerphanse@gmail.com.

Sameer Phanse

Brief Contents

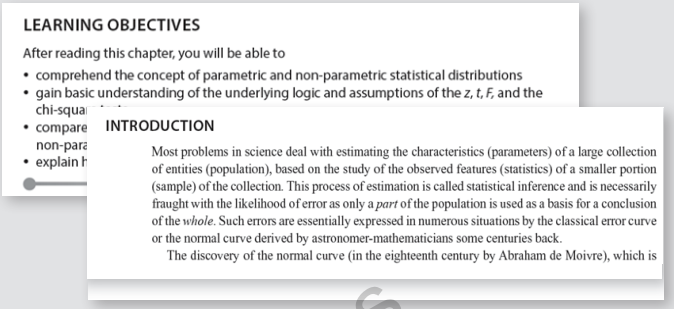
Detailed Contents

Appendices

Features of

Learning Objectives and Introduction

Each chapter begins with Learning Objectives that enable a quick peek into the important concepts discussed in the chapter, followed by Introduction that familiarizes the reader with the topics.



LEARNING OBJECTIVES

After reading this chapter, you will be able to

- comprehend the concept of parametric and non-parametric statistical distributions
- gain basic understanding of the underlying logic and assumptions of the *z*, *t*, *F*, and the chi-squa
- compare non-para
- explain h

INTRODUCTION

Most problems in science deal with estimating the characteristics (parameters) of a large collection of entities (population), based on the study of the observed features (statistics) of a smaller portion (sample) of the collection. This process of estimation is called statistical inference and is necessarily fraught with the likelihood of error as only a *part* of the population is used as a basis for a conclusion of the *whole*. Such errors are essentially expressed in numerous situations by the classical error curve or the normal curve derived by astronomer-mathematicians some centuries back.

The discovery of the normal curve (in the eighteenth century by Abraham de Moivre), which is

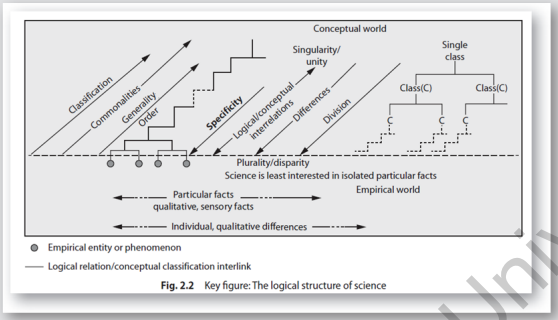


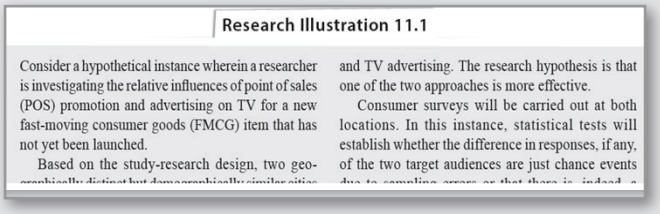
Fig. 2.2 Key figure: The logical structure of science

Master Figure

The Master Figure/Key Figure introduced in Chapter 2 facilitates a unique learning concept that can dramatically improve research learning.

Research Illustrations

Most chapters support the concepts with relevant research illustrations.



Research Illustration 11.1

Consider a hypothetical instance wherein a researcher is investigating the relative influences of point of sales (POS) promotion and advertising on TV for a new fast-moving consumer goods (FMCG) item that has not yet been launched.

Based on the study-research design, two geo-

and TV advertising. The research hypothesis is that one of the two approaches is more effective.

Consumer surveys will be carried out at both locations. In this instance, statistical tests will establish whether the difference in responses, if any, of the two target audiences are just chance events

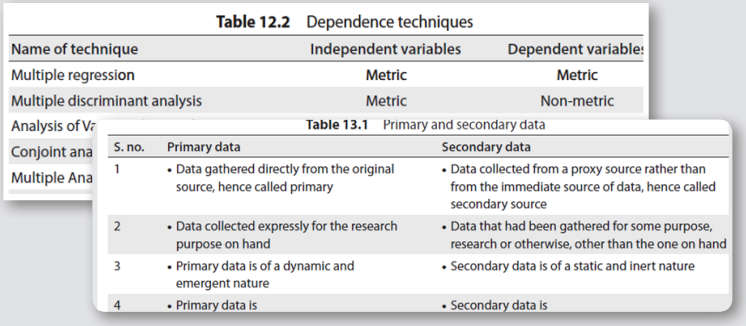


Table 12.2 Dependence techniques

Name of technique	Independent variables	Dependent variable
Multiple regression	Metric	Metric
Multiple discriminant analysis	Metric	Non-metric
Analysis of Va		
Conjoint ana		
Multiple Ana		

Table 13.1 Primary and secondary data

S. no.	Primary data	Secondary data
1	• Data gathered directly from the original source, hence called primary	• Data collected from a proxy source rather than from the immediate source of data, hence called secondary source
2	• Data collected expressly for the research purpose on hand	• Data that had been gathered for some purpose, research or otherwise, other than the one on hand
3	• Primary data is of a dynamic and emergent nature	• Secondary data is of a static and inert nature
4	• Primary data is	• Secondary data is

Tables

Similarities and dissimilarities, advantages and disadvantages, etc., of techniques and concepts are highlighted in tables that enable quick insight into important information.

the Book

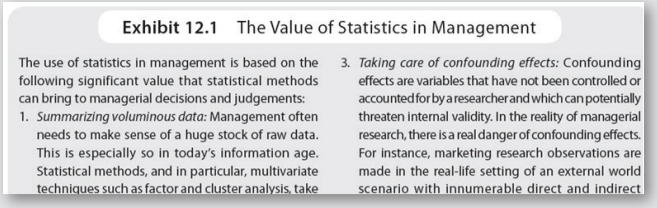


Exhibit 12.1 The Value of Statistics in Management

The use of statistics in management is based on the following significant value that statistical methods can bring to managerial decisions and judgements:

1. *Summarizing voluminous data:* Management often needs to make sense of a huge stock of raw data. This is especially so in today's information age. Statistical methods, and in particular, multivariate techniques such as factor and cluster analysis, take

3. *Taking care of confounding effects:* Confounding effects are variables that have not been controlled or accounted for by a researcher and which can potentially threaten internal validity. In the reality of managerial research, there is a real danger of confounding effects. For instance, marketing research observations are made in the real-life setting of an external world scenario with innumerable direct and indirect

Exhibits

The monotony of the discussion in each chapter is interrupted by drawing the reader's attention to Exhibits interspersed with the text.

Figures

The explanation of the concepts is supported by numerous well-labelled and easy-to-understand figures throughout the book.

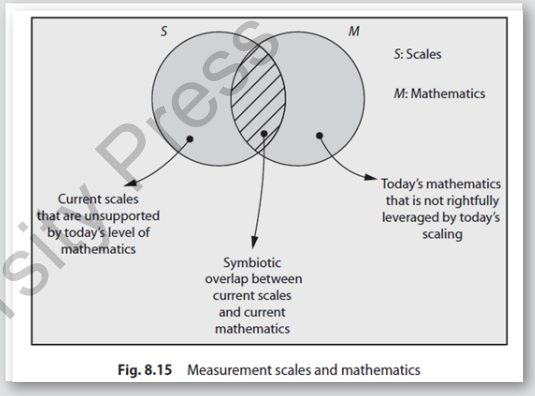
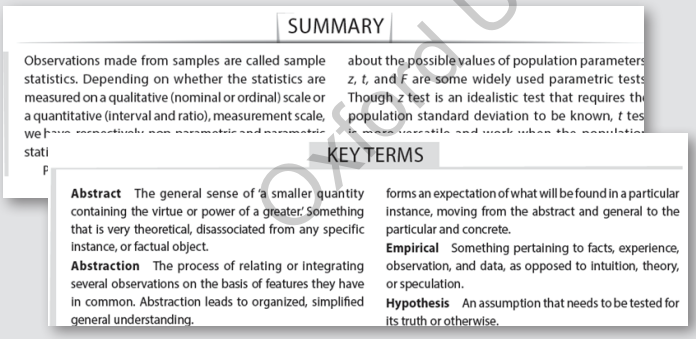


Fig. 8.15 Measurement scales and mathematics



SUMMARY

Observations made from samples are called sample statistics. Depending on whether the statistics are measured on a qualitative (nominal or ordinal) scale or a quantitative (interval and ratio), measurement scale, we

about the possible values of population parameters

z, *t*, and *F* are some widely used parametric tests

Though *z* test is an idealistic test that requires th

population standard deviation to be known, *t* tes

KEY TERMS

Abstract The general sense of 'a smaller quantity containing the virtue or power of a greater.' Something that is very theoretical, disassociated from any specific instance, or factual object.

Abstraction The process of relating or integrating several observations on the basis of features they have in common. Abstraction leads to organized, simplified general understanding.

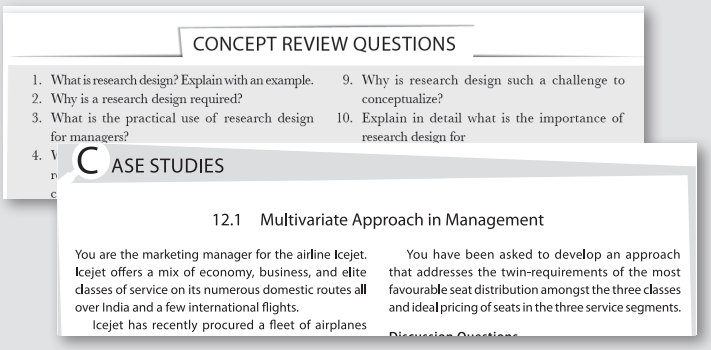
forms an expectation of what will be found in a particular instance, moving from the abstract and general to the particular and concrete.

Empirical Something pertaining to facts, experience, observation, and data, as opposed to intuition, theory, or speculation.

Hypothesis An assumption that needs to be tested for its truth or otherwise.

Summary and Key Terms

The summary and key terms provided at the end of each chapters facilitates easy and quick recapitulation.



CONCEPT REVIEW QUESTIONS

1. What is research design? Explain with an example.
2. Why is a research design required?
3. What is the practical use of research design for managers?
4. V

9. Why is research design such a challenge to conceptualize?
10. Explain in detail what is the importance of research design for

CASE STUDIES

12.1 Multivariate Approach in Management

You are the marketing manager for the airline Icejet. Icejet offers a mix of economy, business, and elite classes of service on its numerous domestic routes all over India and a few international flights.

Icejet has recently procured a fleet of airplanes

You have been asked to develop an approach that addresses the twin-requirements of the most favourable seat distribution amongst the three classes and ideal pricing of seats in the three service segments.

Discussion Questions

Exercises and Case Studies

Various exercises, including concept review questions, critical thinking questions etc., are provided at the end of each chapter to test the understanding of concepts discussed while case studies help to apply the derived knowledge.

Companion Online Resources

Visit india.oup.com/orcs/9780199453788 to access both teaching and learning solutions online.

Online Resources

The following resources are available to support the faculty using this text:

For Faculty

- PowerPoint Slides
- Instructor's Manual
- Additional Critical Thinking Challenges

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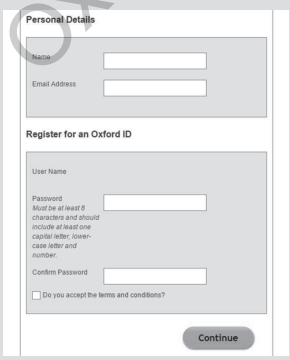
Step 4: View Resources
- Click on "View all resources"

Step 5: Sign in with your Oxford ID

Step 6: if you do not have an Oxford ID, register with us



Step 7: Fill in your details
- Fill the detailed registration form with correct particulars.
- Fields marked with '*' in the form are mandatory.
- Update

Step 8: Validation
- We shall revert to you within 48 hours after verifying the details provided by you. Once validated, please login using your username and password and access the resources.

Step 9: Confirmation
- You will receive a confirmation on your email ID.

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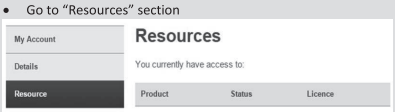
- Go to "Resources" section



Step 12: Download Resources
- Click on the title
- View online resources
- Select resource type
- Download the resource you require

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Introduction to Research and Research Methodology

1

> "Through imitation one can acquire crafts, but through precepts a science."
>
> –*Immanuel Kant*

LEARNING OBJECTIVES

After reading this chapter, you will be able to

- obtain an overview of research
- discern between research methods and research methodology
- analyse the gaps between a research problem and its methodological prescription
- consider an approach to determine the true value of research
- realize the problem of ethics in research
- learn the logic of designing a sound research proposal

INTRODUCTION

The following discussion aims to provide a bird's-eye view of research and allied notions. It does not purport to be comprehensive or a completely self-sufficient guide to the logic and process of research. Dipping into the respective chapters that discuss specific topics and ideas in a more focused manner is not only mandatory but highly recommended.

This chapter introduces you to the overall philosophy, nature, tools, and certain basic terminology of the research act.

WHAT IS RESEARCH?

Research is a systematic quest to identify a unifying conceptual principle that resolves the apparent chaos existing in the phenomenal world. Research always strives for abstraction and generalizations that help the classification of real-world events and entities into similar types and thereby searches for that elusive, unifying concept, which can explain the interrelation between what are apparently, or empirically (as observed), disparate phenomena involving various different entities.

Research is a conscious, purposeful, systematic attitude and process of seeking facts, explanations, and clarifications. It can involve questions regarding the empirical (real) world, which we sense, as well as the conceptual world, or the thoughts in our mind, which are not 'sensed' but which we can only think about.

Research involving observation of real-world phenomena and events is termed as empirical research. Note that such research still does involve a lot of thinking and cognitive processes, for instance, when contemplating in the process of doing research. Scientific research involves real-world facts and thus is empirical research.

