

Copyright © 2020 Manoj A. Thomas and Ammu S. Zachariah

All Rights reserved.

No part of the material protected by this copyright may be reproduced or utilized in any form, electronic or otherwise, including photocopying, recording, or by any other means of storage and retrieval, without the written permission from the copyright owners.

Please contact authors for permission requests. Information about authors can be found at:

<https://sites.google.com/view/manoj-thomas/books?authuser=0>

Screenshots in the book are for educational and instructional purposes only.

Front cover: **20:50** by Richard Wilson
Contemporary art at The Museum of Old and New Art (MONA), Hobart, Tasmania, Australia.
Photo by Manoj A. Thomas

ISBN: 978-0-6489304-1-9

First edition Aug 2020.

About the authors

Manoj Abraham Thomas is an Associate Professor of Information Systems at The University of Sydney Business School, Australia. He has longstanding experience in engaged research and interdisciplinary studies that involve Information Systems. His research is driven by opportunities to address global challenges through the use of emerging technologies and data science. Manoj has led numerous projects including many global ICT4D initiatives. He actively collaborates with leading academic institutions in Europe and the United States, as well as government agencies and international Non-Profit Organizations.

Ammu Susanna Zachariah is a Data Analytics professional. Her primary interest lies in Big Data Visualization and Visual Analytics. She is passionate about creating insights through innovative dashboards and story boards. She is actively involved in the field of data visualization through her professional career and various consulting projects. Through this book she hopes to translate her knowledge to help beginners kick-start their analytics journey.

Preface

Data visualization has emerged as a popular topic within business intelligence and data science... so popular that many books have been published discussing different aspects of it. This book came about as the result of a recognized lack of guidance for a keen person to get started with Tableau.

Whether a small outfit (such as a local grocery store or a family owned restaurant) or a large corporation (such as a hospital or an e-commerce store), identifying trends and patterns from data are increasingly important to decision makers. Data visualization is a powerful way to gain insights from data, reflect on the trends and patterns, and decide future actions. This is where Tableau Desktop and Tableau Public have emerged as leaders.

Tableau is a flexible, and powerful platform to create effective data visualizations. It enables the creation of visually appealing and interactive worksheets, dashboards, infographics, and visual stories. Drill-down and roll-up capabilities allow the user to easily interact with data based on the user's desired objectives.

The focus of this book is to help you get started with Tableau Desktop. It aims to provide a sound foundation and introduction to Tableau using examples in an easy to follow manner. The dataset used in the examples and the solution file are available for free in case the reader of this book wishes to follow along or have a reference.

We would like to point out that the book is not an exhaustive guide on Tableau, but it covers all essentials required for you to explore more advanced Tableau capabilities. New features are added to Tableau software almost every quarter. Nevertheless, the fundamentals generally remain the same. Thus, we hope that users of this book will find it a useful guide to understand Tableau and be encouraged to take the next step towards discovering advanced Tableau capabilities in the future.

