

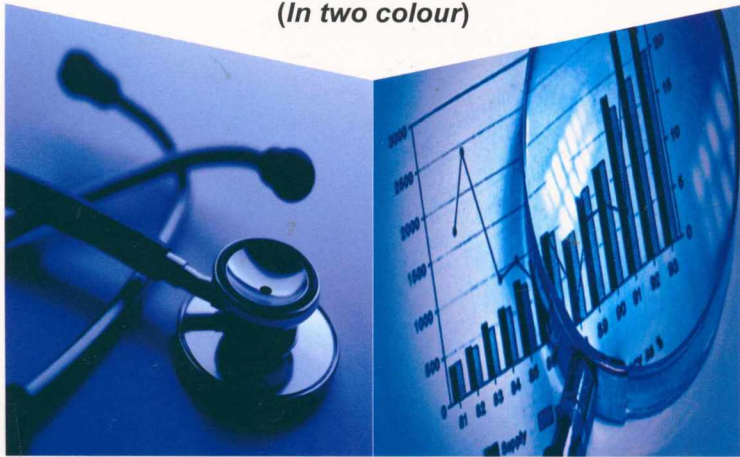


CK.0000073430

NEW AGE

RESEARCH METHODOLOGY METHODS AND TECHNIQUES

(THIRD EDITION)
(In two colour)



C R KOTHARI • GAURAV GARG



NEW AGE INTERNATIONAL PUBLISHERS



INTERNATIONAL PUBLISHERS

**RESEARCH
METHODOLOGY
METHODS AND TECHNIQUES**

RESEARCH METHODOLOGY METHODS AND TECHNIQUES

(THIRD EDITION)
(In two colour)

C R KOTHARI

Former Principal, College of Commerce
University of Rajasthan, Jaipur
Rajasthan (India)

GAURAV GARG

Assistant Professor
Indian Institute of Management
Lucknow, Uttar Pradesh (India)



An Imprint of

NEW AGE INTERNATIONAL (P) LIMITED, PUBLISHERS

New Delhi • Bangalore • Chennai • Cochin • Guwahati
Hyderabad • Kolkata • Lucknow • Mumbai

Visit us at www.newagepublishers.com

Copyright © 2014, 2004, 1990, 1985, New Age International (P) Ltd., Publishers

Published by New Age International (P) Ltd., Publishers

First Edition: 1985

Third Edition: 2014

Reprint: 2015

All rights reserved.

No part of this book may be reproduced in any form, by photostat, microfilm, xerography, or any other means, or incorporated into any information retrieval system, electronic or mechanical, without the written permission of the publisher.

BRANCHES

- **Bangalore** 37/10, 8th Cross (Near Hanuman Temple), Azad Nagar, Chamarajpet, Bangalore-560 018
Tel.: (080)26756823, Telefax: 26756820, E-mail: bangalore@newagepublishers.com
 - **Chennai** 26, Damodaran Street, T. Nagar, Chennai-600 017, Tel.: (044) 24353401
Telefax: 24351463, E-mail: chennai@newagepublishers.com
 - **Cochin** CC-39/1016, Carrier Station Road, Ernakulam South, Cochin-682 016
Tel.: (0484) 2377303, Telefax: 4051303, E-mail: cochin@newagepublishers.com
 - **Guwahati** Hemsan Complex, Mohd. Shah Road, Paltan Bazar, Near Starline Hotel, Guwahati-781 008
Tel.: (0361)2513881, Telefax: 2543669, E-mail: guwahati@newagepublishers.com
 - **Hyderabad** 105, 1st Floor, Madhiray Kaveri Tower, 3-2-19, Azam Jahi Road, Near Kumar Theater Nimboliadda, Kachiguda, Hyderabad-500 027, Tel.: (040) 24652456, Telefax: 24652457
E-mail: hyderabad@newagepublishers.com
 - **Kolkata** RDB Chambers (Formerly Lotus Cinema) 106A, 1st Floor, S.N. Banerjee Road, Kolkata-700 014
Tel.: (033)22273773, Telefax: 22275247, E-mail: kolkata@newagepublishers.com
 - **Lucknow** 16-A, Jopling Road, Lucknow-226 001, Tel.: (0522) 2209578, 4045297, Telefax: 2204098
E-mail: lucknow@newagepublishers.com
 - **Mumbai** 142C, Victor House, Ground Floor, N.M. Joshi Marg, Lower Parel, Mumbai-400 013
Tel.: (022) 24927869, Telefax: 24915415, E-mail: mumbai@newagepublishers.com
 - **New Delhi** 22, Golden House, Daryaganj, New Delhi-110 002, Tel.: (011) 23262368, 23262370
Telefax: 43551305, E-mail: newdelhi@newagepublishers.com
-

ISBN : 978-81-224-3623-5

₹ 275.00

C-15-06-8547

Printed in India at Repro India Ltd., Mumbai.

Typeset at In-House, Delhi.

PUBLISHING GLOBALLY

NEW AGE INTERNATIONAL (P) LIMITED, PUBLISHERS

7/30 A, Daryaganj, New Delhi-110002

Visit us at www.newagepublishers.com

*In loving memory of
my revered father
(The fountain of inspiration)*

— **C.R. KOTHARI**

To my Family

— **GAURAV GARG**

Preface to the Third Edition

I feel privileged to get associated with this popular book as co-author. This third edition is presented after extensive restructuring and with more details. The revised edition is prepared keeping in mind the need of advanced data analysis in social science research.