Non-empirical research, on the other hand, is not directly connected to any actual or real-world happening. It may not have any empirical reference. Research in mathematics and logic are two examples of non-empirical research.

Empirical research, then, is about actuality, whereas non-empirical research is about possibilities.

Research is a systematic rational endeavour, which incorporates the scientific attitude and procedure. In fact, research makes use of the much touted, and less understood, scientific method. Science itself is said to be an evolving organized body of knowledge obtained using methods that are based upon observations.

More on what is science and what constitutes scientific thinking is discussed in Chapter 2.

Business involves making decisions and the information that business research can furnish for decision making is, inarguably, welcome. However, business research may not always be warranted, possible or justified. Exhibit 1.1 discusses this aspect in some detail.

Exhibit 1.1 Evaluating Whether Business Research Is Justified

Every business situation does not, and cannot, warrant research. Certain aspects need to be assessed carefully, and these must be considered in a certain logical order that ensures maximum efficiency.

For instance, in the case of the assessment of whether to opt for marketing research, the important factors to be considered are enumerated below:

The Marketing Research Choice Influencers

The decision to go in for marketing research has to be a well-thought-out, considered conclusion. The factors to be considered include the following:

a. The cost–benefit of the research decision
b. The ease of accessibility of the data
c. The time available for the research
d. The criticality of the decision that ostensibly necessitates research

However, all these aspects are not of equal consequence. The correct order of consideration of these factors will follow the path of minimum effort and resource expense.

Logically speaking, the following is the most appropriate order of considering the various factors:

1. The seriousness of the marketing situation
   (i) Decision hierarchy
   (ii) Risk quantum
2. The ease of accessibility of data to address the marketing dilemma
   (i) Internal availability
   (ii) External accessibility
3. The time on hand to attend to the dilemma
4. The economics of the marketing research option
   (i) The cost–benefit equation
   (ii) The return on investment in research

See Fig. 1.1 for a flow-chart that depicts this logical analysis and corresponding suggestions for actions.

Justification for the Order

The most significant aspect to consider is the criticality of the decision being evaluated. Whether or not to research depends on how strategic or important the decision is for which we are contemplating possible research.

Some attributes of a critical decision are as follows:

1. A critical decision will usually be one that is upstream in the decision hierarchy.
2. It will therefore have an impact on a multitude of other downstream decisions.
3. It will have a lot at stake on its outcome and can therefore also be gauged by the amount of risk involved in making the decision.

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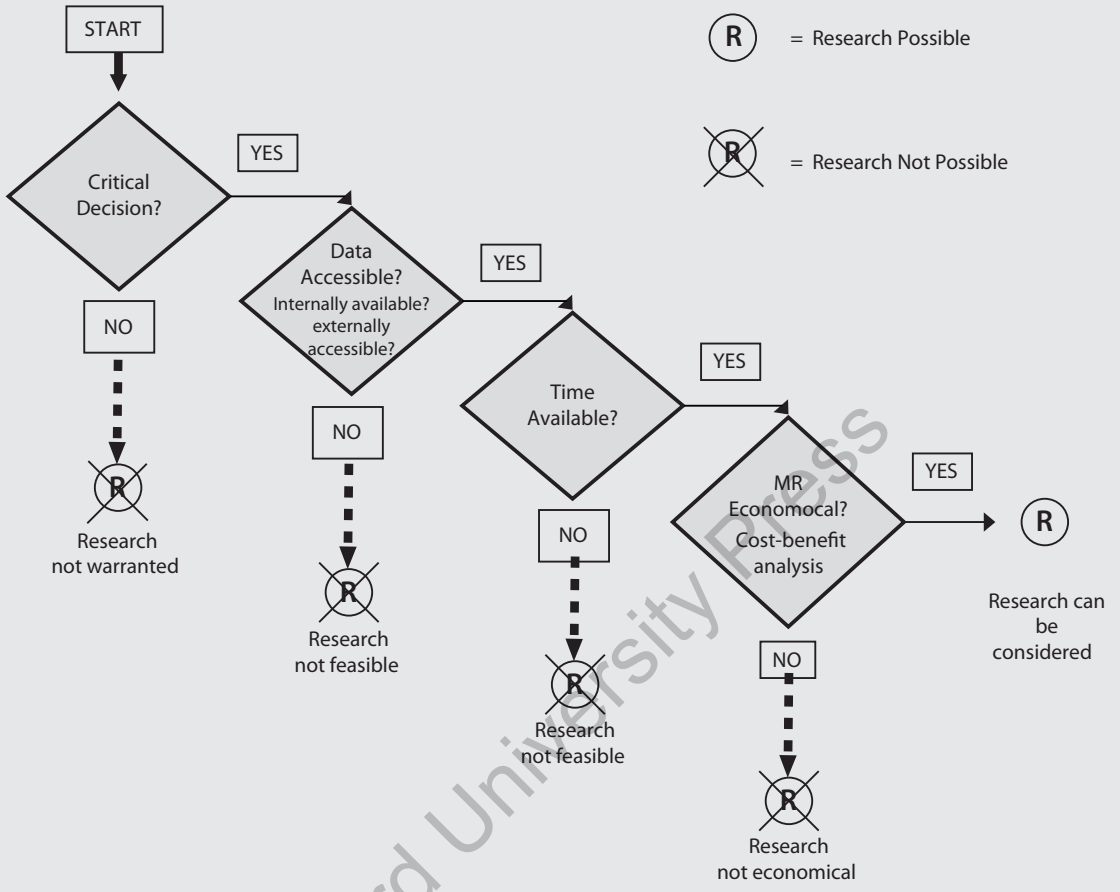

Fig 1.1 When to research? Factors for consideration and corresponding courses of action

If the decision is not really very critical, there is no real justification in doing any research, even if one has all the data, time, and money to engage in research.

If a decision is indeed perceived to be critical, we move to the next point of consideration, namely the potential availability of data. If data is not currently or potentially available, then all the time and money in the world are of no help. For instance, if an organization requires information on how patrons perceived their brand when it was first launched many years back and no such research was done at that time, this represents data that cannot be accessed.

Next in importance is the availability of time. Assuming a critical decision, and having ascertained that data would indeed be physically accessible, we assess how much time is available and whether it is indeed adequate for research and subsequent managerial action.

Not only should time be available for conceptualizing and executing the research, but equally important, time must be at hand to apply the findings in terms of an appropriate marketing action. Time is more important than money since all the money in the world cannot buy time. Further, in today's business context, opportunity

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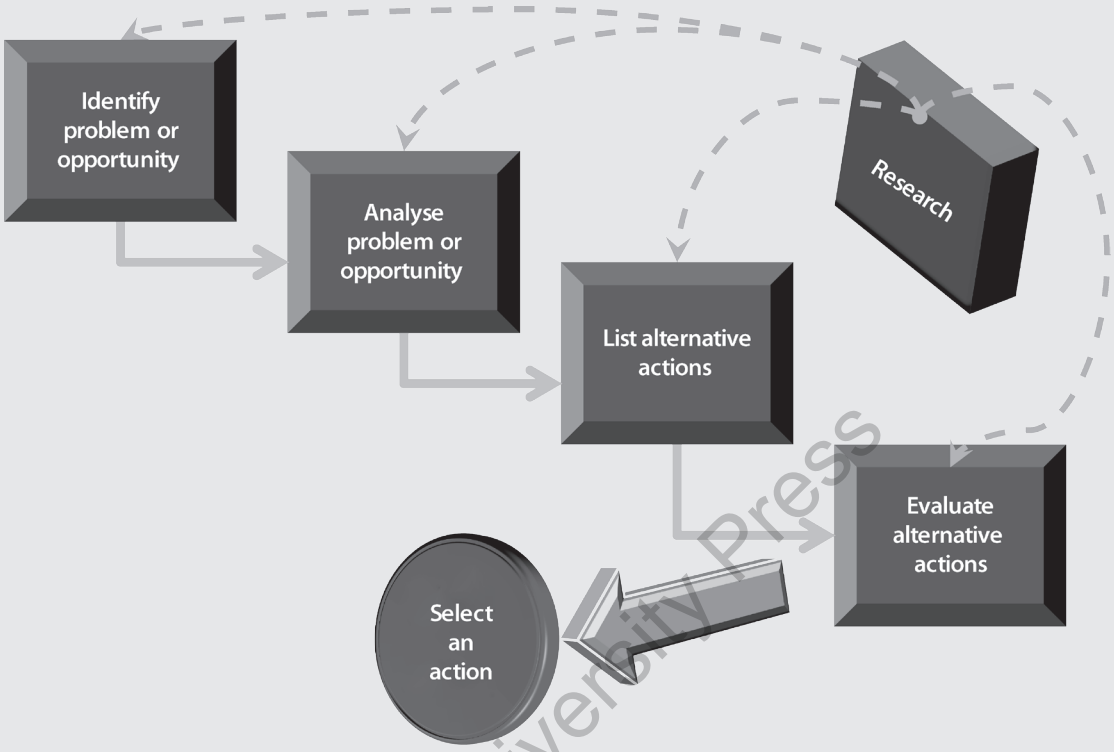

Fig 1.2 Decision-making and research

windows are few, narrow, and collapsing rather rapidly; hence, time is indeed critical.

Finally, if a decision is made to be critical, data is estimated to be available, and time has been ascertained to be adequate, we consider the last factor as to whether the research would justify the cost incurred. A healthy return on research investment is what is being sought.

These ideas have been depicted in Figures 1.1 and 1.2.

Types of Research—Logic and Purpose

Research outcome depends, to a large extent, on the specific method of research that was adopted for the research. A broad knowledge of the various research types and an understanding of the bases of the typology are necessary but not sufficient conditions for research success.

Classification of research gives a good overview of the purpose and approaches of research. However, it must be kept in mind that any such classification is inevitably arbitrary. No classification can be said to be correct or perfect. The classifications can only be considered appropriate or otherwise for the purpose on hand. Further, no classification scheme can be considered to be watertight. There can always be some overlap and classification uncertainties in some cases.

Research can be classified based on various criteria. For instance, research can be classified based on the purpose of the research, for example, whether the research is applied or theoretical. It can also be classified based on what basic type of research approach the research adopts.

An overview of some prominent types of research and their corresponding criteria of classification is presented in Table 1.1. Some of the research types will be discussed at some length in this book.

Table 1.1 Types of research

S. no.	Basis of classification	Research type	Remarks
1	• Intent of research	• Theoretical (pure) or fundamental research	• Sole purpose is to gain knowledge • No immediate and pressing application urgency
		• Applied research	• Seeking a solution to a real-life problem • The outcome of the research usually guides – an action or – a policy decision
		• Exploratory research	• A preliminary study of an unfamiliar problem • Usually fairly unstructured • May not have any – specific objective or – particular hypothesis
		• Descriptive research	• It is a fact-finding exercise • Focussed on the description of empirical – events and – entities • Researcher is more conversant with the subject than in an exploratory study
		• Diagnostic research	• Focussed on answers to the questions discovering – what is happening, – why it is happening, and – what can be done about it • Degree of association and correlation could be part of the research • Researcher is more conversant with the subject than in a descriptive study
		• Evaluation studies	• A type of applied research • It assesses the impact of – programmes and – interventions on various indicators, including social indicators • More likely to have a hypothesis than a descriptive study • Evaluations can be – concurrent, or – periodic, or – terminal
		• Action research	• A type of concurrent evaluation study • It assesses the impact of an action programme • It solves problems or strives to make a situation more favourable

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Table 1.1 (Contd)

S. no.	Basis of classification	Research type	Remarks
2	• Methods of research	• Experimental research	• Strives to – analyse the impact of specific variables on a phenomenon by – maintaining the other variables influencing variables constant or unchanged
		• Analytical inquiry	• A system of procedures and techniques • The techniques are – mathematical and statistical and – apply to quantitative data
		• Historical research	• A study of archived data and past records • The objective is to reconstruct the emergence and development of – an institution, – a movement, or – a system
		• Survey	• It is a fact-finding inquiry • Collection of data directly from a sample or population • Data can be gathered using – observations, – interviewing, or – questionnaires • Study occurs in its natural setting (field study)
		• Case study	• A comprehensive and in-depth study of – an individual – a social group – a programme – a community – an episode – an institution • Aims to – comprehend the complete life cycle of the social unit – identify and understand the factors at play – study the resultant of the various factors on the unit, over time – identify potential causal factors
		• Field studies	• Study of – real-life social structures – real-life events and situations • Scientific inquiries into the interaction and interrelationships between – sociological, – psychological, and – educational – variables

Table 1.1 (Contd)

S. no.	Basis of classification	Research type	Remarks
			• Stress is more on a comprehensive account of social processes than with representativeness of the studied social structure • System study and inference is more – direct and – empirical observations based, than in a survey where it is likely to be more ◦ inferential and based on ◦ statistical analysis

(Krishnaswami, O., 2000, pp. 38–69)

RESEARCH METHODOLOGY

Research methodology is the logic that justifies the conceptualization of a specific research method in the first place and also the ground for its choice as a potentially appropriate tool in a particular situation requiring an inquiry.

Methodology is the logic of inquiry. However, essentially, there is a distinction between methodology and logic, in that methodology is the application of logical principles (Dewey, J., 1964, pp. 4–5). The processes of logic and methodology are closely interlinked (De Groot, A., 1969, p. 24).

Karl Popper declares that it is the duty of the logic of scientific discovery, or the logic of knowledge, to undertake a rational study of the procedures and practices of empirical science. Thus, methodology is expected to analyse the methods of empirical science (Popper, K., 1980, p. 27).

Methodology is a more complex notion than the method it conceives or suggests for application. Methodology encompasses not only the method but also important considerations of the philosophy of science (see Mukherji, P. (ed.), 2000, pp. 13–14).

