



Second Edition

# Research Methodology

Concepts and Cases

$$r_{xy} = \frac{\sum_{i=1}^n X_i Y_i - n \bar{X} \bar{Y}}{\sqrt{\left( \sum_{i=1}^n X_i^2 - n \bar{X}^2 \right) \left( \sum_{i=1}^n Y_i^2 - n \bar{Y}^2 \right)}}$$

DEEPAK CHAWLA  
NEENA SONDHI

SPSS applications on problems & cases  
49 real-life cases  
3 comprehensive cases

With CD

# **Research Methodology**

## **Concepts and Cases**



# Research Methodology Concepts and Cases

*Second Edition*

**Dr Deepak Chawla**

Distinguished Professor, Dean (Research & Fellow Programme)  
*International Management Institute (IMI)*  
*New Delhi*

**Dr Neena Sondhi**

Professor  
*International Management Institute (IMI)*  
*New Delhi*



VIKAS

VIKAS® PUBLISHING HOUSE PVT LTD



VIKAS® PUBLISHING HOUSE PVT LTD

E-28, Sector-8, **Noida** – 201301 (UP) India

Phone: +91-120-4078900 • Fax: +91-120-4078999

Registered Office: 576, Masjid Road, Jangpura, **New Delhi** – 110014. India

E-mail: [helpline@vikaspublishing.com](mailto:helpline@vikaspublishing.com) • Website: [www.vikaspublishing.com](http://www.vikaspublishing.com)

- **Ahmedabad** : 305, Grand Monarch, 100 ft, Shyamal Road, Near Seema Hall, Ahmedabad – 380 051 • Ph. 079-65254204
- **Bengaluru** : First Floor, N.S. Bhawan, 4th Cross, 4th Main, Gandhi Nagar, Bengaluru – 560009 • Ph. +91-80-22204639, 22281254
- **Chennai** : E-12, Nelson Chambers, 115, Nelson Manickam Road, Aminjikarai, Chennai – 600029 • Ph. +91-44-23744547, 23746090
- **Hyderabad** : Aashray Mansion, Flat-G (G.F.), 3-6-361/8, Street No. 20, Himayath Nagar, Hyderabad – 500029 • Ph. +91-40-23269992 • Fax. +91-40-23269993
- **Kolkata** : 6B, Rameshwar Shaw Road, Kolkata – 700014 • Ph. 033-22897888
- **Mumbai** : 67/68, 3rd Floor, Aditya Industrial Estate, Chincholi Bunder, Malad (West), Mumbai – 400064 • Ph. +91-22-28772545, 28768301
- **Patna** : Flat No. 101, Sri Ram Tower, Beside Chiraiyatand Overbridge, Kankarbagh Main Road, Kankarbagh, Patna – 800020, Bihar

Research Methodology: Concepts and Cases  
ISBN: 978-93259-8239-0

Second Edition 2015  
First Published 2011

Vikas® is the registered trademark of Vikas Publishing House Pvt Ltd

Copyright © Authors, 2015

All rights reserved. No part of this publication which is material protected by this copyright notice may be reproduced or transmitted or utilized or stored in any form or by any means now known or hereinafter invented, electronic, digital or mechanical, including photocopying, scanning, recording or by any information storage or retrieval system, without prior written permission from the publisher.

Information contained in this book has been published by Vikas® Publishing House Pvt Ltd and has been obtained by its Authors from sources believed to be reliable and are correct to the best of their knowledge. However, the Publisher and its Authors shall in no event be liable for any errors, omissions or damages arising out of use of this information and specifically disclaim any implied warranties or merchantability or fitness for any particular use. Disputes, if any, are subject to Delhi Jurisdiction only.

Printed in India.



*To the memory of my*

*Parents*

*(Late) Shrimati Sushila Devi Chawla and (Late) Shri Lila Dhar Chawla*

*Brothers*

*(Late) Prof. R.C Chawla*

*Retd Principal, Govt Bikram College of Commerce, Patiala*

*(Late) Dr Dinkar Chawla, MBBS, MS*

*Senior Surgeon*

*and*

*Sister and Brother-in-law*

*(Late) Mrs Kiran Makhiya and (Late) Mr Vinay Makhiya*

*Deepak Chawla*



*To my parents*

*Sudershan & Shashi Ghai*

*for their unselfish love and nurturance*

*To my husband*

*Anil,*

*my inspiration and strength*

*To my children*

*Kanika & Kartik*

*for their everlasting belief in me*

*To all my Gurus and teachers*

*who taught me all that I know....*

*Neena Sondhi*

### **Instruction to Download Free SPSS 14-day Trial Version**

1. Type the link in your browser. [http://www14.software.ibm.com/download/data/web/en\\_US/trialprograms/W110742E06714B29.html](http://www14.software.ibm.com/download/data/web/en_US/trialprograms/W110742E06714B29.html)
2. Select your operating system by choosing the radio button. For e.g., if your operating system is Windows XP Professional, select the appropriate radio button and click Continue.
3. Register by filling in your personal details.
4. Once registered, you can login to download the trial software.

