Data for Decision Makers: Data Concepts and Applications

Course Handbook

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Preface

In today's data-driven world, the responsibility of public service demands more than experience and intuition; it requires evidence-based decision-making grounded in a deep understanding of data. For government officials at all levels, from local administrators to national policymakers, data is not just a tool - it is an indispensable asset in crafting policies that are effective, equitable, and accountable. Data for Decision Makers is written with you in mind: to support those entrusted with public leadership in leveraging data to serve communities more effectively.

Across the domains of public health, education, transportation, environmental policy, and beyond, the availability of data has never been greater. But with this abundance comes complexity. Making sense of it - identifying relevant patterns, understanding root causes, evaluating outcomes, and anticipating future trends - requires more than access. It demands a strong foundation in the principles and practices of modern data use.

This book highlights how data literacy empowers government officials to navigate uncertainty, combat misinformation, and design policies that truly respond to the needs of the public. From statistical reasoning and geographic information systems to predictive modelling and real-time dashboards, the tools of data are transforming governance. Understanding these tools is essential to strengthening transparency, accountability, and public trust.

Data for Decision Makers bridges the gap between technical expertise and policy leadership. It offers clear, accessible explanations of core data concepts alongside practical examples from the public sector. Whether your role involves strategic planning, budget allocation, program evaluation, or legislative development, this book will help you make more informed, timely, and impactful decisions.

Public service is a profound responsibility. By embracing the potential of data, government leaders can enhance their ability to meet that responsibility with clarity, foresight, and integrity. This book is your guide to doing just that.

1 Introduction

2 All about data

3 Data privacy, security, and protection

4 Data tools

5 Data entry system

6 Introduction to data analysis

7 Exploratory data analysis

References