Thus, research methodology involves

1. a general contemplation on empirical and conceptual research techniques,
2. philosophical deliberations, including,
   (a) a deep-rooted consideration of the logic and scientific justification of the methods, related to the philosophy of science, as well as, deeper philosophical musings on
   (b) the theory of inquiry, and
   (c) epistemology (the theory of knowledge).

Figure 1.3 illustrates the broad considerations, aforementioned, that go into the idea of research methodology.

A knowledge and consideration of methodology is crucial for researchers and those who consume research. This is so since, by clarifying the theory of research, exposing its fundamental rationality, and considering the deeper philosophical underpinnings associated with its methods, one can greatly influence the credibility and effectiveness of the research outcome.

In fact, as per Benjamin C, research methods decide the research outcome; hence, a thoughtful consideration and selection of methods is in order (Benjamin, C., 1936, p. 41).

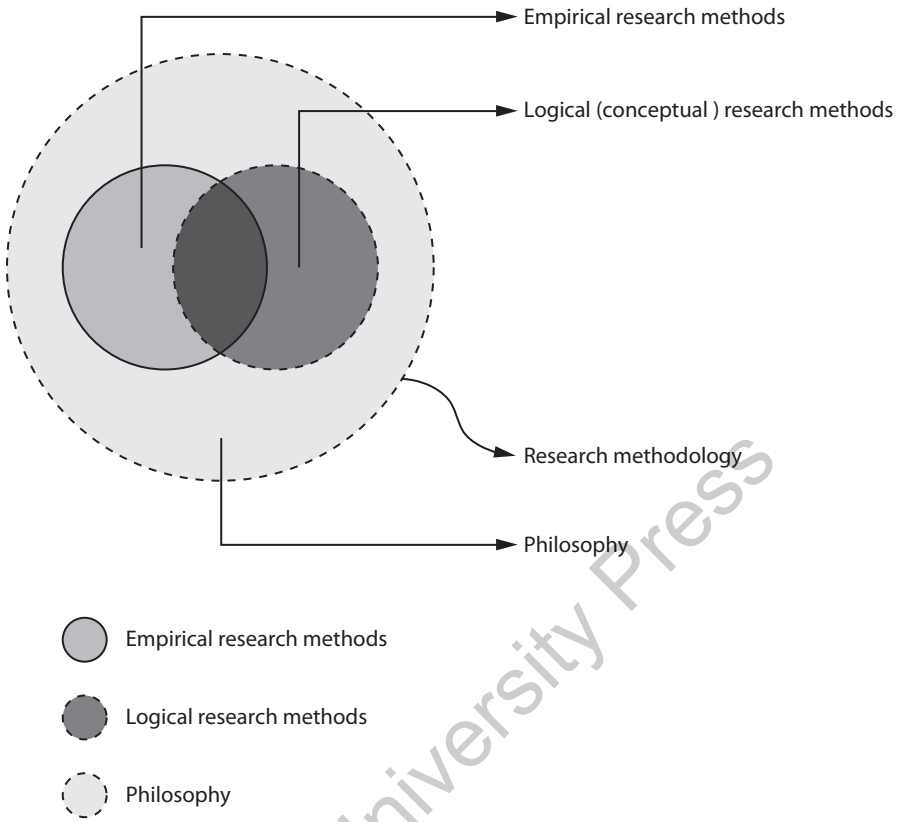

Fig. 1.3 Research methodology and its logical relation to empirical methods, logical methods, and philosophy

Comparison between Methodology and Method

The two terms, methodology and method are often confused and used loosely in lieu of one another (see Grix, J., 2004, pp. 32, 169, and 170 and Mukherji, P. (ed.), 2000, p. 36). This confusion is prevalent not just in everyday language but, what is worse, even among some researchers and research consumers in research contexts. There is a very clear difference between the two that must be understood and noted carefully.

Phanse has remarked, 'Methodology and methods are not bipoles, the one to be studied, the other to be practised! The most meaningful research is possible only when the wisdom of methodology is consciously integrated into the practice of research' (Phanse, S., 2013, p. 1). Methodology and methods are, indeed, logically and functionally interlinked.

Unfortunately, today the emphasis often seems more on acquiring know-how or information about techniques or methods than on trying to understand the remarkable logic or reasoning that lies at the heart of the particular method. The emphasis must always be on a deep appreciation of the fundamental principles that dictate the working and choice of any research method.

Simply put, an appreciation of methodological principles equips the researcher to respond appropriately to multiple genres of possible research types and correspondingly innumerable potential instances of specific empirical conditions of research. This reminds one of Kant's sage observation

that 'Through imitation one can acquire crafts, but through precepts a science' (Young, J. (Tran. and ed.), 1992, p. 6).

Knowledge of research methodology, and about its judicious interpretation, not only results in a more fluently conceptualized research process but also a potentially better quality of research outcomes.

In fact, knowledge of the philosophy of research not only helps, for instance, to understand research designs and choose appropriate ones but, further, to identify appropriate designs or alter designs that the researcher has never encountered (Easterby-Smith, M., R. Thorpe, and A. Lowe in Bennett, N., R. Glatter, and R. Levacic (eds), 1994, pp. 76–92).

Research is all about the rational selection of a valid method based on methodological principles and the correct execution of the chosen method. Of the two terms—methodology and method—the former is more critical since it regulates research validity by directly influencing the all-important choice of the most appropriate research technique under specified conditions. The research method itself, once selected, based on methodology, is more about stipulated, skilled, and practical implementation of methodological concepts in the real world.

The interrelation between research methodology and methods has been presented in Figs 1.4 and 1.5. Figure 1.4 indicates how constructive evolution of a research method benefits the community of researchers as well as the discipline at large in which the method is applied.

Figure 1.5, on the other hand, goes further and illustrates the differential impact of an enhancement in methodology as compared to that in mere methods. The diagram indicates that methodological enhancements lead to

1. positive impact on various research methods that are related to or are inspired by the improved methodological ideas,
2. improvements in the level and quality of substantive knowledge in the various disciplines connected to the research,

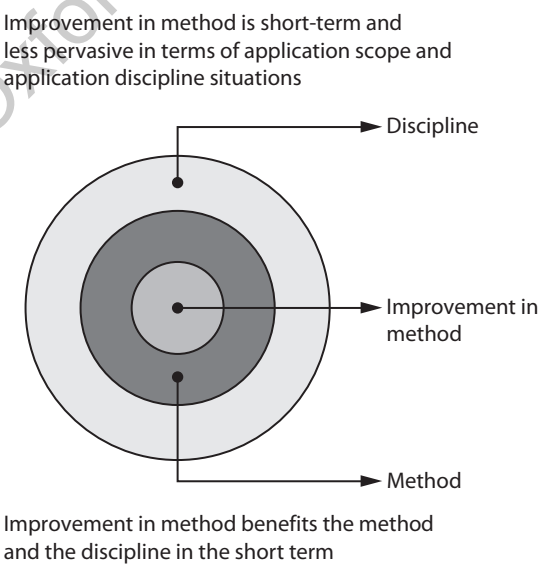

Fig. 1.4 Research methodology and methods

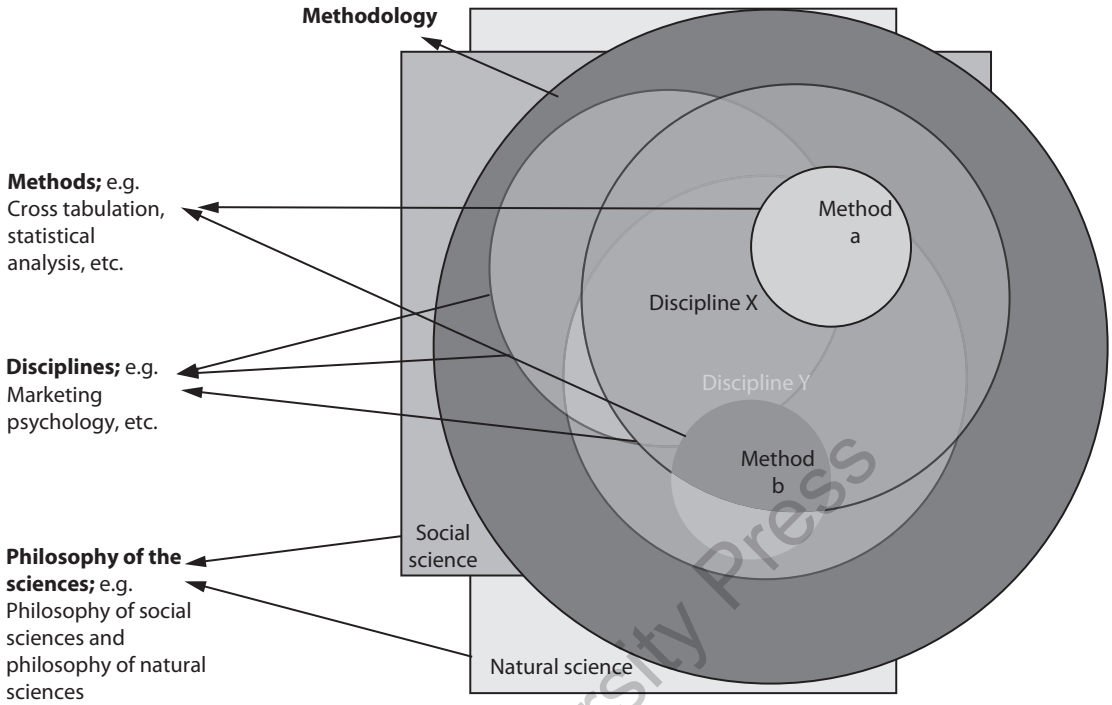

Fig. 1.5 Improvement in methodology benefits multiple methods and multiple disciplines in the long term and adds to the philosophy of the sciences

3. a meaningful contribution to the philosophy of science, and
4. positive developments that are usually
   (a) significant and
   (b) long-term.

There are numerous points of distinction between the concepts of research methodology and research methods. Table 1.2 highlights some of the essential differences between research methodology and research methods.

Table 1.2 Research methodology versus research methods

S. no.	Research methodology	Research method
1	• 'Methodos' is 'the path', in Greek, and logos imply science or study (Buchler, J., 1961, p. 36). Thus, research methodology can be interpreted as the study of the process of research or the act of research	• Research method is a technique of executing research
2	Research methodology involves – the theory behind the working of a research method as well as – the logic or the rationale of selecting a research method	• Research method is the specific technique of conducting research

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Table 1.2 (Contd)

S. no.	Research methodology	Research method
3	• Research methodology pertains to – a general set of guidelines or decision principles that can be used to choose among possible research methods – in order to best serve the research objectives and – suit the research circumstances	• A research method – pertains to a particular technique of executing research that – includes adequate instructions and directives for its practical application
4	• Methodology includes – not just the bases of method selection, but also – information on the methods themselves	• Research methods imply – the description and – application-peculiarities about a specific research technique
5	• Research methodology is a broader concept than research method	• Research method is a narrower concept than research methodology
6	• Methodology is more of – an idea and – a conceptual notion (belongs to the world of ideas)	• Method is of the nature of – a procedure and – belongs more to the empirical world (the real world)
7	• Methodology induces the application of valid cognitive operations and is, thereby, a legitimate branch of logic (Ajdukiewicz, K. (Tran.), O. Wojtasiewicz, 1974, pp. 1)	• Methods pertain to – procedural specifications – the technical nuances, and, – practical details of specific research procedures and practices for application in real-world situations
8	• Methodology is concerned with an assessment of – the potentialities and – limitations of particular research procedures (Grix, J., 2004, p. 32)	• Methods involve – the application and – real-world use and experience of specific research techniques
9	• Research methodology is – the theory of research and – the theory of its methods	• Research methods deal with – the application facts about research methods in empirical (real-life) situations
10	• Closely concerned with the validity of research	• Closely concerned with the reliability of research
11	• Research methodology is about 'doing the right things'	• Research method is about 'doing things right(ly)'
12	• Methodology corresponds to research strategy	• Methods correspond to research tactics
13	• Methodology refers to – the choice of a certain research strategy by a specific research scholar, along with, – the rationale for opting for that particular strategy, – from among a host of other available alternative research approaches (Grix, J., 2004, p. 32)	• Methods refer to – the particular tactics adopted by the scholar – the real-world execution nuances and specifications of these methods

(Contd)

Table 1.2 (Contd)

S. no.	Research methodology	Research method
14	• More strategic in value for the process of research	• More tactical in value for the process of research
15	• A lapse related to research methodology will have more serious implications for the research outcome than one associated with research methods	• A lapse related to research methods will have less critical implications for the research outcomes than one associated with research methodology
16	• More of theoretical principles	• More of practical procedures and stipulations
17	• Research methodology is – the rationale or – the 'know-why' of the act of research	• Research methods is – the practical know-how or – the know-how of the act of research
18	• Research methodology is of a – conceptual or – logical nature	• Research method is of – an empirical or – factual nature
19	• Mastery over research methodology involves more of – rational thinking, – proper logic, and – application of interrelated concepts regarding the theory of inquiry	• Mastery over research method involves more of – following specific instructions, – repeated execution, – cumulative experience, and – application of past learning
20	• If methodological principles get violated, – research measurements are prone to serious systematic errors (bias) – research outcomes can get critically flawed • Such errors are difficult to detect and correct	• If research methods are improperly executed, research measurements get susceptible to – systematic errors and – these are, of course, besides the unavoidable random errors that inevitably creep in
21	• Research methodology has the potential to significantly impact and influence, in the long term, – a multitude of research methods, – across a variety of disparate disciplines, – and contribute to the philosophy of science itself	• The impact of an enhancement in research methods is usually, relatively less significant and is – limited to the short term – limited in scope to the particular research inquiry, and – the specific discipline of application to a limited extent

RESEARCH METHODOLOGY AND THE RESEARCH PROBLEM

The principal aim of any research is to address the specific research issue identified by the researcher. To this extent, methodology must be capable of taking up the challenge and serving a plan that best tackles the research problem.