# Foreword

An important pillar of the bridge that connects ‘Management as Art’ to ‘Management as Science’ is a foundation course in Research Methodology, which MBA students are required to take. It is a basis for inculcating ‘research as a value’ for effective decision-making, a value which is difficult to imbibe when the course is seen merely as an academic one, where theoretical foundations and concepts have to be learnt more as necessary obstacles to be overcome in the journey to acquire an MBA, but with little prospect of utilizing the knowledge in practical situations they would encounter later in their professional lives. This is precisely the challenge that the authors have sought to address in this book.

Professor Deepak Chawla is a reputed teacher of Statistics, Research Methodology, Marketing Research and Business Forecasting, having long years of experience in teaching these subjects to MBA students. He is a seasoned researcher and scholar, with contributions in various functional areas of management like Marketing, Finance, Economics and, most recently, in Knowledge Management. Professor Neena Sondhi is a distinguished academic in the area of Marketing, Research Methodology and Marketing Research. She brings extensive experience of teaching and applying research methodology to management problems. The two have produced a book that can be read at two levels simultaneously—at one level for the exposition of the discipline of statistics and for its intrinsic beauty and concepts, and at another, for the techniques and methodology of research for their power and sweep of applications. The authors, through a carefully chartered path into Research Methodologies, systematically ease the student’s journey into researching a whole spectrum of management problems, analysing them, and then drawing meaningful and utilizable conclusions.

A noteworthy and invaluable feature of this book is the large number of cases drawn from a variety of situations that help the students understand the concepts and applications of different techniques. Two cases run throughout the book and provide a constant backdrop for learning the concepts and methodologies that are discussed as one progresses through the book. Thirty-five end-of-chapter cases help show how in different real contexts the statistical concepts and research methodologies are indeed applied. Another noteworthy feature is the extensive SPSS applications on problems and cases. Indeed, many problems have been worked out and discussed using both conventional methods and SPSS software. Furthermore, in order to anchor the treatment to reality, real-life data have been used for the cases.

‘This is a book by teachers who understand what difficulties the students face, what conceptual cul-de-sac they can get into, the difference between knowing a technique and applying it successfully. Therefore, they have kept the students’ needs directly in view while deciding on the style and treatment of the subject and its scope. This is a book that students will enjoy learning from. It is also a book that other teachers of Research Methodology to management students will find useful.

I commend the authors for bringing out a truly valuable textbook.



Professor Ashoka Chandra  
Former Special Secretary, Education, Ministry of Human Resource Development, Government of India  
Currently, Principal Adviser to International Management Institute (IMI),  
Chairman, Centre for Management of Innovation and Technology, IMI, and  
Chairman, Centre for Social Sector Governance, IMI.





# Preface to the Second Edition

We have received an overwhelming response for *Research Methodology: Concepts and Cases* from faculty members, research scholars and students of educational institutions across the country. Alongside, appreciation and praise for our efforts to bring out such a useful book, we have received valuable feedback and suggestions to further improve the contents of the book. We thank them for the same and accordingly have made the following additions in the second edition of the book.

**Addition and updating:** There were chapters and section where we have clarified the process or construct in some cases; we have added new sections and additional analysis to enhance the learning and interpretation of the research topic/technique. Some of these are as follows:

1. In the second chapter on *Formulations of the business research problem & development of research hypotheses*, the concept of moderator and mediator variable is described in detail – both as text and diagrammatically.
2. The chapter on *Analysis of variance techniques* has been revised and post-hoc analysis has been discussed under one way analysis of variance.
3. In chapter 5 that is *Secondary data collection methods*, the section on syndicate research has been further expanded with the help of examples.
4. The chapter 18 on *Cluster analysis* has been rearranged so as to make the reading smooth for the readers. The cases of continuous and discrete data have been explained separately.
5. The chapter 19 on *Multidimensional scaling and perceptual mapping* has been explained at length by giving all possible measurement questions and conditions under which multi-dimensional scaling can be carried out. Further it also discusses attribute based perceptual mapping using Factor analysis.
6. The *Conjoint analysis* appeared as an addendum in the previous edition of the book. It appears as a separate chapter 20 as per the suggestions of our readers.
7. A number of new examples have been added in various chapters to illustrate the concepts that are discussed.
8. The data set for *Cases and problems* that have been added in this edition are also available in the form of EXCEL and SPSS format on a CD that is provided with the book.