In this edition, old chapters are restructured to make the learning more systematic. Some details, questions, and solved examples are added to old chapters wherever needed. Some old chapters are renamed, some merged, and some split. Some new chapters are also added in this edition. These added chapters are mainly on advanced level data analysis. The usage of statistical package SPSS has also been shown through many examples.

For ancillary matter on this book, click at the following link:

<http://www.newagepublishers.com/servlet/nagetbiblio?bno=000896>

I am thankful to New Age International Publishers for giving me the opportunity of getting associated with this book. I also look forward for your suggestions and feedbacks so that the text can be improved further.

GAURAV GARG

Preface to the Second Edition

I feel encouraged by the widespread response from teachers and students alike to the first edition. I am presenting this second edition, thoroughly revised and enlarged, to my readers in all humbleness. All possible efforts have been made to enhance further the usefulness of the book. The feedback received from different sources has been incorporated.

In this edition a new chapter on "*The Computer: Its role in Research*" have been added in view of the fact that electronic computers by now, for students of economics, management and other social sciences, constitute an indispensable part of research equipment.

The other highlights of this revised edition are (i) the subject contents has been developed, refined and restructured at several points, (ii) several new problems have also been added at the end of various chapters for the benefit of students, and (iii) every page of the book has been read very carefully so as to improve its quality.

I am grateful to all those who have helped me directly and/or indirectly in preparing this revised edition. I firmly believe that there is always scope for improvement and accordingly I shall look forward to received suggestions, (which shall be thankfully acknowledged) for further enriching the quality of the next.

Jaipur
May 1990

C.R. KOTHARI

Preface to the First Edition

Quite frequently these days people talk of research, both in academic institutions and outside. Several research studies are undertaken and accomplished year after year. But in most cases very little attention is paid to an important dimension relating to research, namely, that of research methodology. The result is that much of research, particularly in social sciences, contains endless word-spinning and too many quotations. Thus a great deal of research tends to be futile. It may be noted, in the context of planning and development, that the significance of research lies in its quality and not in quantity. The need, therefore, is for those concerned with research to pay due attention to designing and adhering to the appropriate methodology throughout for improving the quality of research. The methodology may differ from problem to problem, yet the basic approach towards research remains the same.

Keeping all this in view, the present book has been written with two clear objectives, viz., (i) to enable researches, irrespective of their discipline, in developing the most appropriate methodology for their research studies; and (ii) to make them familiar with the art of using different research-methods and techniques. It is hoped that the humble effort made in the form of this book will assist in the accomplishment of exploratory as well as result-oriented research studies.

Regarding the organization, the book consists of fourteen chapters, well arranged in coherent manner. Chapter One is an introduction, presenting an overview of the research methodology. Chapter Two explains the technique of defining a research problem. Chapter Three dwells on various research designs, highlighting their main characteristics. Chapter Four presents the details of several sampling designs. Different measurement and scaling techniques, along with multidimensional scaling, have been lucidly described in Chapter Five. Chapter Six presents a comparative study of the different methods of data collection. It also provides in its appendices guidelines for successful interviewing as well as for constructing questionnaire/schedules. Chapter Seven deals with processing and analysis of data. Sampling fundamentals, along with the theory of estimation, constitutes the subject-matter of Chapter Eight. Chapter Nine has been exclusively devoted to several parametric tests of hypotheses, followed by Chapter Ten concerning Chi-square test. In Chapter Eleven important features of ANOVA and ANOCOVA techniques have been explained and illustrated. Important non-parametric tests,

generally used by researchers have been described and illustrated in Chapter Twelve. In Chapter Thirteen, an effort has been made to present the conceptual aspects and circumstances under which various multivariate techniques can appropriately be utilized in research studies, specially in behavioural and social sciences. Factor analysis has been dealt with in relatively more detail. Chapter Fourteen has been devoted to the task of interpretation and the art of writing research reports.

The book is primarily intended to serve as a textbook for graduate and M.Phil. students of Research Methodology in all disciplines of various universities. It is hoped that the book shall provide guidelines to all interested in research studies of one sort or the other. The book is, in fact, an outgrowth of my experience of teaching the subject to M.Phil. students for the last several years.

I am highly indebted to my students and learned colleagues in the Department for providing the necessary stimulus for writing this book. I am grateful to all those persons whose writings and works have helped me in the preparation of this book. I am equally grateful to the reviewer of the manuscript of this book who made extremely valuable suggestions and has thus contributed in enhancing the standard of the book. I thankfully acknowledge the assistance provided by the University Grants Commission in the form of 'on account' grant in the preparation of the manuscript of this book.

I shall feel amply rewarded if the book proves helpful in the development of genuine research studies. I look forward to suggestions from all readers, specially from experienced researchers and scholars for further improving the subject content as well as the presentation of this book.

C.R. KOTHARI

Contents

<i>Preface to the Third Edition</i>	vii
<i>Preface to the Second Edition</i>	ix
<i>Preface to the First Edition</i>	xi
1. Research Methodology: An Introduction	1
1.1 Meaning of Research	1
1.2 Objectives of Research	2
1.3 Types of Research	2
1.4 Research Approaches	4
1.5 Significance of Research	5
1.6 Research Methods versus Methodology	6
1.7 Research and Scientific Method	8
1.8 Research Process	9
1.9 Criteria of Good Research	19
1.10 Problems Encountered by Researchers in India	20
2. Defining the Research Problem	22
2.1 What is a Research Problem?	22
2.2 Selecting the Problem	23
2.3 Necessity of Defining the Problem	24
2.4 Technique Involved in Defining a Problem	25
2.5 An Illustration	27
2.6 Conclusion	28