Ideally, the principles of methodology must be potent enough to provide the logic and suggest the practical approach of aiding any research demand. However, this may not always happen because of various reasons.

There can be a gap between what a particular inquiry actually warrants in terms of methodological prescription and what actually gets recommended. This shortfall or gap and its possible genesis can be analysed. Mitigating measures can then be adopted so that research situations may be confronted with the most appropriate methodological solution.

The Methodology Research Situation Gap Analysis

Figures 1.6 and 1.7 present these ideas of the tussle between methodology and research situations and the analysis of the sources of the shortfall between what would be an ideal methodological solution and what methodological exposition actually gets presented in response to a research challenge.

For the sake of succinctness and parsimony, these ideas have been presented and analysed as a table here in Table 1.3.

Research Methodology is an important concept that has many interesting interpretations as well as implications, some of which have been discussed in Exhibit 1.2.

Table 1.3 Research methodology and challenges to its application

S. no.	Aspect	Significance and interpretation
1	• The Research problem (P)	• The research challenge confronting the researcher • The research problem includes and implies – a coherent definition of the research situation – an articulation of the research context in terms of its conceptual as well as empirical ramifications • A fluent definition of the research challenge helps to invoke the most appropriate methodological remedy
2	• Ideal research methodology (M)	• This is the utopian or the ideal methodological formula or prescription for the given research problem • The ideal research methodology, of course, can only correspond and be commensurate to how accurately the research problem has been articulated • If the research problem has not been accurately spelt out, for whatever reason, the methodological solution will always be less than perfect • The best methodological prescription ensures – a valid research solution and – the most effective and efficient prescription for research • If the research problem has been ideally defined and the research methodology has been applied ideally too, – we have a utopian ideal of a perfect match of methodology to the problem – there is no gap or shortfall on any count – This has been picturized in Fig. 1.6(a) – The gap between methodology and the problem, in this case, G_A, is shown to be nil – $G_A = M - P = 0$

(Contd)

Table 1.3 (Contd)

S. no.	Aspect	Significance and interpretation
3	• Less than ideal research methodology (M′)	• Research methodology is an evolving discipline that improves with contributions to – the philosophy of science, – logic of scientific inquiry, and – the craft of research techniques made by the collective research community across time by virtue of – scholarly musings and – real-world experiences of individual entities related to the theory and application of methodological concepts • Even for a perfectly defined research problem, the methodological formulation suggested can be only as good or as bad as the level of development of methodological principles and knowledge prevailing at that moment in time – Thus, if M is the ideal level of methodology, then actual or the existing level of methodological knowledge (M′) may be less than the ideal level (M) • This existing level of methodological knowledge is the level of the collective methodological prowess of the research community. It is the methodological capability of the research world at the given moment in the evolutionary path of methodological knowledge • M′ is a collective or group of methodological characteristics and abilities • Normally, no individual researcher, other than, perhaps, the most gifted, can be expected to invoke the cognitive capacity and the extraordinary skills required to transcend this rather generic and universal limitation • Figure 1.6(b) indicates that there exists a gap G_B between the level of collective methodological capacity or knowledge and the research problem itself • $G_B = M' - P$ (See Gap 2 in Fig. 1.7). • G_B is an irrevocable gap at a given moment in time and for the given level of evolution of methodological ideas and notions – G_B is the minimum shortfall that would exist between methodology and method even with the most methodologically proficient researcher suggesting the research approach
4	• Limited research methodology capacity of an individual researcher (M′)	• Individual researchers vary considerably in their – abilities, – knowledge, – skills, and – temperament pertaining to research methodology • Even assuming that a research problem has been perfectly articulated, the methodological limitations of an individual researcher is likely to result in a less-than-ideal formulation of the research plan of action • Figure 1.6(c) indicates that there exists a gap G_C between the level of individual methodological capacity or knowledge and the research problem itself • $G_C = M'' - P$. See Gap 1, in Fig. 1.7

(Contd)

Table 1.3 (Contd)

S. no.	Aspect	Significance and interpretation
		• Note that the gap between the methodological knowledge of the individual, M″ and the problem definition will be M″ – P, or M″ – P′, depending on, respectively whether the research problem has been ideally defined (P), or not (P″). To this extent, the gap Gc is greater as seen in Fig. 1.7 than in Fig. 1.6 (c). • $G_C - G_B = M'' - M'$. See Gap 3 in Fig. 1.7 • G_C can certainly be controlled and reduced by an individual researcher by reducing the gap M′ – M″, for instance, – by the process of natural learning, over time, by the researcher gaining in experience and know-how or – by the researcher making conscious and concerted steps to jump-start and augment his knowledge and skills related to research methodology • G_C can be, theoretically speaking, reduced and brought to the level of G_B by accessing the services of the best and most proficient methodologists available (this outsourcing instantaneously removes the shortfall M′ – M″
5	• Less-than-ideal research problem definition (P′)	• All the aforementioned analysis was based on the idealistic assumption that the researcher has perfectly articulated the research problem • A true definition of the research problem is crucial for the subsequent invoking of the methodological plan that is most suited to addressing the defined situation • Weak characterization of research problems can be attributed to – an overall or global constraint – general paucity of knowledge and data in the relevant area for the research community at large • A local or individual limitation • An individual limitation on the part of the researcher in terms of knowledge, skills, or experience • With a less-than-ideal problem definition, – the gaps between the methodology and the actual problem increase by an extent given by – the magnitude of the shortfall between the true and articulated problem situations • This gap is the Gap 4 identified in Fig. 1.7
6	• Total research methodology-problem mismatch (Gap 1)	• This is the sum effect of the various shortfalls described and analysed earlier in this table and depicted in Figs 1.6 and 1.7. • This gap is depicted as G_D in Fig. 1.6(d) • Gap 1 = Gap 2 + Gap 3 + Gap 4 • $M'' - P' = (M' - P) + (M' - M'') + (P - P')$ • Gap 1 = $G_D = G_B + (M' - M'') + (P - P')$
7	• Interrelation between the various methodological gaps G_A, G_B, G_C, and G_D	• Considering the Fig. 1.5, one can observe that $G_A = 0 < G_B < G_C < G_D$

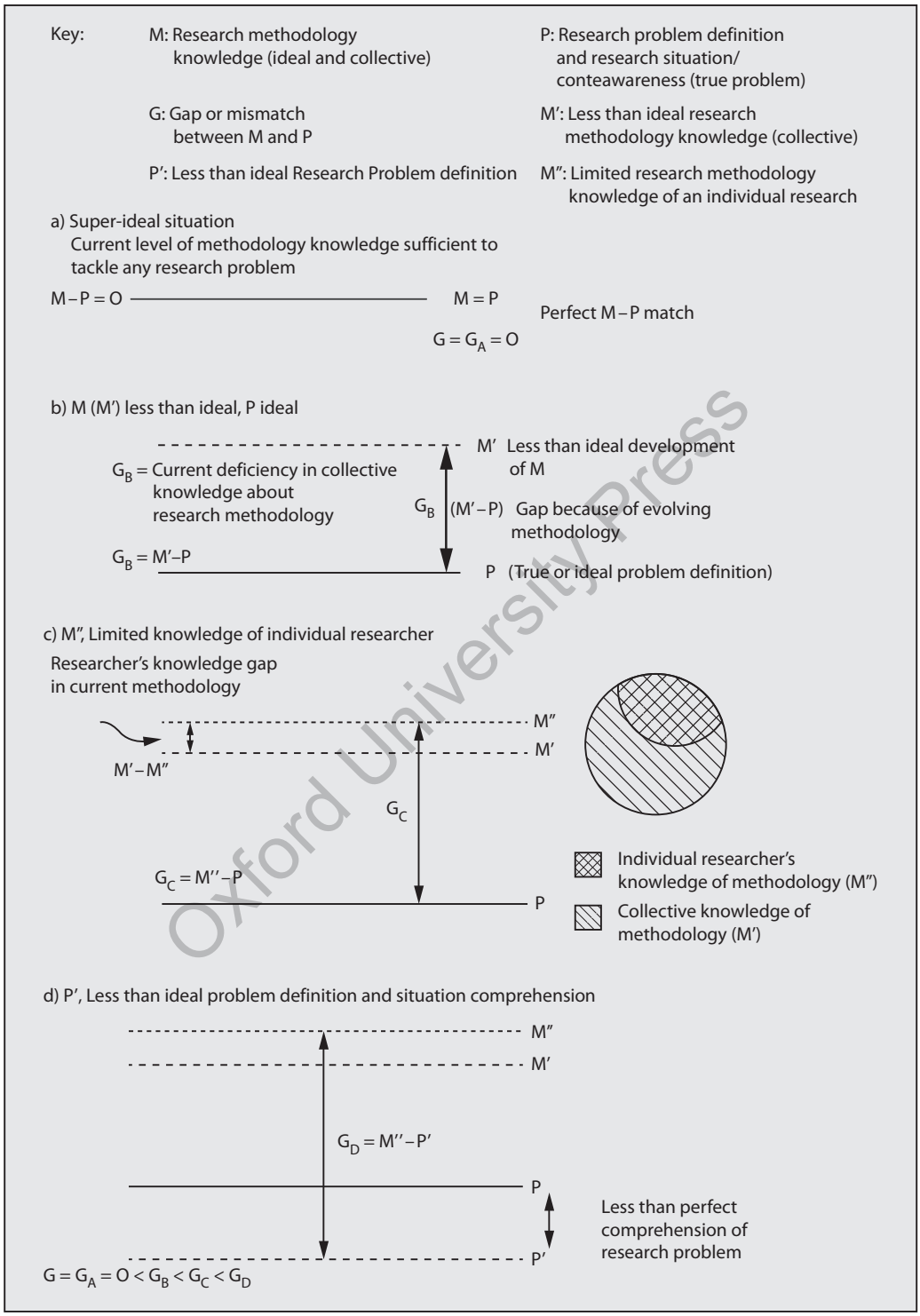


Fig. 1.6 Research methodology and research problem coordination

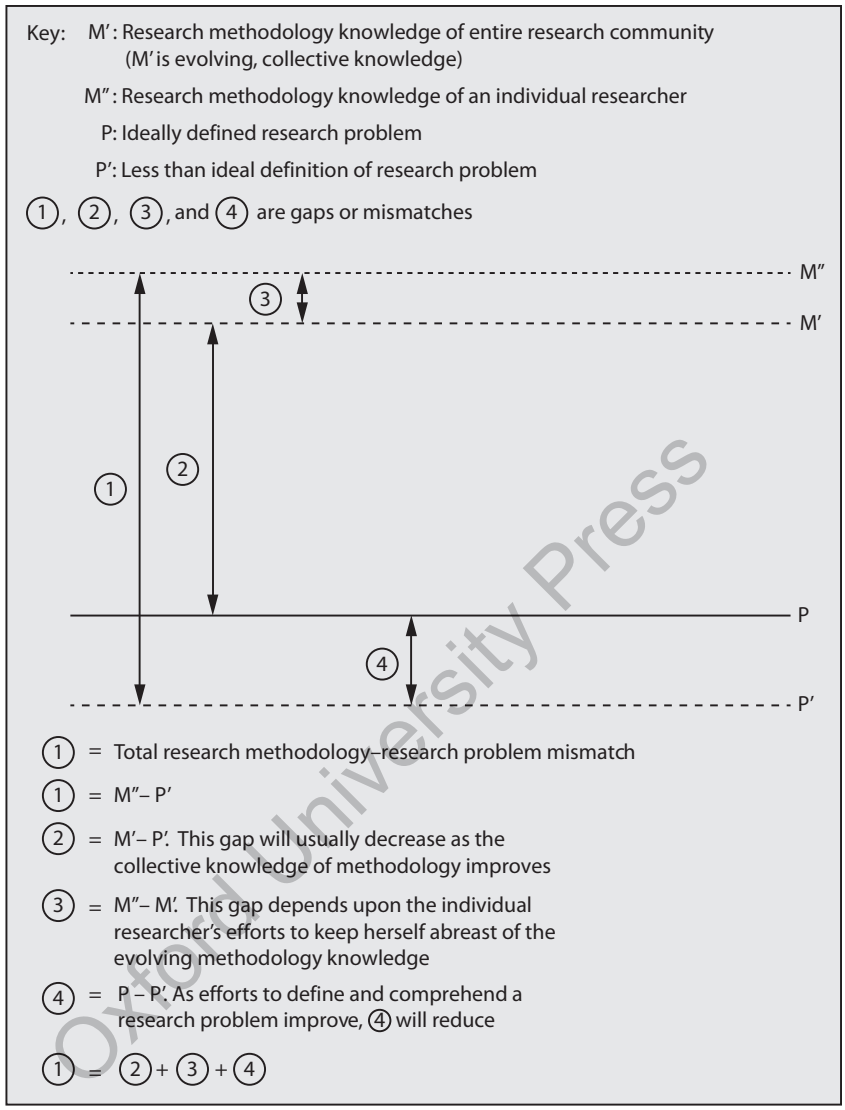


Fig. 1.7 Gap analysis—Research methodology and problem definition

Exhibit 1.2 What Is Methodology?

Methodology—An Essential Component of Education

Any education must fundamentally impart two distinct teachings. At one level, students must be imparted substantive education or information about their specific field of study. On the other hand, and perhaps more crucial, is education that aids in correctly carrying out thinking and developing cognitive capacities.

Here, cognitive processes refer to the mental processes connected to knowing and perceiving. These include mental operations associated with perception, memory, judgement, and reasoning, as contrasted with emotional and volitional processes. See http://dictionary.reference.com/browse/cognitive.

We sometimes refer to substantive education as material education and training in the correct

execution of cognitive operations as formal education. A knowledge of methodology helps to think correctly. Methodology is therefore rightly considered to be the logical foundation of education itself.