**New to the addition:** The greatest benefit of the book, for which scholars and academicians and practitioners have appreciated our book has been its hands on and application based approach. Hence we have strengthened the application aspect considerably in this edition in the following way.

1. There are new conceptual and application questions in majority of the chapters. This offers the learner ample opportunity to apply the chapter learning on decision problems.
2. The chapters' questions have also been complemented by adding 15 new cases in the second edition of the book. This edition thus has a total of 52 cases. The new cases that have been added in this edition are as follows:
  - Case 2.4 Fortune at the last frontier (A)
  - Case 3.3 Fortune at the last frontier (B)
  - Case 4.1 Keshav furniture pvt. Ltd.
  - Case 6.4 Fortune at the last frontier (C)
  - Case 6.5 Career in service sector vs manufacturing sector – The case of MBA aspirants

- Case 9.3 Yaseer restaurent
  - Case 11.2 Second hand classified websites in India: Usage and trust amongst customers
  - Case 12.3 Change in the lifestyle of youth after the gangrape incident of December 16, 2012
  - Case 12.4 Perceived organizational support, role overload and work family conflict in IT industry
  - Case 13.4 Perception of Delhiites about Delhi metro
  - Case 15.2 Shyam foods pvt. Ltd.
  - Case 18.3 Danish International (D)
  - Case 19.3 A shirt on my back
  - Case 20.1 Burman tea company
  - Case 3 Daag Acchhe hain! (Comprehensive case)
3. In the digital age, researchers across the world have made active use of the internet to carry out research. Thus a new addendum on online research has been added in the book. This deals with the unique aspects and indices that are of exclusive use when conducting and measuring on the virtual platform.

The revised instructor manual is available with the publisher and Faculty members adopting the book may contact them for a copy of the same. We would be delighted to receive the comments and suggestions on the second edition of the boo.

**Dr Deepak Chawla**  
*Distinguished Professor*

**Dr Neena Sondhi**  
*Professor*

# Preface

*Every truth has four corners: as a teacher I give you one corner, and it is for you to find the other three.*

*...Confucius*

*Research Methodology: Concepts and Cases* is like Confucius' corner, a tool, an ever-evolving and changing process that will always take on different nuances based on the unique philosophy of every reader and researcher who uses it. But it is our staunch belief that once you have reached the last page of this volume, the other three corners—which might vary, based on a researcher's area of interest—will not seem to be such a daunting task. Research would then become a simplified, practical and necessary path that you would confidently undertake.

The significance of business research in the Indian context gained increasing impetus in the early 1990s, with the major economic reforms implemented post liberalization by the Indian government. India was a growing and lucrative market, with a huge exodus towards urban living. Thus, a number of multinationals decided to set up their business here. However, they needed to understand the Indian consumer, the marketplace, the operating systems and most significantly, the competition; and one of the ways which could make this possible was through research. On the other hand, since the market was spoiled for choice and the buyer rather than the seller was dictating the terms, Indian companies had to revisit the way they would need to conduct their business. Hence, the value of business research to seek specific answers became important. Research in marketing was an existing reality but the scope had widened and from simple consumer studies, organizations had started looking at advertising research and new product research in a big way. Simple percentages and pie charts were no longer sufficient; more accurate and focused findings that could be effectively built into business strategies were required.

This increasing significance and usage of research tools were not isolated just to the marketing domain. Other areas of business like finance and human resources were also relying on and greatly benefitting from research undertaken for specific purposes. With a number of BPOs and KPOs being set up by organizations from developed countries, job opportunities for the Indian working population were increasing by leaps and bounds. The flip side of this was that companies started facing increasing attrition, organizational stress and dissatisfied employees. As a measure to retain and nurture human capital, a number of studies were carried out on employee satisfaction, career planning, work-life balance, organizational climate surveys, training need analysis and other related areas.

