

# Contents

## Chapter 1 Research Methodology

Introduction .....	1
Meaning and Nature of Research .....	3
Definition of Research .....	4
Characteristics of Good Research .....	5
Types of Research .....	7
Scope and Objectives of Research .....	11
Meaning and Characteristics of Scientific Research .....	12
Scientific Research process .....	15
Social Research .....	18
Business Research .....	21
Financial Management Research .....	22
Production Management Research .....	23
Personnel Management Research .....	23
Marketing Management Research .....	23
Role of Research in Management .....	24
Ethical Issues in Management Research .....	26
Decision Making .....	30
Research Methods and Techniques .....	31

## Chapter 2 Research Design

Introduction .....	33
Purpose of Research Design .....	35
Characteristics of a good Research Design .....	36
Types of Research Design (Research Methods) .....	37
The Survey Methods .....	51
Pre-testing .....	53
Pilot Study .....	53
Common Sources of Error in the Research Design .....	54
Research Problem .....	56

## Chapter 3 Measurement and Scaling

Introduction .....	57
Types of Measurements .....	59
Sources of Error in Measurement .....	63
Objective Test and Social Scale .....	64
Types of Objective Tests .....	65
Construction of Attitude and Social Scales .....	68
Variable .....	71
Dependent and Independent Variables .....	72
Qualitative and Quantitative Variables .....	72
Continuous and Discrete Variables .....	73
Moderator (or Modulating) Variables .....	73
Intervening Variables .....	74
Reliability and Validity of Measurement .....	74

## Chapter 4 Data Collection Activities

Sources of Information .....	80
Method of Data Collection .....	80
Direct Personal Investigation .....	81
Indirect Oral Investigation .....	82
Telephonic Interviews .....	83
Local Correspondence/ Channel of Agency .....	83
Schedule/Questionnaires through Enumerators .....	84
Mailed Questionnaire .....	84
Use of Internet for Data Collection .....	85
Observation .....	86
Types of Observation .....	87
Participatory Observation .....	87
Non-Participatory Observation .....	88
Focus Group Discussion .....	89
Schedules and Questionnaires .....	89
Purpose of Schedule and Questionnaire .....	90
Types of Schedules .....	90

Steps in Framing a Schedule .....	91
Form and Layout of Schedule .....	92
Contents of Schedule .....	93
Questions .....	94
Types of Questions .....	94
Questions to be Avoided .....	94
Forms of Questionnaires .....	97
Guidelines on Questionnaire Construction .....	98
Factors Affecting Response .....	101
Process of Questionnaire Technique .....	101
Techniques of Eliciting Response through the Appeal .....	102
Techniques for Returning the Questionnaire .....	102
Advantage of Questionnaire Technique .....	102
Limitations of Questionnaire Technique .....	103
Distinction between Questionnaire and Schedule .....	104
Research Interview .....	113
Principles of the Interview .....	113
Objectives of Interview .....	114
Types of Interview .....	114
Factors Affecting choice of Data Collection .....	117

**Chapter 5 Theory of Sampling**

Introduction .....	119
Terms and Definitions .....	120
Objectives of Sampling .....	121
Principles of Sampling Theory .....	121
Principal Steps in a Sample Survey .....	123
Census and Sample Surveys .....	124
Method of Sampling .....	128
Probability Sampling .....	128
Non-Probability Sampling .....	128
Selection of Appropriate Method of Sampling .....	129
Simple Random Sampling .....	129

Procedures of Selecting a Random Sample .....	130
Stratified Sampling .....	132
Systematic Sampling .....	133
Cluster Sampling .....	134
Multi-stage/phase Sampling .....	134
Judgement or Purposive Sampling .....	135
Convenience Sampling .....	135
Accidental Sampling .....	136
Quota Sampling .....	136
Sequential Sampling .....	137
Errors in Statistics .....	137
Sampling and Non-sampling Errors .....	137

**Chapter 6 Review of Literature**

Need of Literature Review .....	142
Sources of the Review .....	145
Phases in the Review .....	146
Composing Bibliography .....	147
Reviewing Literature in the Bibliography .....	149
Organizing Library Findings .....	150
Meta Analysis .....	151
Research and Theory .....	153