Methodology—A Legitimate Branch of Logic

The ideas and notions related to cognitive processes, their classification, attributes and elements, etc., have been worked out by the discipline of methodology. Since it is related to the procedures of correct thinking and valid inference, methodology is classified, essentially, as a branch of logic. Such is the interrelation between research methodology and the discipline of logic.

Methodology—A Framework for Analysing Research Operations

Research methodology or the methodology of science identifies and singles out specific research operations and dissects them for gaining insights into their essence and fundamental rationale. The result is a clear definition and a deep comprehension of the logic of various basic research procedures and practices, with a consequent potential for improvements in the validity and value of the procedures.

Typically, methodologists single out such cognitive operations for analysis and substantiation of theories, drawing of inferences, problem-solving approaches, description and explanation of facts, formulation and evaluation (testing) of hypotheses, defining of terms, etc. Based on such scrutiny, methodologists can then offer coherent definitions of research terms.

Methodology as Neither Exclusively Descriptive Nor Entirely Normative

The question is whether research methodology should merely describe the process of research by providing an empirical account of how research is carried out, or should it be a normative recipe outlining the rationale of how research *ought* to be done.

As per Carl Hempel, a theory of scientific knowledge must necessarily involve an empirical descriptive aspect and a counterbalancing conceptual, normative one (Jeffrey, R. (ed.), 2000, p. 196).

Methodological principles of the empirical sciences cannot be distinguished decisively as either irrevocably descriptive or conclusively normative. This is in consonance with the more general principle that no sentence can ever be classified as either exclusively synthetic or exclusively analytic.

Methodology Articulates the Universal Research Conscience

Proficient researchers and their meticulous practices are the source of the norms and principles that methodologists draw up. Methodologists do not, on their own, formulate the procedural standards and benchmarks and subsequently pass them on to the research community. Instead, it is the real-world practice of competent researchers that is the inspiration for methodological dos and don'ts prescribed by methodologists.

Able researchers assess research with a certain well-honed internal rational compass. Such researchers may not be able to clearly externalize or articulate their evaluation logic or be able to describe their evaluation norms coherently. Such researchers, by conscious and subconscious learning, and practical experience, have developed what is best termed as a research conscience. Such a conscience is a shared aspect across the community of competent researchers and is therefore aptly universal in character. It is the task of methodologists to analyse, understand, and structure this research conscience.

Methodology Transcends Logic

Modern science not only recognizes that logic plays an unarguably important role in its scheme of things but also that logic of itself and in itself is neither complete nor sufficient.

Any final clarification of evidence-conclusion frameworks and problems—whether in science or in pure human thinking—cannot be delivered by the discipline of logic on its own as such. Such issues are addressed by the applied branch of logic, which is no other than the discipline of methodology.

Methodology is, thus, the application branch of logic and transcends the scope and function of logic.

Methodology and Its Three Goals

The following are the three principal tasks of methodology:

1. Identification of the key research procedures and their analysis
2. A general description of the various research procedures common to all substantive disciplines
3. Identifying the goals, whether consciously articulated or otherwise, of researchers from various disciplines and thereby developing a set of standards of approved research procedures. This

(Contd)

is called *apragmatic methodology*. Read ahead for more information on apragmatic and pragmatic methodology.

Pragmatic and Apragmatic Methodology

Pragmatic methodology derives its name from *pragma,* which in Greek refers to 'deed'. It is a behavioural science and falls under the broad category of social sciences and the humanities. Pragmatic methodology is, however, only a part of the full extent of methodology. This is because when one is discussing the practical aspects of cognitive procedures in pragmatic methodology, one needs to take the support of a more pervasive layer of methodology that can accommodate the analysis and description of the more subtle cognitive operations. Pragmatic methodology, thus, involves the gross empirical as well as the more subtle cognitive operations.

When we are analysing scientific procedures, not as the profession of researchers but as an outcome of their cognitive practices (whether actual or merely hypothetical), we invoke apragmatic methodology. Apragmatic methodology, thus, pertains solely to purely cognitive procedures and practices. Deductive systems, which are a precursor of mathematics, are a prominent branch of apragmatic methodology. Deductive systems are therefore also referred to as metamathematics.

Pragmatic and apragmatic methodologies, as described earlier, together constitute the full extent and scope of methodology (see Ajdukiewicz, K. (Tran.) O. Wojtasiewicz, 1974, pp. 1–3, 185–190, Jeffrey, R. (ed.), 2000, pp. 194–196, De Groot, A., 1969, pp. 23–25, and Bastable, P., 1975, p. 47).

EVALUATING THE RESEARCH—TO RESEARCH OR NOT TO RESEARCH

Decisions are based on information. The better the information, the better the decision. Business decisions require credible and reliable information. It is clear that decisions based on researched information are preferable. However, the decision of whether to research or not must first be tackled systematically. Indeed, the decision of going in for research, especially in case of business research, must be a considered and rational one.

Earlier in this chapter, in Exhibit 1.1, we had seen that the decision to research depends upon four considerations, and each of these must be favourable in order that research may be considered as a preferred choice of action.

These four important considerations are the criticality of the involved issue for which research is being contemplated, the possibility of accessing the requisite data, the availability of time to research, and, finally, the cost–benefit evaluation of the research act. The considerations mentioned are in their recommended, logical order of consideration.

Thus, assuming that the first three conditions are met, namely that the decision about which research is being contemplated is indeed significant, the envisaged data is considered to be retrievable, and that there appears to be adequate time to do the research, it now remains to consider the value of the research in terms of its ultimate benefit and the involved cost to come to a final decision on whether one should go in for research.

The valuation may be in terms of money as well as non-monetary terms. The idea of the value of research can be explored using the concept of 'value of information in terms of research pay-off versus research cost' (see Brown et al. 1968, p. 416).

Kress, G. (1988, pp. 10–12) has discussed a simple manner of evaluating the value of marketing research. This idea of 'True Value of Marketing Research' has been demonstrated in Exhibit 1.3 and Fig. 1.8.

Exhibit 1.3 True Value of Marketing Research: Case Study of QuickSnax

The following case is a simplified illustration of how marketing research can be evaluated in terms of what value is derived with and without research in relation to the cost of research.

QuickSnax, *a fast-food outlet group, is considering opening an outlet near the Wankhede Stadium in Mumbai. It expects the outlet to make ₹40 lakh in the first year.*

Satish Joshi, the group marketing president, prefers a particular positioning strategy for the outlet by which he anticipates the outlet to make ₹65 lakh in its inaugural year. This strategy, however, needs a researched confirmation, for which a research proposal quotation of ₹2,50,000 has been received.

- *Determine the true value of the marketing research option.*
- *At what minimum cost of the proposal would it be unviable to go in for marketing research?*

Value = Benefit – Cost

True value of research = Benefit of research – Cost of research

True value of marketing research (V_{MR}) = (Value of decision with research – Value of decision without research) – Cost of research

The benefit of research is the differential advantage gained by the decision-maker by doing research compared to if he had done no research.

Business decisions need to be made on the available information. Research is expected to provide information to the decision-maker that will potentially enhance the effectiveness of the decision. For a marketing manager, the value of the marketing decision with research is what the researcher estimates the contemplated marketing decision will fetch, based on information furnished by research. The value of a decision without research is the value that the marketing decision would fetch if no research was carried out and the marketing decision was based on whatever information was available sans research. The terms have been depicted schematically in Fig. 1.8.

True value of marketing research V_{MR} = (65 – 40) – 2.5 (lakh rupees)

True value of marketing research = ₹22.5 lakh

Let cost of the research be C_R then for the research to be economically viable, true value should be greater than or equal to 0.

True value of marketing research = (65 – 40) – $C_R \geq 0$.

See the formulae in Fig. 1.8.

$$C_R \leq 25$$

Thus, the research proposal would be unviable if the cost of the research is greater than ₹25 lakh.

In real life, it is extremely tricky to gauge the monetary value of the decisions with and without research. Degrees of certainty may have to be factored in using probabilities based on secondary research and/or experience. Further, a firm does not act in isolation and counter the moves of industry players whence a game theoretic approach may be in order. Besides, impact of environmental factors and dynamics of consumer behaviour may have to be accounted for. However, the illustrated approach can deliver broad indications of likely implications of various research cost options.

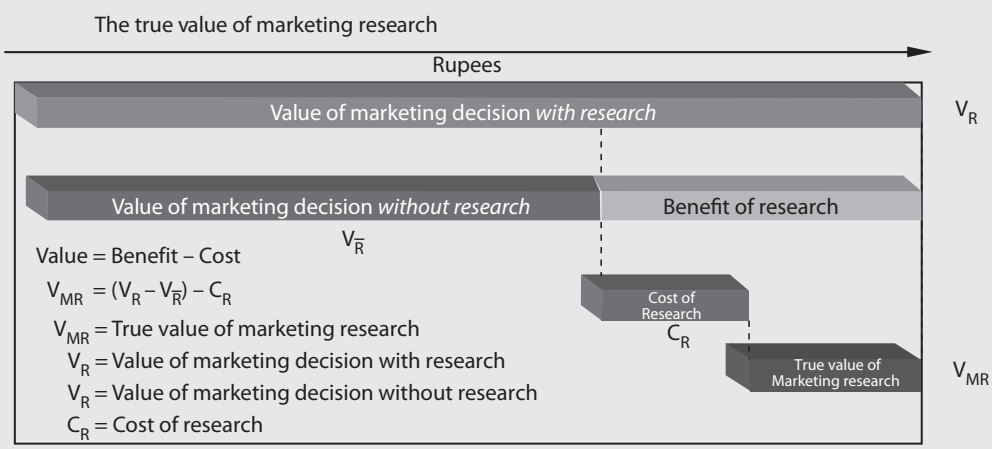


Fig. 1.8 True value of marketing research

ETHICS

Ethics pertain to the values, norms of behaviour, and code of conduct prevalent in a given context. In research, in particular, ethical principles concern the professional norms that serve as a guide for the conceptualization and execution of research activities. The principles encompass all aspects of the research process, including the choice of research problems, the designing of the research, the interaction with the respondents or research subjects, the research reporting, and so on.

Professional ethics pertains to conforming to the standards of conduct of a given profession or group of practitioners. Research ethics are moral principles or values that guide the overall research behaviour. They furnish guidelines for good and responsible professional relations.

We shall discuss what role is played by ethics in research in the paragraphs that follow.

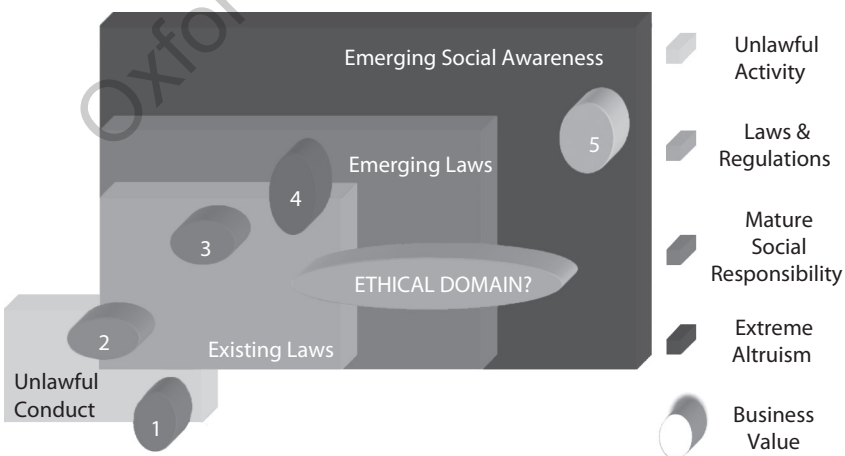
Legal Norms and Ethical Norms

Whereas legal norms dictate what you must do or not do as per the prevailing laws and regulations, ethics is about your own individual moral bearing. It is subjective and not as binding as legal diktats.

For some researchers, the legal domain is the ethical domain. Ideally, legal standards must be the minimum requirement and not the ideal one (refer to Fig.1.9). Figure 1.9 depicts these ideas about the spectrum of ethics.

Figure 1.9 indicates the broad extent and gradation of ethical and legal corporate norms and practices. For instance, 1 indicates the zone of blatantly illegal activity, 2, that of a blend of the legal and the unlawful, and 3 is the domain of lawful practices. Some corporates might not just be limiting themselves to the lawful zone but also be following certain more stringent regulations that have not yet been promulgated as such; this is indicated as area 4. However, the most conscientious organizations are into the zone 5 of emerging social awareness where they are active in proactively and diligently interacting with society and the environment, participating in activities well beyond their legal obligations.

The ethical domain stretches from the zone 2 to zone 5 and beyond.



Business Value Domain
1 = Blatantly Illegal Activity
2 = Blend of The Legal with some Unlawful
3 = Lawful Practices
4 = The Lawful Plus More Stringent Un-promulgated Regulations
5 = Emerging Social Awareness

Fig. 1.9 The ethical spectrum in business?

Ethics in Research

Research is a very meticulous and considered process of thinking and acting. Research demands the strict obeisance to stringent scientific principles and processes. However, real-world research execution and research design may not always match such standards because of various reasons, one of which is related to ethics. Some of the other factors have also been presented here.

Factors that compromise ethics

Some factors that compromise the design and execution of research are as follows:

1. Practical issues
   (Example: Not opting for a strictly random sample for want of time and money)
2. Administrative issues
   (Example: Compromising with ideal sampling procedures because of refusal of certain target housing complexes to entertain researchers in their premises. A diligent, administrative intervention could have avoided the issue by appropriate communication and follow-up visits to the appropriate decision-making body at each of the housing complexes.)
3. Socio-political compromises
   (Example: Carrying out research on how to influence young minds to buy more of a particular brand. Studying the human mind with the objective of manipulation for commercial gains is the objectionable part.)
4. Ethical issues
   (Example: Promising the client a random sample but manipulating and thus compromising the actual respondent choice, keeping the client in the dark, saving time, effort, and, of course, money in the process.)