Behavioural finance was an area that even financial analysts who were earlier skeptical about structured research study, now recognized as an important emerging area of research. Investment decisions were an area of concern not only for the Indian investor but also for companies offering the financial instrument. Thus, financial research took on a new meaning in this panorama. Competition from domestic and international players forced even the existing market leaders into improving business efficiency through operations research and real-time analysis.

Research, which was once an academic exercise carried out mostly by research scholars and doctoral students, was fast becoming an important technique that was a critical part of any business school curriculum. It was no longer regarded as a theoretical, insignificant course; both the learner and the recruiter had understood that this was going to be an extremely important *modus operandi*, which could add tremendous value to any job role. At the workplace too, managers who outsource research must also be able to understand and evaluate the merit of research findings.

However, despite the present need and significance of business research, we, as teachers of this course on Business Research, have, for some time now, been aware that though business managers require to equip themselves to handle the unique needs of the fiercely competitive Indian industrial realm, the material and books available on the subject are not adequate enough to handle the complexity and technological advancements that have taken place in the area. Either the text is too mathematical for those who do not

have a mathematical background, or if the statistical techniques have been addressed in detail, the business interpretation is missing, leaving the readers clueless on how to make any sense of the obtained numbers by converting them into business decisions. There are good books on qualitative research but they lean more towards the abstract; readers then find it difficult to understand and apply to them for their specific needs.

Of the books that are being used actively for the university system, most are too theoretical and just provide definitions with practically no illustrations. Numerous methods and techniques explained have become obsolete and redundant in the current scenario. The resulting outcome is that either the field of research is a one-eyed monster to be avoided at all costs; or a bitter pill that one swallows by rote and forgets later.

Looking at the above scenario, both of us realized that it was time to pick up our pens and turn scribes. Our effort would be to instill a comprehensive and step-wise understanding of the research process with a balanced blend of theory, techniques and Indian illustrations—from all business areas that might be of relevance to the reader. We were also aware that the text had to be simple, interesting and succinct.

### *Reader and Learner*

This book makes no presumptions and can be used with confidence and conviction by both students and experienced managers who need to make business sense of the data and information that is culled out through research groups. The conceptual base has been provided in comprehensive, yet simplistic detail, addressing even the minutest explanations required by the reader. The language maintains a careful balance between technical know-how and business jargon. Every chapter is profusely illustrated with business problems related to all domains—marketing, finance, human resource and operations. Thus, no matter what the interest area may be, the universal and adaptable nature of the research process is concisely demonstrated.

At all stages in the compilation we have been careful in ensuring that the usefulness and comprehension is broad based. Every chapter includes simple and direct end-of-the-chapter questions which serve to recapitulate the learning at the first level, while the application questions and cases take the learner to the next level—beyond concepts to be able to crystallize and apply the learning in real time. The volume also has the potential to be an excellent learning guide both for the business manager and research scholars as it provides both rigorous, yet simplified understanding of the step-wise progression of the research process.

### *Organization of Content*

The book has been essentially divided into six sections and covers the entire research process. There are also two topics which have been added as an addendum to cover the entire syllabi of all national and international universities and business schools in the country.

**Section I** consists of four chapters. Chapter 1 covers the research process in its totality. Chapter 2 is devoted to conceptualizing and designing of the problem to be investigated. Depending on the need of the researcher this may then be converted into a working hypothesis, to be tested in the later stages. Chapters 3 and 4 cover all the three basic research designs—exploratory, descriptive and experimental. The sub-divisions of each one are dealt with in detail in the two chapters.

**Section II** also consists of four chapters. This section is devoted to the data collection techniques available to the researcher. It covers in complete depth the secondary and primary data collection methods. Chapter 6 provides details on all the qualitative techniques available to the researcher. Chapters 7 and 8 deal with the quantitative scales and questionnaire.

**Section III** focuses on the fieldwork once the measuring scale/questionnaire is ready. The respondent's selection or sampling plan for collecting the primary data is discussed in Chapter 9. Chapter 10 is an extremely critical chapter as the information collected now needs to be processed for analysis. Thus this chapter talks about coding, tabulating and editing of the data collected from the primary methods.

**Section IV** consists of the analysis done for testing the research hypotheses. This covers a wide range of methods beginning with univariate and bivariate analysis in Chapters 11 and 12. An entire chapter is devoted to the analysis of variance methods and the last chapter in this section discusses the non-parametric methods actively used by the business researcher.

