### Judah Phillips

Foreword by Dr. Thomas Davenport

# ECOMMERCE ANALYTICS



Analyze and Improve the Impact of Your Digital Strategy

#### Praise for *Ecommerce Analytics*

"Leveraging analytics to improve business results requires first knowing the questions that need to be answered. *Ecommerce Analytics* is the book to read if you are looking to use data to improve your online performance."

—Josh James, Founder and CEO, Domo; Cofounder and Former CEO, Omniture

"With U.S. ecommerce sales set to cross \$450 billion in 2017, the opportunity in front of you is immense. Yet, it is likely your conversion rates are stuck at 2%. I'm excited about Judah's comprehensive tome because it is just what the doc prescribed to help unstick your ecommerce strategies. From cart abandonment to multichannel attribution to lifetime value... You'll get precise guidance to win big!"

—Avinash Kaushik, Digital Marketing Evangelist, Google; author, Web Analytics 2.0, Web Analytics: An Hour a Day

"Are you a digital analyst working for an ecommerce company? Or are you an ecommerce marketer and your boss just asked you to provide more data about your digital efforts? If you are, then you should check out *Ecommerce Analytics*!

"Judah does a great job of making digital analytics for ecommerce logical and easy to understand. If you're a digital analyst familiar with topics like attribution modeling, you'll love how Judah discusses the specifics for an ecommerce business.

"If you're new to digital analytics you'll find the content easy to approach and very actionable. But that doesn't mean that he cuts corners! Judah is really, really thorough! He takes the time to dive into all the different metrics and analysis techniques that you can perform on your ecommerce business.

"I put Ecommerce Analytics on my bookshelf and plan to use it whenever I work with an ecommerce company—you should, too!"

—**Justin Cutroni**, Analytics Evangelist, Google; author of *Google Analytics* and *Performance Marketing with Google Analytics* 

"This important book is required reading for anyone who wants to understand how to deliver successful ecommerce analysis and data science. It's instructive and helpful, unifying the subject matter in way that is actionable for leadership, managers, technologists, and analysts."

—Raj Aggarwal, Cofounder and CEO, Localytics

"Judah has created a must-read book for all digital analysts. It's clearly framed and combines a comprehensive understanding of the topic with a practical flavor only the author can bring through decades of experience. This should be a hit in any college analytics class and will be on my graduate analytic course reading list in the future."

—**Rand Schulman**, Managing Partner, Efectyv Digital; Cofounder, DealSignal; Cofounder, Digital Analytics Association

"In *Ecommerce Analytics*, Judah has delivered a comprehensive survey of the field, covering a broad array of topics important to implementers, analysts, and executives. This book contains a wealth of information that will be valuable in successfully executing an ecommerce strategy."

-Bob Page, Director Emeritus, Digital Analytics Association; Internet entrepreneur

# Ecommerce Analytics: Analyze and Improve the Impact of Your Digital Strategy

### **Table of Contents**

Cover

Title Page

Copyright Page

Contents

Chapter 1 Ecommerce Analytics Creates

Business Value and Drives Business Growth

Chapter 2 The Ecommerce Analytics Value
Chain

Identifying and Prioritizing Demand

Developing an Analytical Plan

Activating the Ecommerce Analytics Environment

Preparing and Wrangling Data

Analyzing, Predicting, Optimizing, and Automating with Data

Socializing Analytics

Communicating the Economic Impact of Analytics

Chapter 3 Methods and Techniques for

**Ecommerce Analysis** 

Understanding the Calendar for Ecommerce Analysis

Storytelling Is Important for Ecommerce Analysis



Tukeys Exploratory Data Analysis Is an Important Concept in Ecommerce Analytics

Types of Data: Simplified

Looking at Data: Shapes of Data

Analyzing Ecommerce Data Using Statistics and Machine Learning

Using Key Performance Indicators for Ecommerce

Chapter 4 Visualizing, Dashboarding, and Reporting Ecommerce Data and Analysis

**Understanding Reporting** 

Explaining the RASTA Approach to Reporting

**Understanding Dashboarding** 

Explaining the LIVEN Approach to Dashboarding

What Data Should I Start With in an Ecommerce Dashboard?

Understanding Data Visualization

Chapter 5 Ecommerce Analytics Data Model and Technology

Understanding the Ecommerce Analytics Data Model: Facts and Dimensions

Explaining a Sample Ecommerce Data Model

Understanding the Inventory Fact

Understanding the Product Fact

Understanding the Order Fact

Understanding the Order Item Fact

Understanding the Customers Fact

Understanding the Customer Order Fact



Reviewing Common Dimensions and Measures in Ecommerce

#### Chapter 6 Marketing and Advertising Analytics in Ecommerce

Understanding the Shared Goals of Marketing and Advertising Analysis

Reviewing the Marketing Lifecycle

**Understanding Types of Ecommerce Marketing** 

Analyzing Marketing and Advertising for Ecommerce

What Marketing Data Could You Begin to Analyze?

