

Index

Chapter 1 : Business Analytics Basics	1-1 to 1-26
1.1 Definition of Analytics	1-2
1.2 Evolution of Analytics	1-2
1.3 Need of Analytics.....	1-4
1.4 Business Analytics Vs Business Analysis	1-5
1.5 Business Intelligence Vs Data Science	1-7
1.5.1 Business Intelligence.....	1-7
1.5.2 What is Data Science ?	1-9
1.6 Data Analyst Vs Business Analyst	1-10
1.6.1 Data Analyst	1-10
1.6.2 Business analysts.....	1-11
1.7 Types of Analytics	1-11
1.7.1 Descriptive Analytics	1-12
1.7.2 Diagnostic Analytics	1-12
1.7.3 Predictive Analytics	1-13
1.7.4 Prescriptive Analytics	1-14
1.8 Tools for Analytics	1-14
1.9 Concept of Insights.....	1-17
1.10 Importance of Data in Business Analytics	1-19
1.11 Differences Between Data, Information and Knowledge.....	1-20
1.12 Various Stages of an Organization in Terms of data Maturity.....	1-22
1.13 Options for Organizations in the Absence of Good Quality Data	1-23
Chapter 2 : Analytical Decision Making	2-1 to 2-19
2.1 Analytical Decision-Making Process	2-2
2.2 Characteristics of the Analytical Decision-Making Process	2-3
2.3 Breaking Down a Business Problem into Key Questions that can be Answered Through Analytics.....	2-4
2.4 Characteristics of a Good Question	2-4
2.5 Skills of a Good Business Analyst.....	2-6
2.6 Overview of Business Analytics Applications	2-8



2.6.1	Marketing Analytics	2-8
2.6.2	HR Analytics	2-9
2.6.3	Supply Chain Analytics.....	2-10
2.6.4	Retail Industry Sales Analytics.....	2-11
2.6.5	Web and Social Media Analytics.....	2-12
2.6.6	Healthcare Analytics.....	2-14
2.6.7	Energy Analytics.....	2-15
2.6.8	Transportation Analytics.....	2-16
2.6.9	Lending Analytics	2-16
2.6.10	Sports Analytics.....	2-18
2.7	Future of Business Analytics	2-19

Chapter 3 : Fundamentals of R**3-1 to 3-46**

3.1	R Environment.....	3-2
3.2	Downloading and Installing R.....	2-3
3.2.1	Install R.....	2-3
3.2.2	Install R Studio on Windows.....	2-7
3.3	User Interface of R Studio.....	2-10
3.4	Using Command Line in R	2-10
3.5	Getting Help.....	2-11
3.5.1	Getting help on a Specific Function.....	2-11
3.5.2	General Help	2-12
3.6	Writing First Code in R	2-13
3.7	File Operations in R.....	2-14
3.8	Importing Data from External Files.....	2-17
3.8.1	Read and Write Text file.....	2-17
3.8.2	Read and write CSV File	2-19
3.8.3	Reading and Writing from Spreadsheet or Excel File	2-21
3.8.4	Import Data from other Statistical Software.....	2-25
3.9	Connect to RDBMS from R using ODBC	2-26
3.10	Exploration and transformation activities.....	2-36
3.11	Basics of Web Scraping	2-43

Chapter 4 : Data types & Data Structures in R **4-1 to 4-68**

4.1 R language Tokens 4-2

4.2 Program Structure in R..... 4-7

 4.2.1 Flow Control 4-7

4.3 Debugging tools..... 4-18

4.4 Introduction to Data Structure in R 4-25

 4.4.1 Vectors 4-25

 4.4.2 Lists 4-29

 4.4.3 Scalars..... 4-35

 4.4.4 Data Frames..... 4-35

 4.4.5 Matrices 4-41

 4.4.6 Arrays 4-49

 4.4.7 Factors..... 4-52

4.5 Concatenation of Data..... 4-54

4.6 apply, lapply,sapply, tapply functions 4-55

4.7 Subsetting methods in R 4-59

4.8 Functions to summarize data: 4-59

4.9 SQL join in R. 4-63

4.10 Use of Data Structures in Different Conditions and Advantage of Using a Particular Approach 4-68

Chapter 5 : Association Analysis **5-1 to 5-28**

5.1 Concept of Data Visualization 5-2

5.2 Popular Data Visualization Tools 5-2

5.3 Exploratory Data Analysis(EDA) 5-4

5.4 Data Cleaning, Data Inspection..... 5-4

5.5 Uses of the functions like grep(), grepl(), sub(), summarize(), llist() 5-5

5.6 Using graphical functions in R for data visualization..... 5-8

5.7 Plotting with base graphics..... 5-17

5.8 Plotting with Lattice graphics..... 5-18

5.9 Customizing Graphical Parametersto improvise plots 5-20

5.10 Understanding GUIs like Deducer and R Commander 5-23

5.11 Introduction to Spatial Analysis 5-25