Thus, there are many junctures during the process of research at which the ethical and moral fabric can get tarnished. A code of conduct foresees such potential moral transgressions to the extent possible and suggests dos and don'ts that, with due researcher discretion, should hopefully navigate the researcher safely along the right path.

Need for ethics in research

Research ethics serve the dual purpose of ensuring a moral compass as well as ensuring a certain benchmark of research quality.

An ethics guideline for the research profession ensures that no stakeholders in the research process are harmed or compromised in any way and avoids unintended mistakes that even well-intentioned persons might make during professional interactions. We shall now identify the main stakeholders in research and list out the associated ethical concerns.

Research—Key stakeholders and corresponding ethics

Of the many stakeholders in the research process, the key ones include the research sponsor, the research respondents or the participating community, and the researching entity (individual researcher or agency), which supplies the research service (see Fig. 1.10).

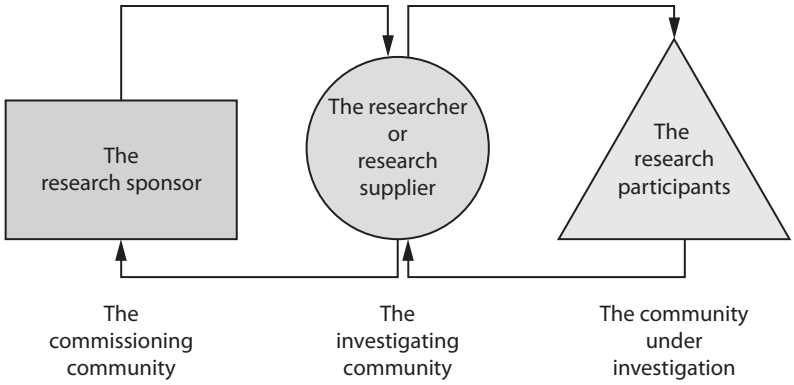


Fig. 1.10 Players in the research process

Each of the key players in the research act, as identified earlier, has a set of moral obligations that it needs to follow if the system as a whole has to be termed as an ethical system. Some important ethical responsibilities of these key players are as follows:

The sponsor's ethics

1. Research purpose
   The research subject has a right to know and understand the purpose of the research in which he is a voluntary participant.
   (a) Overt
   Here the purpose of the research is openly declared to the research participants. This can be a tricky decision since sometimes the research purpose is confidential, and it is important to guard the true purpose.
   (b) Covert
   Here the sponsor cannot or does not reveal the true purpose of the research. Whereas sensitivity may dictate secrecy around the actual purpose, sometimes technical research considerations are involved in not sharing the true objective of the inquiry. For instance, the response of a subject may not be natural if he is aware for what purpose he is being quizzed or observed. Sometimes misleading the subject may be unavoidable for ensuring better research outcomes.
2. Dishonesty in supplier dealings
   Many research suppliers may outsource various activities, including fieldwork. Some research sponsors create the ruse of competition and bidding and invite detailed proposals. They collect a lot of critical information from each bidder and will sometimes collate all the information, including interview schedules and costing details and have the job executed from some third agency. It is difficult to make any accusation of illegality, but it is certainly unethical.
3. Ensuring participant confidentiality
   Participants in the research often need to part with personal information of a sensitive nature, including personal information, contact details, and financial information in good faith. It is

expected that the research sponsor respects the sensitivity of the parted information and does not misuse or pass on this sensitive data.

4. Ensuring participant safety and security
   It is the moral duty of the research sponsor to ensure the physical safety and security of the research participants during the period of their participation in their research project.
5. Misuse of information
   As mentioned earlier, the information volunteered by the research subjects are under strict confidence and good faith. Passing on or selling such data is a transgression of basic ethical standards.

The researcher's/supplier's ethics

1. Violating client confidentiality
   The supplier is the entity privy to a lot of sensitive data as well as insights. The supplier must ensure that no information exchanges hands or is misused or passed on. The identity of the client must also be kept strictly confidential.
2. Improper research execution
   Although it sounds rather obvious and elementary, it is the responsibility of the research entity that utmost professional diligence and precautions be taken to ensure that the assigned research project is undertaken and executed in a proper and expected manner.

   In case of any unavoidable digressions from the standard or decided process, the same must be brought to the notice of the client and further course of action be taken in mutual consultation keeping the client informed about the true state of affairs.

   In particular, the following must be ensured:
   (a) Use of appropriate research methodology
   (b) Avoidance of bias and preconceived notions
   (c) Honest and appropriate research reporting, with strictly no plagiarism

The respondent's ethics and rights

1. The abuse of respondents
   Respondents must be treated with sensitivity and dignity. In no way should respondents be subjected to ill-treatment or any kind of physical or mental abuse.
2. Violation of rights
   (a) Right to privacy
   A respondent has a right to his privacy
   (b) Right to safety
   Every respondent has a right to physical safety and security.
   (c) Right to know the true purpose of research
   Respondents have the privilege to be disclosed the objective of the research. This is of course a tricky issue as discussed earlier in connection with the sponsor's ethics.
   (d) Right to the research results
   In many countries, the respondents may demand, and the research agency is obliged to share the findings of the research. This is more common in the case of government-sponsored and NGO-sponsored research projects.

(e) Right to choose which questions to answer
Research participants have every right to choose the questions they would like to volunteer a response and to decline response to any question. Researchers cannot pressurize, force, or trick respondents into responding.

THE RESEARCH PROPOSAL

Research is a responsible venture that has the potential to contribute significantly to the academic as well as the business world. For practical reasons, any planned research must be vetted for its potential appropriateness on various dimensions, soon to be elaborated in this section.

An appropriate authority must assess the planned research offering, and only those that are competent enough should be granted the formal go-ahead, which may qualify it for any reasonable resource support, as envisaged in the research plan, as also other articulated provisions to sustain the research.

A research proposal is a reasonably brief document that is meant to facilitate approval for the anticipated research from the concerned approving authority. The specific norms that decide the fitness or otherwise of a research proposal may vary from situation to situation and context to context, but the fundamental considerations that go into assessing the fitness of a research proposition remain essentially the same.

A researcher must, necessarily, take into consideration these basic sensitivities of the approving authority if he wishes to increase the chances of acceptance of his proposal.

In a sense, then, the research proposal is a way of marketing your research plan to the relevant audience. It is a manner of communicating what you want to research about and why it is important to do so and outline your research strategy with the aim of persuading your audience that you have a fair chance of succeeding.

A research proposal, by its very nature, is meant to be critically dissected and evaluated by experts; it must therefore be developed based on a systematic study of the proposal background, any approval guidelines (if explicitly mentioned), and any other information deemed relevant for developing a sound research proposal. At the end of the day, the research proposal must exude credibility and inspire confidence in the jury. Keeping the approving authority's perspective in active reckoning while designing the proposal is therefore imperative.

All said and done, a deep insight into the topic of the research and a rational plan to execute the research are indispensable requirements for a credible research proposal.

Logic of Research Proposal Design

Before he can start his research formally, or rather, in order to be able to begin his research work, the researcher must have his initial research plan ratified by the designated approving authority.

This is a decisive 'go', 'no-go' event, and in some situations there may be no second chance to re-present a modified proposal. This is especially in cases where the situation is of a competitive nature and numerous proposals are expected. Of course, there can be situations where the reviewing body may provide feedback with or without an opportunity to represent the modified proposal, but such instances may be rare, especially in business contexts. See http://www.mheducation.co.uk/openup/chapters/9780335244065.pdf, p. 14.

The fundamental logic of designing a potentially successful research proposal is to understand the logic and psychology of proposal approval. At the same time, it is important to keep in mind that proposal approval must be considered to be the means and most certainly not an end. A proposal must neither be too idealistic, seemingly pandering to the demands of the approval authorities, nor should it be so indifferent about courting approval that it appears to be purely informative and non-persuasive. The recommended approach for a research proposal must be more research centric and practical than either totally approval centric or completely unfocussed and indifferent. These ideas have been discussed in the section on types of proposals later in this chapter.

Proposal Design Rationale—Understanding Approval Authorities' Logical and Psychological Concerns

As mentioned earlier, a deep appreciation of the primary concerns of the authority that vets the research proposals is the first step in the development of a potentially successful proposal.

The approving body has its own goals and objectives to uphold when contemplating on whether to support a specific planned research.

At the end of the day, any approval authority desires a noteworthy research question addressed by a well conceptualized and executable research plan that will potentially throw up valid research outcomes within monetary, temporal, and ethical boundaries.

Whatever the situation or context, whether in academic, science, social science, business, or research in any other specific discipline, these fundamental sensitivities of the approving body remain the same. These sensitivities or criteria of proposal approval are, in order of logical and psychological importance, as follows:

1. The research question
2. The researcher
3. The research approach

It is important to realize that although we have indicated an order of priorities in considering the three factors, each of the factors directly and indirectly influence the other two. For instance, the degree of complexity that can be approved is influenced to an extent by the second factor, the researcher's capacity and prowess. The choice of the research question must also be commensurate with the specific research approach or brief plan outlined in the proposal (see Fig. 1.11).

Figure 1.11 is an approver's perspective of the proposal evaluation process. The three primary evaluation concerns are indicated along with their interrelationship among themselves in dashed lines and that between them and the approval authority in solid lines.

Note that all these lines are two arrowed, indicating a mutual influence on each other. For instance, the dashed double-headed arrow between the research question and the researching entity indicates that the degree of complexity of the research question not only influences the level of sophistication of the researching entity, but also that the more capable the researcher, the more challenging the research question that can be addressed.

Similarly, the solid double-headed arrows between the approval authority and the approval criterion indicate that not only do the criteria get influenced by the approving body but that the criteria may also, at times, provide a kind of feedback to the endorsing authority for possible action.

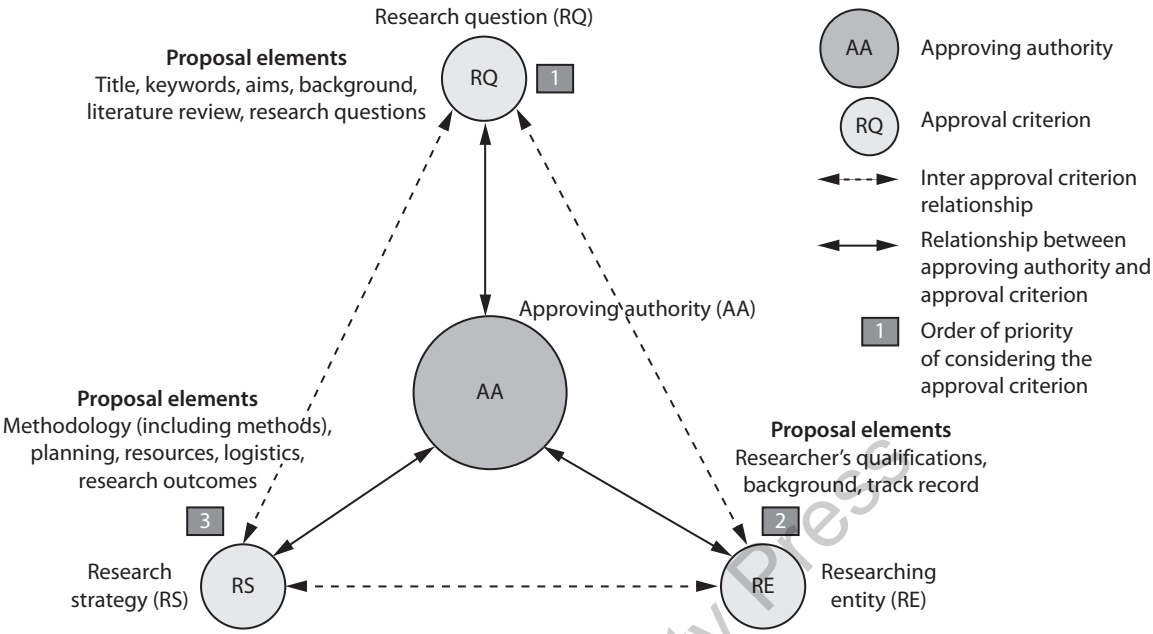


Fig. 1.11 Research proposals– A view from the approvers

In most instances, the proposal evaluation process necessarily moves through a set order of priorities as indicated in the figure and listed earlier. The logic for the order is as follows: The research question is the first to be considered, since however credible the research strategy and however proficient the researcher, if the research question is not worthwhile enough, approving the proposal does not make sense. Next to be considered must be the researching entity, since a well-qualified researcher will almost always automatically ensure a sound research approach or research strategy but not the other way round.

Another reason for evaluating the researcher's capability before the recommended research approach is that the ultimate goal of evaluators is not to select the best appearing proposal but the one that can assure them of credible research that delivers real-world results. Before comparing plans, it is best to compare the plan proponents; after all, plan execution is more important than fancy plan conceptualizations. A researcher with a better track record is more likely to suggest plans that are not only more credible and effective, but what is more important is more likely to safely follow them through in the ever-challenging field of real-world research.

The question can arise as to why the researching entity's qualification should not be ascertained first off. The answer is that the significance of a research question is a relative aspect, and even in the case of a well-qualified researching entity, there is no guarantee that they will have selected a question that is perceived to be equally worthwhile by the sanctioning or sponsoring authority. Moreover, when a mass of proposals is to be evaluated, it can be more efficient to first check the significance of the proposed research question before proceeding to any further evaluation of the remaining two criteria.