**Section V** comprises five important advanced data analysis methods used for research. Individual chapters are devoted to correlation and regression analysis; factor analysis; discriminant analysis; cluster analysis and multidimensional scaling.

**Section VI** comprises only one chapter devoted to the writing and presentation of research results. This is very important and often handled superficially by most researchers as part of the research study. Thus, illustrations and stepwise guidelines of compiling and disseminating the study results are presented here.

**Addendum to the book:** Two topics that we felt would make this a complete volume were conjoint analysis and research ethics. We have formulated short, comprehensive guides on the two.

### *Key Features of the Book*

Some specific advantages and highlights of the book you are about to be read and learn from are:

- No mathematical aptitude or knowledge required to understand the simple logic and steps of conducting data analysis.
- Coverage of all topics and areas that are taught at all universities and business schools in the country.
- Real-time researched examples from all domains of business management and a fine blend of theory and application in every chapter.
- Complete and comprehensive chapters devoted to important multivariate techniques, rather than only a single chapter that gives a brief introduction to every technique.
- Detailed explanations of complex analytical terms in simple reader-friendly language, with appropriate illustrations in every data analysis chapter.
- Explicit instructions on the preconditions and assumptions for using every data collection method and data analysis technique.
- SPSS instructions provided to take the reader through stepwise data analysis commands for every data analysis technique.
- Evaluation exercises and learning applications in the form of objective and subjective questions at the end of every chapter.
- Thirty-five end-of-chapter Indian cases for the reader to apply his/her learning on.
- Two comprehensive cases to practise the learning garnered from every topic in the book.
- SPSS data sets for all examples and problems as well as cases given across the book.
- Useful for postgraduate students of business management as well as disciplines in social sciences such as psychology and sociology. It can also serve as a research project guide for M Phil. and PhD scholars.
- Emphasis on clear interpretation of study results into theoretical and applied implications lends it enhanced value in terms of its utility for business managers, regardless of the sector.

### *Final Word ....*

As we near the completion of the Herculean task of compiling this book on *Research Methodology: Concepts and Cases*, we are exhilarated at the magnitude of the task accomplished and yet humbled at the journey of learning this book took us on. There were times we formalized what we knew and others when we learnt anew and transcended new boundaries. It seems like only yesterday that Research Methodology was a subject that was so tedious and difficult to comprehend. All the problems, gaps in understanding and the monotony of the subject that we had experienced at the learner stage ourselves stood us in good stead as we were able to put ourselves in the shoes of learners as they who would unravel the intricate and complex research process.

Research for both of us is a passion and an endless journey that takes us in diverse directions to traverse new grounds and validate old theories. The quest for knowledge and learning never ends and we are but humble learners in this ever-evolving field of research. And you, our readers, can facilitate our new voyage of research through your valuable feedback in the form of comments and advice as you set forth on your research path by using this book as a learning tool.

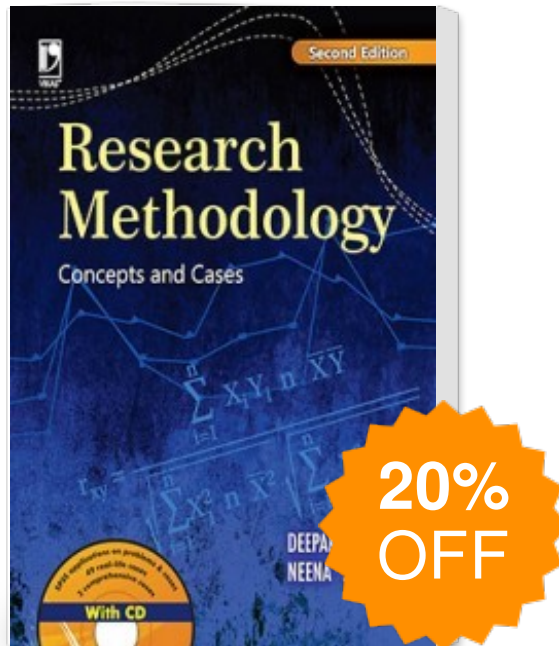
**Deepak Chawla**  
dchawla@imi.edu

**Neena Sondhi**  
neenasondhi@imi.edu





# Research Methodology : Concepts And Cases 2nd Edition



Publisher : SChand Publications ISBN : 9789325982390

Author : Deepak Chawla  
And Neena Sodhi

Type the URL : <http://www.kopykitab.com/product/10904>



Get this eBook