**Chapter 7 Data Analysis**

Processing of Data .....	155
Classification .....	157
Transcription .....	159
Method of Transcription .....	159
Tabulation .....	160
General Rules of Tabulation .....	161
Types of Tabulation .....	162
Thematic and Narrative Analysis .....	164

Content Analysis .....	165
Diagrams and Graphs .....	166
Types of Diagrams .....	167
Bar Diagram .....	167
Two-dimensional or Area Diagram .....	170
Three Dimensional Diagrams .....	174
Graphical Presentation of Data .....	179
Types of Graphs .....	179
Time Series Graphs .....	181
Functional Relationship Graphs .....	183
Nonlinear Relationship .....	184
Zone Graphs .....	184
Band Graph .....	185
Z-chart .....	186
Frequency Graphs .....	188
Galton's Graph .....	190
Lorenz's Graph .....	191
Normal Frequency Curve .....	192
J-shaped Curve .....	193
U-shaped Curve .....	193
Analysis of Data .....	193
Interpretation of Data .....	194
Forms of Interpretation .....	194
Essentials for Interpretation .....	195
Precautions in Interpretation .....	196
Conclusions and Generalization .....	197
Method of Generalization .....	198
Summary Chart Concerning Analysis of Data .....	200

Chapter 8

**Statistical Methods of Analyzing Data**

Introduction .....	201
Percentages .....	203
Frequency Distribution .....	203

Measure of Central Tendency .....	204
Arithmetic Mean .....	204
Median .....	209
Mode .....	212
Geometric Mean .....	214
Harmonic Mean .....	216
Choice of an Average .....	218
Measures of Variability .....	218
Mean Deviation or Average Deviation .....	222
Standard Deviation .....	225
Correlation .....	228
Karl Pearson's Coefficient of Correlation .....	229
Spearman's Rank Correlation Coefficient .....	231
Kendall's Tau .....	233
Regression Analysis .....	234
Time Series Analysis .....	238
Index Numbers .....	240

Chapter 9

**Use of Statistical tests in Research**

Introduction .....	242
One Sample Test .....	244
The Binomial Test .....	244
t-test .....	245
Z-test (Large Sample Tests) .....	253
Chi-square Test .....	259
Caution in using chi-square Test .....	264
F-test .....	264
Analysis of Variance .....	266

Chapter 10

**Non-Parametric or Distribution Free Tests**

Introduction .....	271
Important Non-parametric Tests .....	271

Sign Tests .....	272
Fisher-Irwin Test .....	275
Mc Nemer Test .....	276
Wilcoxon Matched Pairs Test .....	277
Rank Sum Tests .....	279
Wilcoxon-Mann-Whitney Test .....	279
The Kruskal Walli's H Test .....	282
Kendall's Coefficient of Concordance .....	284
One Sample Run Test .....	287

Chapter 11 **Topic Selection and Preparation of Proposal**

Introduction .....	289
Selecting a Topic for Research Study .....	292
Preliminary Survey of Literature for Topic Selection .....	293
Research Problems .....	294
Research Questions .....	296
Research Hypothesis .....	296
Definition of Hypothesis .....	297
Types of Hypothesis .....	298
Sources of Hypothesis .....	300
Characteristics of Hypothesis .....	300
Formulation of Hypothesis .....	300
Theoretical Frame Work .....	303
Preparing a Research Proposal .....	303
Purpose of a Research Proposal .....	304
Types of Research Proposals .....	304
Structure of the Research Proposal .....	306
Proposals for Funded Research .....	311
Evaluation of Research Proposal .....	312

Chapter 12 **Research Report**

Introduction .....	313
Meaning and Definition .....	314
Types of Reports .....	314
Procedure for Writing Report .....	316
Precautions for Writing Research Report .....	319
Format of the Research Report .....	320
Typing of the Thesis .....	330
Use of Abbreviations .....	332
<b>Bibliography .....</b>	<b>334</b>
<b>Appendices .....</b>	<b>336</b>