ESSENTIALS OF DATA ANALYTICS

THE DEFINITIVE GUIDE TO ANALYZING DATA PROFESSIONALLY

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Essentials of Data Analytics

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This book is for sale at
http://leanpub.com/essentialsofdataanalytics

This version was published on 2020-07-20

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To my mum,

My wife - Tiffany Choi,

My sons - Marcus Ng and Taylor Ng

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Prepare Your Numerical Mindset

1. Introduction

In the more common usage, *statistics* refers to numerical information. Examples include the average starting salary of college graduates; the average number of Fords sold per month over the last year; the percentage of associate degree graduate attending university who will attend undergraduate school; the change in the S&P500 from yesterday to today. A collection of numerical information is called Statistics (plural).

Statistics is the science of collecting, organizing, presenting, analyzing, and interpreting data to assist in making more effective decisions.

As the definition suggests, the first step in investigating a problem is to collect relevant data. Only after the data have been organized, we are then able to analyze and interpret it. Statistics play a significant role in scientific inquiry:

1) Research is a disciplined inquiry to answer questions, examine ideas, and test theories;
2) Statistics are mathematical tools used to organize summarize, and manipulate data;
3) Quantitative research collects and uses information in the form of numbers;
4) Data refers to information that is collected in the form of numbers.

2. Why Study Statistics?

Numerical information is everywhere. Statistical techniques are used to make decisions that affect our daily lives. That is, they affect our personal welfare. The knowledge of statistical methods will help you understand why decisions are made and give you a better understanding of how they affect you. No matter what line of work you select, you will find yourself faced with decisions