Note that the model presented earlier is a good starting point to comprehend the logic of proposal evaluation. It may not, however, be the best approach in every situation. In complex cases, or in special cases, an overall view of all three criteria may have to be taken in an integrated fashion rather

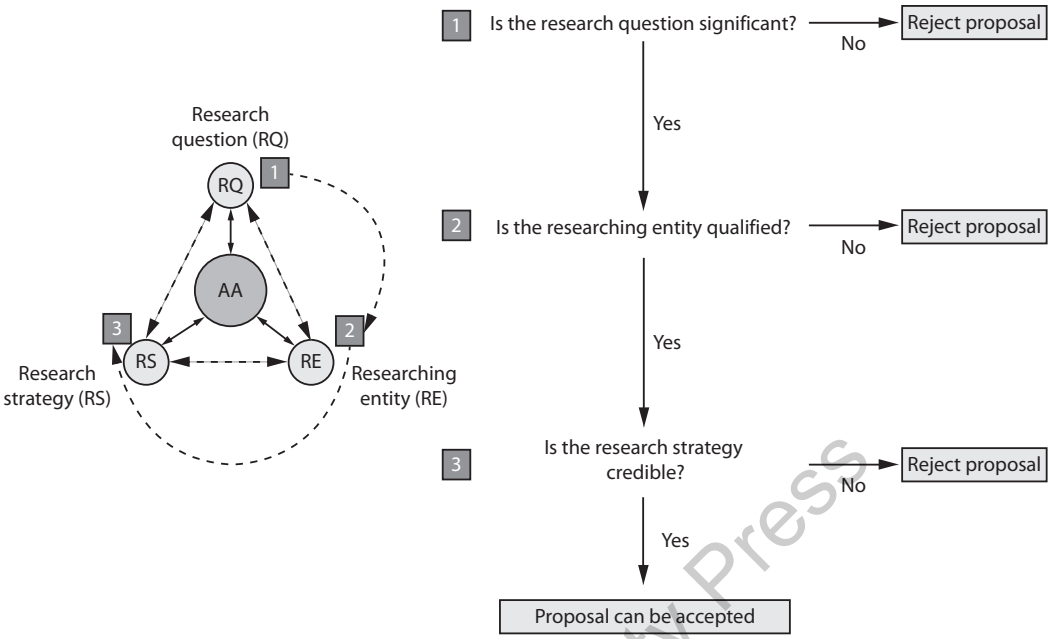


Fig. 1.12 Evaluation of research proposals—Order of priorities

than in a simple linear manner. Such a non-linear and holistic evaluation can prove ideal to certain non-standard contexts of analysis.

The typical proposal elements that correspond to the three criteria have been indicated at the respective locations. For instance, the criterion of research approach or research strategy is represented in the proposal, typically, by the following elements, namely methodology, methods, planning, logistics, resources, ethics, and so on. A persuasive proposal will have these elements so presented as to increase the chances of a positive evaluation and a final approval to the proposal.

Figure 1.12 depicts an order of priorities and is a continuation of the logic that is expounded in the earlier Fig. 1.11. Note that this is simplistic version of the basic rationale used to evaluate research proposals. Depending on the answers to the key questions related to the three identified primary approval criteria, we obtain a flow chart-like mapping of the basic proposal assessment routine.

This does not purport to suggest, in any manner, that, as a universal rule, only specific sections of a proposal are selectively inspected in a specific order by all sanctioning bodies. However, what has been presented is certainly the most logical and functionally appropriate manner of inspecting a research proposal and evaluating its merit.

Logic and Psychology of Research Proposal Approval

Table 1.4 highlights the various aspects of these three primary considerations as well as the associated corresponding logical and psychological considerations. Besides rationality, the certifying authority is only human and psychological aspects do play a role in the approval process.

This follows the 'WIFM' or 'What's in it for me' concept, whereby the certifying body will look to satisfying its own psychological needs. For instance, in considering the first concern, namely the

Table 1.4 The logic and psychology of research proposal approval (the logical and psychological sensitivities and concerns of the approving body)

S. no	Approval authorities' primary concerns	Significance of the concern	Logical considerations about the concern	Psychological considerations about the concern
1	• The research question	• The most important consideration • Decides the basis for choice and suitability of the other two factors • Addresses the 'worth' of the research	• Does the research issue enjoy sufficient substantive merit? • Will it add significantly to existing knowledge? • Is the research question worthy of the requested funds?	• What non-monetary – benefits or – risks accrue from the association with this particular research question? • Will the authorities' association with the potential research outcomes be noteworthy for its image in – the research community and – in society in general?
2	• The researching entity (institution or an individual)	• Assessment of the research entity's capability to manage the particular research project • The capacity of the researcher to manage – the incumbent research question and – the envisaged research methodology	• Is the researching entity fit enough to carry out the envisaged research? – Handle the research question? – Conceptualize the suggested methodology and help execute the suggested research methods? • Is the researching entity deserving of the requested funds? • About the research entity, what is its – credibility – track record	• Will the authorities' association with the particular research entity benefit the approving body? – Why or why not? • What amount of overall confidence does the approving body have in the researcher's capabilities? • Can the research entity/researcher manage and cope with the challenges and pressures involved in engaging the particular – research question? – research approach, including the research methods?
3	• The research approach	• Assessment of the research feasibility • Assess a brief account of the research strategy • Research approach can be assessed on the basis of	• Provides an inkling of the likely research design • Will the anticipated research design succeed in addressing the research question comprehensively?	• What non-monetary – benefits or – risks accrue from the suggested research methodology?

(Contd)

Table 1.4 (Contd)

S. no	Approval authorities' primary concerns	Significance of the concern	Logical considerations about the concern	Psychological considerations about the concern
		– methodological soundness – cost effectiveness – moral righteousness • Provides a basis for the all-important methodological assessment of the proposed research – An able jury can assess the expected degree of validity of the research outcome	• Does the research appear to be credible? • Will the research produce valid inferences? • Does the research approach appear to be – cost-effective? – efficient?	• Could there be any – ethical digressions in the conduct of this research? • How would such ethical compromises impact the goodwill of the approving authority?

research question, the approval authority would want to know how and where the researcher plans to disseminate his research. Doubtless, the body would want the widest publicity in the most esteemed research publications and the most influential media.

Research Proposal Contexts and Evaluation Criteria

There are various situations in which a research proposal may be solicited, ranging from the undergraduate research project submitted to the tutor for sanction to the business research proposal submitted to the prospective client. As far as the respective proposal approving governing bodies are concerned, in each case, the approval sensitivities remain the same, more or less, although some specific aspects such as the specific evaluation criteria and the researching entity vary. This information is presented in Table 1.5.

Table 1.5 Different contexts of research proposals and associated nuances

S. no.	Context of the research proposal	Endorsing authority	Researching entity	Proposal-evaluation nature and key criteria
1	• Undergraduate research project	• In-charge faculty or • Tutor	• Undergraduate student	• Informal evaluation • Adherence to basic methodological principles • Feasibility – Temporal – Economic
2	• Master's dissertation	• Supervisor • Senior faculty	• Postgraduate student	• Informal evaluation • Comprehension of and adherence to methodological principles • Reasonable contribution to subject knowledge

(Contd)

Table 1.5 (Contd)

S. no.	Context of the research proposal	Endorsing authority	Researching entity	Proposal-evaluation nature and key criteria
				• Feasibility – Temporal – Economic authority
3	• Ph.D. Thesis	• Research guide • Research evaluation committee • Research jury	• Ph.D. scholar	• Formal evaluation • Academic soundness of candidate • Informed application of rigorous methodological principles • Skilful and logically sound development of inferences • Demonstrably original contribution to subject knowledge pool • Planned utilization of available – time – other resources
4	• Funding application • Research grant	• Funds approval panel, • Review panel, • Domain experts, and • Subject authorities	• Research entity desirous of a grant – Individual or – Institution	• Formal evaluation • Quality of the research design • Potential research outcome – Contribution to existing knowledge – Practical utility to the research community and society • Capability and track record of research entity • Likelihood of apt utilization of allotted funds • Estimation of – cost and – price of the research
5	• Business research	• Potential client's proposal evaluation committee	• Research agencies • Individual research consultants	• Semi-formal or formal evaluation depending on – nature of project – scope and estimated cost of project – management style at the prospective client organization • Envisaged research outcomes – Practicality – Commercial benefit • Cost–benefit analysis – True value of the research

See http://www.mheducation.co.uk/openup/chapters/9780335244065.pdf, pp. 11–14.

Types of Proposals—Pragmatic, Win-at-any-Cost, and Indifferent

Proposals can be classified in various ways. We shall be considering an interesting classification that depends upon the manner in which the maturity and experience of the research proposer influences the basic nature of the proposal.

For simplicity, we will consider only three types of research proposals, depending on our grouping of research proposers into three types, namely

1. the mature, realistic researcher who designs a 'pragmatic' proposal,
2. the researcher in a hurry, who develops a 'too good to be true', 'win-at-any-cost' proposal,
3. the naive, usually inexperienced, researcher, who furnishes an 'indifferent' proposal

Of course, these are not watertight compartments, and most proposals could be a blend of the basic types with some characteristic specific types being represented dominantly. The characteristics of these proposals have been tabulated in Table 1.6 for easy reference. Figure 1.13 exhibits the intricacies of these proposal types further. The figure indicates that the greatest proportion of approved as well as successful proposals belong to the pragmatic variety, followed to a lesser extent by win-at-any-cost proposals, and last of all, the indifferent variety, which can expect maximum rejection proportion and a minimum proportion of research that turns out successful outcomes.

Table 1.6 Comparing the types of research proposals: The pragmatic, the win-at-any-cost, and the indifferent

S. no.	The pragmatic proposal	The win-at-any-cost proposal	The indifferent proposal
1	• Designed by researchers who have a deep understanding of the – logic and – psychology of the approval mechanism and – the realities of real-life research challenges • Usually designed by – able, – realistic, and – experienced researchers	• Usually proposed by researchers – hell-bent on getting an endorsement at any cost – in a tearing hurry to receive an approval	• Developed mostly by researchers who are – naive about research in general and about proposal designing in particular
2	• The research proposal is considered as a means only, the end being the sacrosanct research	• The research proposal is considered to be the end in itself	• There appears to be no means nor end
3	• Excellent balance between – approval norms and – research realities	• Serious imbalance between – approval norms and – research realities	• Ignorance about approval norms, and/or • weak compliance of minimum approval norms
4	• Persuasive in a most pragmatic way	• Persuasion strategy can appear to be – suspect because of unrealistically high compliance	• Is more informative than persuasive

(Contd)

Table 1.6 (Contd)

S. no.	The pragmatic proposal	The win-at-any-cost proposal	The indifferent proposal
5	• Does not pander to approval norms and approval authority but • keeps research challenges in perspective	• Overtly panders to approval norms and approval authority • at the possible cost of compromise to the potential research execution	• Mismanagement of approval norms and • approval protocol
6	• Takes a – long-term, • balanced view that includes not just the proposal but also the research that potentially follows	• Takes a rather – short-term view that focusses exclusively on the proposal • to the detriment of the research that potentially follows	• Unfocussed approach to both – the proposal as well as • the research
7	• Usually respected by – an accomplished and – mature jury	• Usually treated with suspicion by an – accomplished and – mature jury	– Often summarily discarded by the proposal managing administrative staff for – non-compliance of the most basic proposal fulfilment norms
8	• Appear argumentative on paper since they may often – legitimately contest certain approval norms and – approval protocol	• Appear very attractive on paper since they are usually – subserviently compliant and – appear too good to be true	• Appear – extremely unfocussed – ignorant of research and proposal norms
9	• Usually – a high proportion of proposals are likely to be sanctioned	• Usually – a lower proportion of proposals are likely to be sanctioned	• Usually – a very low proportion of such proposals will get endorsed
10	• Usually – a high proportion of sanctioned proposals are likely to produce credible research outcomes (See Fig. 1.13)	• Usually – a lower proportion of sanctioned proposals are likely to produce credible research outcomes (See Fig. 1.13)	• Usually – a very low proportion of sanctioned proposals are likely to produce credible research outcomes (See Fig. 1.13)

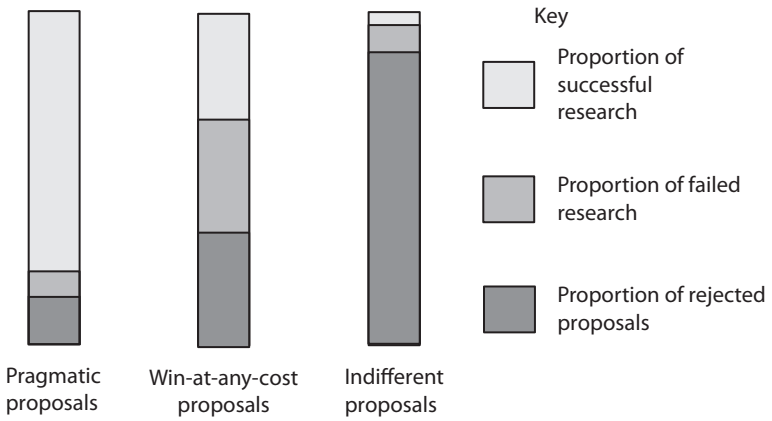


Fig. 1.13 Research proposal types and corresponding approval proportions and research success proportions

SUMMARY

Research is the systematic and conscious attitude and process of inquiring. Empirical research involves the study of real-world events, whereas non-empirical research is about research on the conceptual or ideal. Scientific research is necessarily empirical and involves real-world facts and events. It is about actuality, whereas non-empirical research is about the imaginary world of possibilities.

Research methodology and research are not distinct, the former to be studied and the latter to be enacted. The most fruitful research employs the insights of methodology to execute the research. Methodology is the logic or rationale of the methods. Methods pertain to the specific techniques used to enact the research. Methodology is a logical consideration related to validity, whereas methods are a real-world aspect, connected to reliability. The chapter presented a detailed list of differences between methodology and methods.

Research methodology is an evolving discipline that keeps on improving with collective experience and study. The ideal research involves a researcher proficient with the latest developments in methodology and who not only can define the research problem adequately well, but also has good knowledge about the execution of specific research techniques. If any of these conditions are not fulfilled, we have essential gaps between the methodology and the research problem. The chapter introduced a gap analysis discussion along with appropriate and explanatory figures.

The valuation or worth of research is an important consideration when contemplating if and when to research. A straightforward way for assessing the true value of marketing research was introduced in this chapter.

