BIG DATA: UNDERSTANDING HOW DATA POWERS BIG BUSINESS
Excerpts from Chapter One

This is the first in a series of excerpts from Bill Schmarzo’s new book, available now from Amazon. This book is unique among its contemporaries in that it closely examines both the technology and related business concepts that Big Data continues to transform.

We encourage you to read the book in order to get the deepest understanding of the eminently useful Big Data world view that Bill delivers. You should also take a look at Bill’s InFocus blog where he updates and expands on the many topics covered in Big Data: Understanding How Data Powers Big Business.

CHAPTER 1: EXCERPT: THE BIG DATA BUSINESS OPPORTUNITY

Every now and then, new sources of data emerge that hold the potential to transform. Today, we are in the midst of a data-driven revolution. For businesses, social media, mobile, and machine-generated data hold the potential to completely rewire the value-creation processes.

THE BUSINESS TRANSFORMATION IMPERATIVE

Companies that embrace big data move from a retrospective view of business to a predictive one that leverages all types and sources of available data. Governed

![Today's Decision Making](#)

- "Rearview Mirror" hindsight
- Uses less than 10% of available data
- Batch, incomplete, disjointed
- Business Monitoring

![Big Data Decision Making](#)

- "Forward Looking" recommendations
- Exploits all data from diverse sources
- Real-time, correlated, governed
- Business optimization
Across almost all organizations, we are seeing multitudes of examples where data, coupled with advanced analytics, transforms key processes, such as:

- **Procurement:** Identify which suppliers are most cost-effective in delivering on-time and without damages.
- **Manufacturing:** Flag machinery and process variances that might be indicators of quality problems.
- **Distribution:** Quantify optimal inventory levels and optimize supply-chain activities based on factors such as weather, holidays, and economic conditions.
- **Marketing:** Identify which marketing promotions and campaigns are most effective in driving customer traffic, engagement, and sales, or use attribution analysis to optimize marketing mixes given marketing goals, customer behaviors, and channel behaviors.
- **Sales:** Optimize sales resource assignments, product mix, commissions modeling, and account assignments.

See the book for many more

**THE BIG DATA BUSINESS MODEL MATURITY INDEX**

Customers often ask:

- How far can big data take us from a business perspective?
- What could the ultimate endpoint look like?
- How do I compare to others with respect to my organization’s adoption of big data as a business enabler?
- How far can I push big data to power—or even transform—my value creation processes?

To address these questions, I’ve created the Big Data Business Model Maturity Index. This provides a benchmark against which organizations can measure themselves as they look at what big data-enabled opportunities may lay ahead:

Click the image to watch the video.
**Business Monitoring**

In the Business Monitoring phase, you deploy Business Intelligence (BI) and traditional data warehouse capabilities to monitor, or report on, on-going business performance.

- Trending, such as time series, moving averages, or seasonality
- Comparisons to previous periods (weeks, months, etc.), events, or campaigns
- Benchmarks against previous periods, previous campaigns, and industry benchmarks
- Indices such as brand development, customer satisfaction, product performance, and financials
- Shares, such as market share, share of voice, and share of wallet

**Business insights**

The Business Insights phase takes business monitoring to the next step by leveraging new unstructured data sources and advanced statistics, predictive analytics, and data mining, coupled with real-time data feeds, to identify material, significant, and actionable business insights that can be integrated into your key business processes.

- In marketing, uncovering observations that certain campaign activities or marketing treatments are more effective than others, coupled with recommendations for wiser spending activities
- In manufacturing, uncovering observations that certain machines are operating outside of the bounds of their control charts, coupled with a prioritized maintenance and part replacement schedule for problem machines
- In customer support, uncovering observations that certain gold-card member activities have dropped below normal activity, with recommendation to send a discount coupon or other incentive.

**Business optimization**

To many, this is the Holy Grail, where they turn over certain business operations to analytic-powered applications that automatically optimize select activities. Examples include:

- Spending allocations based on in-flight campaign or promotion performance
- Resource scheduling based on purchase history, buying behavior, and local weather and events
- Distribution and inventory optimization using known and predicted buying patterns, plus local demographic and events data
- Product pricing based on known buying patterns, inventory levels, and product interest insights gleaned from social media data
- Algorithmic trading in financial services

**Data Monetization**

This is where organizations leverage the customer, product and operational insights gleaned from big data to uncover new revenue or monetization opportunities. This includes initiatives related to:

- Packaging customer, product, and marketing insights for sale to other organizations
- Integrating analytics to create "intelligent" products
- Leveraging customer insights and recommendations to enhance the customer relationship and create a more compelling, more profitable customer experience.
**Business metamorphosis**

This phase is the ultimate goal for those wanting to leverage the insights they are capturing to develop new services in new markets. For example:

- Energy companies moving into the home energy optimization business by recommending when to replace appliances based on usage patterns, local weather, and other conditions
- Farm equipment manufacturers transforming into farming optimization businesses via crop performance data, weather and soil conditions in order to make seed, fertilizer and irrigation recommendations
- Retailers moving into the optimization business by recommending specific products given a customer’s current buying patterns compared with others like them
- Airlines moving into the “Travel Delight” business by recommending deals on hotels, rental cars, limos, events, and retail opportunities in the areas that they are visiting.

**Big data business model maturity observations**

The first three steps of the Big Data Business Model Maturity Index are focused on optimizing key internal business processes. This part of the maturity index leverages data warehouses and BI investments. There are four big data capabilities that organizations can leverage to enhance their existing internal business processes as part of the maturity process:

- Mine ALL of your transactional data to the lowest level of details, much of which is not being analyzed today due to high data warehousing costs. We call this the organizational “dark” data.
- Integrate internal (consumer comments, work orders, physician notes) and external (social media, blogs, public) unstructured data with the organization’s dark transactional data to provide new metrics and dimensions for monitoring and process optimization
- Leverage real-time data feeds to accelerate the ability to quickly identify and act upon opportunities
- Integrate predictive analytics into business processes to uncover insights within massive volumes of structured and unstructured data.