#### Chapter 7 Analyzing Behavioral Data

Answering Business Questions with Behavioral Analytics

Understanding Metrics and Key Performance Indicators for Behavioral Analysis

Reviewing Types of Ecommerce Behavioral Analysis

## Chapter 8 Optimizing for Ecommerce Conversion and User Experience

The Importance of the Value Proposition in Conversion Optimization

The Basics of Conversion Optimization: Persuasion,

Psychology, Information Architecture, and Copywriting

The Conversion Optimization Process: Ideation to Hypothesis to Post-Optimization Analysis

The Data for Conversion Optimization: Analytics,
Visualization, Research, Usability, Customer, and
Technical Data



The Science Behind Conversion Optimization Succeeding with Conversion Optimization

Chapter 9 Analyzing Ecommerce Customers

What Does a Customer Record Look Like in Ecommerce?

What Customer Data Could I Start to Analyze?

Questioning Customer Data with Analytical Thought

Understanding the Ecommerce Customer Analytics Lifecycle

Defining the Types of Customers

**Reviewing Types of Customer Analytics** 

Segmenting Customers

Performing Cohort Analysis

Calculating Customer Lifetime Value

**Determining the Cost of Customer Acquisition** 

**Analyzing Customer Churn** 

Understanding Voice-of-the-Customer Analytics

Doing Recency, Frequency, and Monetary Analysis

Determining Share of Wallet

**Scoring Customers** 

Predicting Customer Behavior

**Clustering Customers** 

**Predicting Customer Propensities** 

Personalizing Customer Experiences

Chapter 10 Analyzing Products and Orders in Ecommerce



What Are Ecommerce Orders	What	Are	<b>Ecommerce</b>	Orders'	?
---------------------------	------	-----	------------------	---------	---

What Order Data Should I Begin to Analyze?

What Metrics and Key Performance Indicators Are Relevant for Ecommerce Orders?

Approaches to Analyzing Orders and Products

Analyzing Products in Ecommerce

Analyzing Merchandising in Ecommerce

What Merchandising Data Should I Start Analyzing First?

#### Chapter 11 Attribution in Ecommerce Analytics

Attributing Sources of Buyers, Conversion, Revenue, and Profit

Understanding Engagement Mapping and the Types of Attribution

The Difference between Top-Down and Bottom-Up Approaches to Attribution

A Framework for Assessing Attribution Software

Chapter 12 What Is an Ecommerce Platform?

Understanding the Core Components of an Ecommerce Platform

Understanding the Business Functions Supported by an Ecommerce Platform

Determining an Analytical Approach to Analyzing the Ecommerce Platform

Chapter 13 Integrating Data and Analysis to Drive Your Ecommerce Strategy

Defining the Types of Data, Single-Channel to



$\overline{}$							
( )	m	n	$\sim$	ha	n	ne	ı

Integrating Data from a Technical Perspective

Integrating Analytics Applications

Integrating Data from a Business Perspective

## Chapter 14 Governing Data and Ensuring Privacy and Security

Applying Data Governance in Ecommerce

Applying Data Privacy and Security in Ecommerce

Governance, Privacy, and Security Are Part of the Analysts Job

# Chapter 15 Building Analytics Organizations and Socializing Successful Analytics

Suggesting a Universal Approach for Building Successful Analytics Organizations

Determine and Justify the Need for an Analytics
Team

Gain Support for Hiring or Appointing a Leader for Analytics

Hire the Analytics Leader

Gather Business Requirements

Create the Mission and Vision for the Analytics Team

Create an Organizational Model

Hire Staff

Assess the Current State Capabilities and Determine the Future State Capabilities

Assess the Current State Technology Architecture and Determine the Future State Architecture



Begin Building an Analytics Road Map Train Staff

Map Current Processes, Interactions, and Workflows

Build Templates and Artifacts to Support the Analytics Process

Create a Supply-and-Demand Management Model

Create an Operating Model for Working with Stakeholders

Use, Deploy, or Upgrade Existing or New Technology

Collect or Acquire New Data

Implement a Data Catalog, Master Data Management, and Data Governance

Meet with Stakeholders and Participate in Business Processes, and Then Socialize Analysis on a Regular Cadence and Periodicity

Do Analysis and Data Science and Deliver It

Lead or Assist with New Work Resulting from Analytical Processes

Document and Socialize the Financial Impact and Business Outcomes Resulting from Analysis

Continue to Do Analysis, Socialize It, and Manage
Technology While Emphasizing the Business Impact
Ad Infinitum

Manage Change and Support Stakeholders

Chapter 16 The Future of Ecommerce



**Analytics** 

The Future of Data Collection and Preparation
The Future Is Data Experiences
Future Analytics and Technology Capabilities
Bibliography
Index