Ethics pertains to the moral compass, whether of individuals, organizations, or a society. In research, ethics ensures a moral code of conduct while also ensuring a minimum quality of research. Ethical obligations exist for the key players in the research act, namely the research sponsor, the research subjects, and the research entity or agency.

A research proposal is a formal document that outlines why a given research topic is worth researching and a broad approach to tackle the research problem. The goal is to seek sanction for the planned research from an endorsing authority. The secret to a successful research proposal is to think like the approval body and be sensitive to their concerns and sensitivities while designing the proposal. However, it is important to treat the proposal as just a means to the end—the end being good, solid research. In achieving this end, a good proposal may, often legitimately, contest some approval conditions in deference to perceived research realities.

Approving entities consider three primary aspects, namely first, is this research question worthwhile enough? Second, is the researching entity qualified enough to manage the research? And finally, does the research plan appear credible, ethical, economical, and likely to deliver? The proposal must provide persuasive material to positively influence the certifying body while responding to these three concerns.

KEY TERMS

Business ethics The assessment of what is morally right or wrong in the special case of a business. Its domain of study includes the application of moral codes of conduct for business policies, for institutions, and human behaviour.

Cognitive Implies relating to the mental operations of perception, memory, judgement, and reasoning as contrasted with emotional and volitional processes.

Empirical Pertaining to the real or actual world, in contrast to the ideal or imaginary world.

Ethics Connote the values, norms of behaviour, and code of conduct prevalent in a given context, whether professional or personal. In research, in particular, ethical principles concern the professional norms that serve as a guide for the conceptualization and execution of research activities.

Methodology Refers to the science of inquiry. It involves a study of the rationale, theory, and application suitability or otherwise of various research methods.

Research A systematic quest to identify a unifying, conceptual principle that resolves the apparent chaos existing in the phenomenal world. It is an organized and conscious endeavour based on sound principles and ideas.

Research proposal A brief formal document furnished for evaluation, potentially leading to the granting of an approval to the research. The proposal markets the research to the approving authority. It presents the research problem, its significance, and an apparently credible way to address the same.

Research question The primary issue or the specific matter under investigation in a research endeavour.

Validity Pertains to the capacity to do what a plan or research act purports to achieve. It is a logical concept associated with the concept at the heart of what is being achieved.

CONCEPT REVIEW QUESTIONS

1. What is research? What does it aim to accomplish?
2. What do you understand by empirical and non-empirical research? Provide examples of both types of research.
3. On what bases can one classify the types of research? Can such classifications be considered sacrosanct?
4. What are the various types of research? Explain the brief features of each type.
5. What do you understand by the 'value' of research? Why is it a significant measure?
6. What do you understand by research methodology?
7. What are the differences between methodology and methods?
8. What do you understand by gap analysis in the context of research methodology and the research problem?
9. Illustrate the various components of the analysis of the gap between a research problem and the corresponding research methodology employed to address it.
10. Explain a way to assess the true value of marketing research in a business situation.
11. Why is it important to determine the true value of research? Illustrate with an appropriate example.
12. What do you understand by the concept of ethics?
13. What is the importance of ethics in research?
14. Explain the idea of ethics with reference to the various key players in the research act.
15. Which, according to you, is more critical in research, methodology or research methods? Justify your answer adequately.
16. What is a research proposal? Why is it required?
17. Explain how a research proposal is evaluated with a neat figure, illustrating the process: pragmatic, win-at-any-cost, and indifferent.
18. Illustrate the logic of research proposal design.
19. Research proposal design is a matter of logical and psychological considerations. Explain and illustrate with examples.
20. Make a comparison of the various types of proposals commonly seen in the academic and the corporate worlds. Mention the key bases for evaluating the proposals in these varied contexts.

CRITICAL THINKING QUESTIONS

1. If research methodology is a theoretical concept with a general orientation, what is its value to practical business research that is all about specific research problems? Illustrate your answer with examples.
2. What does research achieve?
   (i) Select from among the following option(s)
   (ii) Justification is expected in detail.
   (a) Reduction in complexity
   (b) Unification of concepts
   (c) Enhancement of diversity
   (d) Increase in complexity
   (e) Increase in 'information', as defined in information theory
3. It is said that in today's world, ethics is less about choosing between what is right and what is wrong and is more about choosing between what is right and what is more right.
   (i) Explain the essence of this assertion.
   (ii) Can you think of some examples to illustrate the above assertion?
   (iii) Do you agree with the assertion? Justify your stand.
4. Consider the following assertion:
   Improperly executed methods affect the reliability of the measurements, indirectly affecting research outcome, but improper methodology directly impacts research outcome in a rather serious way.
   Based on the above assertion, which of the following statement(s) can be deduced?
   (i) Methodological concepts affect the validity of research conclusions
   (ii) Methodological concepts affect the quality of research outcomes
   (iii) Methods affect the research outcomes as seriously as methodology but in an indirect way.
   (iv) By affecting measurements, improperly executed methods indirectly but seriously affect research outcomes.
   Correct statements are _____
   Justification: _____
5. In the aftermath of the so-called 2G scam in India, and the associated leaks of sensitive phone conversations, KIALLX Ltd, a hypothetical supplier of high technology anti-phone-tapping equipment is planning to enter the Indian market for corporate counter-espionage solutions. The firm estimates that the value of a researched market entry would be ₹90 million, whereas that of an unresearched introduction would be ₹50 million. If the cost of the required marketing research exercise has been worked out to be ₹3 million, answer the following questions:
   (i) Do you believe marketing research is warranted in this case? Justify.
   (ii) Determine the true value of the marketing research exercise.
   (iii) Clearly state the formula you use explaining all the terms involved.
6. Some opine that ethics apply to individuals and wonder whether moral codes would apply to business organizations at all. What is your opinion on this idea?
7. Consider the statement mentioned in this chapter: 'Methodology is, thus, the application branch of logic and transcends the scope and function of logic.' What do you understand by this statement?
8. Consider the following two statements:
   (i) Empirical research involves observations of the real world and inferences about the same.
   (ii) Non-empirical research has nothing to do directly with real-world events.
   Which of the following statements is true?
   (a) (i) and (ii)
   (b) (i)
   (c) (ii)
   (d) None of the above
   Justification: _____
9. Hellfire Ltd is a supplier of high technology, halogen, outdoor sports lighting systems. It is planning to enter the market for Sports Stadia flood lighting. They estimate that the business impact of a researched market entry would be a loss of ₹90

lakh, whereas that of an unresearched introduction would be a loss of ₹1.2 crore. It is imperative that they enter the market.

If the cost of the marketing research has been worked out to be ₹10 lakh, the true value of marketing research will be

(i) ₹20 lakh
(ii) ₹–20 lakh
(iii) ₹10 lakh
(iv) ₹–10 lakh
(v) None of the above

10. Consider the following two statements:
    (i) Improper execution of methods is a symptom of improper methodology.
    (ii) Improper selection of methods is a symptom of improper methodology.

    Which of the statements below is false?
    (a) (i) and (ii) are true
    (b) (ii) is true
    (c) (i) is false
    (d) (i) and (ii) are false

    False statement(s): _____

    Justification: _____
11. According to you, what should a course in research lay more stress on? Methodology or methods? Why?
12. Of the three proposal evaluation criteria,
    (i) Why is researcher capability not considered to be of prime importance to be considered as the top priority?
    (ii) Suggest an example of a proposal evaluation situation wherein it would be natural to assign greater priority to researcher qualification than to the research question itself.
13. Consider the three fundamental proposal evaluation criteria that are commonly adopted in most situations, arranged in the appropriate order:
    (i) The research question (RQ)
    (ii) The researching entity (RE)
    (iii) The research approach (RA)

    What are the possible objections to the following orders of the criteria?

S. No.	Possible order of proposal evaluation criteria	Objections (logical inconsistencies in the suggested order)
1	RQ RA RE	
2	RE RQ RA	
3	RA RE RQ	

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CASE STUDIES

1.1 A Question of Overuse

You are the research director of a large pharmaceutical company. Recent consumer feedback indicates that many of your customers are misusing one of your company's principal OTC products. There is no danger resulting from this misuse though customers are certainly wasting money by using too much of the product at a time.

You are shown the new advertising campaign by your advertising agency. The commercials not only disregard the issue of overuse, they actually seem to validate it.

Discussion Questions

1. Identify the ethical issue, if any, in this situation.
2. As the research director, how would you have handled this situation? Justify your response.
3. Does this situation change appreciably if we consider a different industry? Explain and provide illustrative examples to make your point.

1.2 Moral Crossroads

You are the top research executive at PowerAC. You have been asked to carry out an in-depth inquiry into the prospects for a certain new product in your industry vertical. You estimate that the research, even if carried out through the best supplier in the industry, will be challenging, tricky, and will probably cost you about ₹10 million over a period of about six to eight months.

Your CEO is not happy with the project estimates. He wants a quicker, cheaper, and reliable estimate. You are in a fix. You have already spent a fair amount of time and effort on developing the estimate and are confident about it.

Meanwhile, a classmate of yours in B-School, who is a top brand manager at your rival organization, Iceage, sends you an interesting offer through a common friend. Iceage has carried out an identical research less than a month back, and he is in possession of the entire research material. He offers to pass on the same to you, clandestinely of course, for a consideration of ₹8.5 million.

Discussion Questions

1. What will you do?
2. Explain your reasoning.

1.3 A Methodological Argument

Priya, the young research consultant, was in an animated conversation with the chief editor of the journal *Research Reportz*.

She had submitted an article for the upcoming 'Methodology Special' pull-out of the journal, and it was turned down twice with a request to focus on some particular research technique instead of an overall rationale and theory of the various research methods. She had managed, with great difficulty, to get through to the chief editor of the journal. Here is a part of the exchange:

Editor: 'It is our idea that the Methodology Special edition must have more stress on specific methods of research such as the small sample survey or the logistic regression and so on.'

Priya: 'But, sir, with all due respect, I strongly believe that the stress in a methodology supplement must be on the overall logic of the various research methods, not on individual methods.'

Editor: 'What is the practical value, pray enlighten me, of an article on the general theory underlying research methods as compared to the practical value of the research technique itself? If you can answer my question convincingly in less than a single piece of paper, I will myself approve your article.'

Discussion Questions

1. Why according to you was Priya's article rejected twice?
2. What seems to be the mindset of the editorial team towards research methodology?
3. According to you, is this a common attitude towards methodology?
   (a) Why or why not?
4. Imagine you are Priya, and write that single-page case for methodology that will convince the chief editor to publish your article.

1.4 Professional Facilitation

For the last two years, Sarika, a bright financial consultant, had had a good business relation with MRC Educational Consultants. MRC Educational Consultants was in the domain of offering turnkey educational advisory service. Besides offering advice to established schools, they could help the starting of a new school right from suggesting an appropriate location, suggesting the school board best suited in that location, helping in the architectural designing of the school's complex, interiors, planning the infrastructure, aiding in the recruitment and selection of the teachers, staff, and the key management personnel, including the principal, and many other education related consultancy services. If there was one thing they were not into, it was the financial advisory services and offerings required for their clients. They brought on board associates proficient in finance to take care of that aspect.

Mr Bajaj, the CMD of MRC was a perfectionist and did not have any specific financial advisor that he was so happy enough as to keep on board for every assignment. However, for the last two years, he had been very impressed with Sarika's work quality, professionalism, dedication, and those precious insights she brought that so enhanced MRC's overall delivery to its client. Clients themselves had remarked positively on MRC's financial advisory aspect too since Sarika had teamed up.

Although Mr Bajaj was known for his no-nonsense attitude to the practice of 'cuts' and 'commissions' and had never directly asked any cut from Sarika for the considerable business he brought her way, Sarika had been getting this feeling lately, that Mr Bajaj was possibly open to some kind of financial consideration.

The next time Mr Bajaj called her up and asked her to quote for a project, she said, 'Mr Bajaj, you have been giving me so much business for which I really didn't have to pitch in or do any sort of marketing . . . I owe all that business to MRC. I am thinking I shall keep a certain percentage from my fees for MRC.' 'That doesn't fit into our code of conduct,' said Mr Bajaj, although from the tone and tenor of his voice, he did not appear too averse to the idea. In fact, he continued, 'You know we have a lot of vendors coming to us and offer commission, but we refuse it. However, if we do feel we have added value or contributed something to the vendor's service offering, we just might consider the proposition.' 'But you do add value to whatever solution and advice I come up with,' insisted Sarika. 'In fact, many of my insights and financial strategies have their roots in the

many extensive conversations and deliberations I have with you and the MRC team . . . Please accept what I am offering as a "Professional Facilitation Fee"."All right,' said Mr Bajaj, 'Let me get back to you on this one.'

Discussion Questions

1. Do you think Sarika did the right thing by herself making the first move and offering the financial consideration to MRC?
   (a) Why or why not?
2. Do you think the term 'Professional Facilitation Fee' was used by Sarika with a specific purpose? Why or why not?
3. What do you think could be brewing in Mr Bajaj's mind?
4. Put yourself in Sarika's position:
   (a) Suggest some other approach that you would have taken.
   (b) Provide due justification for your answer.
5. Now imagine you were Mr Bajaj, how would you have responded to Sarika's offer?

1.5 A Charging Problem

You are the CEO of a firm DemoSats, which specializes in providing satellite-mapping-based demographic data services. DemoSats has just finished collecting comprehensive demographic information about Chandigarh city for a major FMCG company. You sell the data for a tidy sum and archive the collected information.

A month later, a telecommunication giant approaches you for detailed demographic profiling of Chandigarh city, the data specifications almost matching what your earlier client had demanded.

Discussion Questions

1. Should you take up this assignment?
   (a) Why or why not?
2. How should you charge this fresh client?
   (a) Justify your response.
3. Would your response have been different if the other client had also been from the FMCG domain?
   (a) What would have been your response?
   (b) Why? Explain and justify.