



Competing On Analytics: The New Science of Winning

Thomas H. Davenport and Jeanne G. Harris

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Reviewed by Paul Harmon

This book describes how companies are using analytic techniques to gain competitive advantage. If you are a business executive or an IT manager and you are unfamiliar with the use of analytics, then you owe it to yourself to read this book.

In essence, analytics refers to “the extensive use of data, statistical and quantitative analysis, explanatory and predictive models, and fact-based management to drive decisions and actions. The analytics may be input for human decisions or may drive fully automated decisions. Analytics are a subset of what has come to be called *business intelligence* [BI]: a set of technologies and processes that use data to understand and analyze business performance.”

At this point, some readers may be tempted to put this review aside, figuring that they don't have the statistical background or interest to pursue this subject. That would be a serious mistake! First, this book does not depend on any knowledge of statistics – it isn't a book on Analytic techniques – it's a book for business managers that reviews how companies have used analytics to compete and suggests how business executives out to evaluate the possibility of using this new technology. Second, this isn't just another technology you might use – instead, it's a very powerful technology that is revolutionizing companies that figure out how to apply it. If you plan to stay in business over the course of the next 10 years, you need to be familiar with this approach. You can hire people to build analytic systems for your company but you, as an executive, need to be thinking about how you might use Analytics, and you need to recognize situations in which your competitors are using it.

Consider one of the many examples that Davenport and Harris cite in their book. Netflix was launched by Reed Hastings in 1997. Hastings was a movie buff who got charged \$40 in late fees from Blockbuster for a movie and decided that there had to be a better way to rent movies. He reasoned that it would be better if you just paid a monthly fee, and then used it as much as you wanted. Hastings had recently sold his software company and decided he would invest his \$750 million to create Netflix. Someone who analyzed the movie rental business would probably have pointed out to Hastings that Blockbuster was already earning \$3 billion a year and had thousands of stores. Hastings decided on a radical new business model. Netflix would ship DVDs to customers' homes, free, and provide a free return package. Customers could keep the movies as long as they wanted and return them when they were ready for another one. And there would be no late fees. It sounded audacious to many who first heard of it. Would anyone really wait for the US Postal Service (often called “snail mail”) to deliver movies to their homes?

By locating shipping points strategically, Netflix minimizes the time it takes the post office to deliver the DVDs. The heart of the system, however is the analysis of customer behavior and buying patterns based on a movie-recommendation algorithm called Cinematch. This was developed by mathematicians to define clusters of movies, connect customer movie rankings to the clusters, evaluate thousands of ratings per second and factor in current Web site behavior. In essence, Netflix creates a personalized web page for each customer and constantly recommends

movies that maximize the match between the customer's taste and their available stock. The analytics help Netflix decide exactly what to pay for the distribution rights to DVDs. They also allow Netflix to prioritize shipping movies. Priority goes to infrequent-use customers, Netflix's most profitable customers, since shipping is free, to assure they stay happy with the service. Davenport and Harris go on to describe the Netflix use of analytics in considerable detail. The key thing, however, is that the use of information has made it possible for Netflix to enter and prosper in a highly competitive market. Netflix earned \$5 million in 1999 and was up to \$1 billion by 2006. Netflix currently offers a prize of \$1 million to anyone outside the company who can improve the cinematch algorithm by at least 10 percent.

Davenport and Harris distinguish between various information techniques that use data to report and provide alerts and those that use analytics. Analytic systems analyze statistics, extrapolate trends, suggest what will happen next, and suggest optimized responses. Thus, analytic competitors are those who "have selected one or a few distinctive capabilities on which to base their strategies and then applied extensive data, statistical and quantitative analysis, and fact-based decision making to support the selected capabilities." They go on to say that: "Analytics themselves don't constitute a strategy, but using them to optimize a distinctive business capability certainly constitutes a strategy."

Like everyone these days, Davenport and Harris produce a maturity model and suggest that companies go through stages. At level 1 they are flying blind and don't have good metrics or measures. By the time an organization has reached level 5, they are drawing data from key points and their analytics have become the primary driver of the organization's valued performance. The authors also provide a road map to guide organizations from Level 1 to Level 5.

This book is a seminal book in several ways. In essence it describes the field of analytics and creates ways of thinking about the field that everyone else will use in the years ahead. They define the difference, for example, between organizations that rely on Internal Analytics and those that use External Analytics. They also review a wide range of business processes and discuss typical analytical internal and external applications for each process domain.

The authors also include a valuable discussion of the relationship between Analytics, Business Intelligence and the use of both in evolving BPM software. (In another book review this month, we looked at SAP's new mySAP applications and SAP's NetWeaver. One the main things SAP emphasizes in its new offering is NetWeaver's ability to support Analytics and Business Intelligence.

The table of contents of *Competing on Analytics* gives you a feeling for the range of this book:

- Part 1. The Nature of Analytical Competition
 - 1. The Nature of Analytical Competition
 - 2. What Makes an Analytical Competitor
 - 3 Analytics and Business Performance
 - 4. Competing on Analytics with Internal Processes
 - 5. Competing on Analytics with External Processes
- Part 2. Building an Analytical Capability
 - 6. A Road Map to Enhanced Analytical Capabilities
 - 7. Managing Analytical People
 - 8. The Architecture of Business Intelligence
 - 9. The Future of Analytical Competition.

As we suggested at the beginning, this is an important book. Tom Davenport is one of leading business process gurus. His book on *Process Innovation*, in 1993, sounded many of the themes that we are still working to implement today. His book on ERP systems – *Mission Critical* -- in the mid-Nineties anticipated the surge of interest in ERP systems at the end of the Nineties. With *Competing on Analytics* Davenport and Harris have introduced still another timely topic that all business managers will want to understand as they try to think how to improve their business processes or create new business models in the years ahead. If you're an executive, you'll want to read it to assure you understand how analytics can be used to design a corporate strategy. If you're an IT manager, you'll want to read it to understand the business case for analytics and how to organize an effort to increase your company's ability to use analytics. If you interested in metrics and performance measurement, you'll want to read it for its comprehensive look at ways information from internal and external sources can be used to help monitor and improve process performance. This book provides just the information you will need to understand and utilize this important new technology. And once again, it is being delivered just as you need to learn about it.

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