

Preface

“Statistical thinking will one day be as necessary a qualification for efficient citizenship as the ability to read and write.”

—H.G. Wells

Statistics and statistical techniques are used in all spheres of life. In particular, their tremendous role in business decision-making and economic analysis and planning cannot be overemphasized. Today, statistics constitutes a key component in the business intelligence which comprises various technologies used for collecting, storing and using the data in order to make informed and better decisions for the business. Statistics and statistical analysis allow a manager to take decisions that are data-based. The business managers who combine managerial judgement and statistical analysis are more likely to be successful. This is where the importance of this field of study to a business manager lies.

While a course in business statistics is an integral part of all undergraduate and post-graduate programmes in commerce, economics and management courses, I have found in my long teaching experience that many students do not look forward to it enthusiastically and with great anticipation because they find the study of statistics to be excruciatingly dull and time consuming. I believe that the solution to this lies in presenting the material in an interesting manner; thereby creating among students, an interest in statistical methods, and making them understand the use and application of this subject in business decision-making and economic analysis. The present book has been written with this objective in view.

Business Statistics aims to cater to the needs of the students pursuing postgraduate courses in management and commerce. However, it would serve equally well to meet the requirements of the undergraduate students in commerce and economics. The book has been written in a lucid and comprehensible manner using suitable illustrations, graphs and charts. Emphasis has been laid on explaining how to correctly interpret the results, especially in estimation and hypothesis testing, where students generally err. A distinguishing feature of the book is the inclusion of the *Applications* at the end of most of the chapters. These are illustrations of using the concepts discussed in the chapter to various fields and in the real life. They enable the student to understand how the statistical tools may be usefully applied.

Several pedagogical features, including the following, have been used in the book to fortify students' learning of the subject.

- The text is interspersed with 'boxes' containing important concepts, points or steps. These are meant basically for a reader who wants a quick glance of the subject matter.
- Besides illustrative examples given within the text, *Additional Solved Examples* have been included in all chapters. Care has been taken to focus on the variety of the problems and avoid repetition.

- End-of-chapter summaries are provided to help the students review the material quickly and recap the important concepts and points discussed in the chapter. Also given at the end of chapters is the list of formulae used for a quick reference.
- A large number of True/False questions are provided in the form of *Test Your Understanding*. Designed on the basis of the text, they are aimed at ensuring a clear understanding of the statistical concepts involved. Many of the statements may require good amount of thinking before being labelled as true or false. The key to these questions is given in Appendix B at the end of the book.
- In order to strengthen the understanding and application of the statistical methods, exercises are provided with every chapter. These exercises are rich in content and in variety. They add up to more than 800. The answers to the exercises are also given at the end of the book in Appendix C.

USE OF MS EXCEL

With all students having access to a computer at home or in the computer lab, the days are over when all calculations were required to be done with pen and paper. Although several software packages are available that may be used for statistical work, MS Excel provides an easily available and very useful alternative. A special feature of the present book is integration of the application of this software with this book. The various functions available in the software are included at appropriate places. It is assumed that the reader has a basic knowledge of working with the Excel worksheets.

The use of Excel also allows using the p -value approach to hypothesis testing along with the conventional approach. The merit of the p -value approach is that in addition to the accept/reject decision, it allows us to know the strength of the available evidence. This approach is also explained in the book.

INSTRUCTOR RESOURCES

Instructor resources are available on the companion website of the book. It can be accessed at www.mhhe.com/vohrabs. The resources include: (a) Power Point slides; (b) Solutions Manual containing chapter-wise detailed solutions to the problems given in the exercises, and (c) Multiple Choice Questions with key. The number of such questions is in excess of 400.

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FINAL WORD

Although a sincere attempt has been made to keep the book free of inaccuracies, yet it is possible for some errors to have crept in a book of this volume. I shall appreciate if errors, if any, are brought to my notice by users of the book. Also, I shall look forward to comments, observations and suggestions for improving the contents of book from the teachers, students and other users.

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