Manoj A. Thomas
Ammu S. Zachariah
Aug 2020

Contents

- 1 Introduction to Tableau
 - 1.1 Tableau File Types
 - 1.2 Getting started with Tableau
 - 1.3 Resources used in this book
- 2 Connecting to Data
 - 2.1 Connecting to data source with excel
 - 2.2 Importing data to workbook
 - 2.2.1 Creating Connections
 - 2.2.2 Importing Excel sheets to Tableau
 - 2.2.3 Preview of imported data
- 3 Creating Joins
 - 3.1 Types of Joins
 - 3.2 Selecting fields for creating joins
 - 3.3 Errors while creating joins
- 4 Views and Analysis
 - 4.1 Creating Worksheets
 - 4.1.1 Data Pane
 - 4.1.2 Shelves
 - 4.1.2.1 Rows and Columns Shelf
 - 4.1.2.2 Marks Card
 - 4.1.2.3 Filters Shelf
 - 4.1.2.4 Pages Shelf
 - 4.1.3 Show Me Pane
- 5 Working with Data
 - 5.1 Sorting
 - 5.1.1 Sorting based on Icons/Basic Sorting
 - 5.1.2 Sorting based on sort menu/ Advanced Sorting
 - 5.1.2.1 Alphabetic Order
 - 5.1.2.2 Data Source Order
 - 5.1.2.3 Field Order
 - 5.1.2.4 Manual Order
 - 5.1.2.5 Nested Order
 - 5.2 Advance Filtering
 - 5.2.1 Wildcard Filter
 - 5.2.2 Condition Filter
 - 5.2.2.1 Filter by Field
 - 5.2.2.2 Range of Values
 - 5.2.2.3 Filter by Formula
 - 5.2.3 Top Filters
 - 5.2.3.1 By Field
 - 5.2.3.2 By Formula
 - 5.2.4 Quick Filter
- 6 Organizing Data
 - 6.1 Groups
 - 6.1.1 Create a Group
 - 6.1.2 Edit a Group
 - 6.1.2.1 Add members to existing group

- 6.1.2.2 Include an ‘Other’ group
 - 6.1.2.3 Remove members from existing group
 - 6.1.2.4 Create a new group in a group field
 - 6.1.3 Color View using groups
 - 6.1.3.1 Tableau Groups -Custom Maps
- 6.2 Hierarchies
 - 6.2.1 Create Hierarchies
 - 6.2.2 Drill-Down or Roll-Up in a hierarchy
 - 6.2.3 Remove Hierarchy
 - 6.2.3.1 Remove members from Hierarchy
 - 6.2.3.2 Remove Hierarchy
- 6.3 Sets
 - 6.3.1 Create Fixed Set
 - 6.3.1.1 Using In/Out Visualization
 - 6.3.2 Create Dynamic Set
 - 6.3.2.1 Set using General Tab
 - 6.3.2.2 Set using Condition Tab
 - 6.3.2.3 Set using Top Tab
 - 6.3.3 Edit a Set
 - 6.3.4 Delete a Set
- 7 Dual and Combined Axis Chart
 - 7.1 Dual Axis Chart
 - 7.2 Combined Axis
- 8 Common Chart types
 - 8.1 Area Chart
 - 8.2 Bar Chart
 - 8.3 Line Chart
 - 8.4 Box Plot
 - 8.5 Heat Maps or Density Marks
 - 8.6 Highlight Tables
 - 8.6.1 Difference between Highlight tables and Heat Maps
 - 8.7 Gantt Chart
 - 8.8 Histogram
 - 8.9 Scatter Plot
 - 8.10 Treemap
 - 8.11 Packed Bubble Chart
 - 8.12 Geographic Mapping
 - 8.12.1 Point Map
 - 8.12.2 Filled/Polygon Map
 - 8.12.3 Geographic Groups
- 9 Specific Values
 - 9.1 Totals
 - 9.1.1 Grand Totals
 - 9.2 Aggregation
 - 9.2.1 Configure Total Aggregation
- 10 Calculations in Tableau
 - 10.1 Calculated Field
 - 10.1.1 Edit Calculated Field

- 10.2 Table Calculations
 - 10.2.1 Edit Table Calculation
 - 10.2.2 Remove Table Calculation
- 10.3 Quick Table Calculation
- 10.4 Table Calculation types
 - 10.4.1 Running Total Calculation
- 10.5 Reference Line
 - 10.5.1 Edit Reference Line
 - 10.5.2 Remove Reference Line
- 11 Infographics
 - 11.1 Adding images to Worksheet
 - 11.2 Adding images to Dashboard
- 12 Creating Dashboards
 - 12.1 Filters
 - 12.1.1 Using infographics as Filters
 - 12.1.2 Applying filters on Objects in Dashboard
 - 12.2 Actions
 - 12.2.1 Filter Action
 - 12.2.2 URL Action
 - 12.2.3 Highlight Action
- 13 Creating Stories
- 14 References