BOOK REVIEW

BOOK TITLE


REVIEWED BY

BHARAT BHUSHANVERMA
Universiti Utara Malaysia.

BACKGROUND INFORMATION ABOUT THE AUTHOR

Kaiser Fung is a professional statistician with over a decade of experience applying statistical methods to marketing and advertising businesses. He is an adjunct professor at New York University teaching practical statistics. He is the creator of the popular *Junk Charts* blog and the author of the acclaimed *Numbers Rule Your World*.

SUMMARY OF THE BOOK

*Number Sense* introduces the readers to sense behind numbers. In the current era while many books are focusing on how to compute statistics this book focuses on the story behind the numbers. It questions and investigates the purpose of generating those statistics, the reasons behind defining publicly used indices and measures in a certain way, the intent and motive of the organizations publishing those statistics, the abuse of these statistics to misguide the consumers of these statistics, and at times simply identify the traps that statisticians can inadvertently fall into.

This book is very promising for several reasons. Without bogging the readers into technical details, it delves into analysis of information by invoking common sensical theories which does not require any special skills to comprehend. Not only has that it also explained why the data is analyzed and presented in a way it is currently done. It is organized in form of case studies with very intriguing titles which sets the ground for readers to embark on an investigative thrilling journey. It argues its line of
analysis by providing sufficient evidences through references wherever necessary.

There are several cautions that readers need to keep in mind while reading it. Author is only presenting an approach to analyze data in a certain way, the authors way. The book may leave any impression that all the data and analysis presented to us is unreliable and meant to misguide consumers of those statistics. Not all publicly published statistics are useless. Though the tagline of the book is “How to use big data to your advantage”, it does not unravel anything about big data – at least in the sense big data is changing how businesses are run. Probably, the use of word Big data helps in getting more eyeballs attracted to the book.

This book serves the purpose of fast paced weekend reading and know about stories behind the numbers we see all around us. It is written in very engaging sherlockian investigation way to readers who are uninitiated into number crunching and need to ask right questions on analysis presented to them by statisticians.

The book consists of four parts with eight chapters, each chapter name phrased as a question, is sandwiched between a prologue and an epilogue. The brief outline is enlisted below.

Part 1. Social Data
  1. Why Do Law School Deans Send Each Other Junk Mail?
  2. Can a New Statistic Make Us Less Fat?

Part 2. Marketing Data

  3. How Can Sellouts Ruin a Business?
  4. Will Personalizing Deals Save Groupon?
  5. Why Do Marketers Send You Mixed Messages?

Part 3. Economic Data

  6. Are They New Jobs If No One Can Apply?
  7. How Much Did You Pay for the Eggs?

Part 4. Sporting Data

  8. Are You a Better Coach or Manager?
EVALUATION OF THE BOOK

The book starts with a prologue which presents a case study on the use of an aggregate measure of on time performance for an airline to market it as a superior airliner. It reveals a counter-intuitive reality and guides the reader to ask for more. It raises pertinent questions on reliability of statistics which we use in our decision making and sets the tone for the rest of the book.

In part one on social data, the author brilliantly uses catchy titles to invite readers to read further. It presents a well researched case on gaming of law school rankings in USA. Though the case is not limited to gaming the mechanism it extends from modification of raw data under the garbs of cleaning and organizing data to downright fudging and misreporting raw data. The second chapter talks about how the problem itself is modified and restated when the original problem is hard to solve. It analyzes a well discussed problem of chronic obesity, measured using BMI, in USA. When the problem appeared difficult to contain after decades, a new measure is introduced which changed the thresholds for obesity using different framework. It discusses how different theories compete each other to displace one another to present a better picture suited to different stakeholders.

In second part on marketing data, in three chapters author brings focus on new age businesses which emerged as a result of explosion in digital world. It analyzes the promises of Groupon, a discount coupon market operator, from the perspective of other stakeholder’s viz. merchants and customers. It brings forth the conflicting objectives of merchants and Groupon and how eventually success of merchants would lead to success of Groupon. Later, it discusses limitations of algorithmic targeting is used in email marketing by direct marketing companies. This gives idea to readers on how impossible predictions are attempted which produces low quality results but anyway the predicative science itself is fast evolving.

In third part on Economic data, the author shifts gears to present a weak case of applying macro-economic data to micro-economic context. It does provide insights on how not to interpret macro-economic data and limitations of the computed measures and hence the distortion of reality based on computed statistics. Here, the authors seems to be unduly critical of published statistics which are meant for policy making by presenting incongruence between reality and numbers. It educate the reader on how to read and interpret statistics.
In the last part on Sporting data, the author discusses the role of managerial capabilities vis-à-vis coaching abilities in success of football leagues. It discusses the evaluation of performance of fantasy football leagues and how statistics can be used in choosing optimal teams.

Finally in the epilogue, the author opens the window to the den of statisticians. It reveals how statisticians deal with unreasonable performance of software tools and noisy large volume data eats away a large chunk of productivity. It also showcases that just being statistician is not enough to be a data scientist, it requires ability to quickly theoriesthe context and execute the analysis tool under demanding timelines to draw insights however laborious the process be or noisy the data be.

**CONCLUSION**

With the advent of increasing quantification of various disciplines of management and allied sciences, more and more managers are presented with more and more quantitative data. This book comes to rescue of uninitiated managers who either have no background in statistics or have phobia for numbers. Particularly, the cases are derived from real life incidences reported in public domain setting context which readers are already familiar with or can know more easily from quick search. The book presents an approach using counterfactuals to examine data to avoid bad analysis which may have adverse consequences. It amply illustrates the pitfalls of inferring causation when there is only correlation. The book presents a racy and an engaging introduction to number sense. It may not equip reader with any skills to analyze data but it will definitely help them ask right questions and develop a perspective on what is presented. This book is for everyone to separate wheat from the chaff while they are bombarded with lot of information by the government and private enterprises. It will help them relate to why certain statistics are presented to them, how to use those numbers to their advantage, how not to fall prey to motivated messages and why information though targeted at them is often planted. This book shall be helpful in identifying potential biases of publisher and improving critical thinking skills of readers to make informed decisions without required many statistical skills.