Big Data & Supply Chain Analytics

What is it & Why should I Care?
Basic Concepts

• Big Data is an emerging concept let alone Big Data driven Supply Chain Analytics

• Both are not currently well understood

• Will most likely be overhyped and overpromised

• The reality is that we have been using analytics for some time now
Analytics: a short history

• Three generations of Analytics have been defined so far:

• Analytics 1.0
  • Business Intelligence/KPI/Monitoring

• Analytics 2.0
  • The era of “Big Data”
  • Decisions based more on facts, less on intuition
  • “Machine learning”

• Analytics 3.0
  • The era of data enriched offerings
  • Predictive analytics
**Quick Definitions**

- Big Data is defined as unstructured data that is too large and complex to be used in traditional database architectures.

- The “5Vs” – *volume, velocity, variety, verification, and value* are typically vertical dimension that describes characteristics of Big Data in supply chains.

- Finance, Healthcare and Retail and IT industries have an early lead in Big Data driven analytics.

- More and more companies in every industry segment are ramping up or starting “Big data” related projects.
Big Data Outlook

- Don’t know: 11%
- Big data problem: 12%
- Big data opportunity: 76%

Who Sees It as a Big Data “PROBLEM”

- Total: 12%
  - IT Role: 23%
  - Supply Chain Role: 8%
  - Have Big Data Initiative: 14%
  - No Initiative: 11%

Source: Supply Chain Insights LLC, Big Data Survey (May - June 2013)

Base: Manufacturers, retailers, wholesalers/distributors/co-operatives or 3PLs familiar with “big data” – Total (n=123), IT Role (n=31), Supply Chain Role (n=38), Have Big Data Initiative (n=35), No Big Data Initiative (n=88)

Q7A. When you think about big data, do you think of it as a big data “problem” or a big data “opportunity?”
- Higher than other group at 90% or higher level of confidence
Why should a SCM professional care about Big Data?

The Supply Chain professional is tasked with many operational excellence goals with Big Data implications:

- INCREASE CUSTOMER ENGAGEMENT—lost market share
- IMPROVE PRODUCT/SERVICE QUALITY—Toyota
- OPTIMIZE OPERATIONAL EFFICIENCIES—SW Airlines
- PROVIDE FASTER TIME–TO–MARKET POTENTIAL FOR GREATER REVENUE RECOGNITION—Apple & Samsung lead in APP market
- SENSE SMALL EVENTS TRIGGERS POINTS (BEFORE THEY BECOME BIG IMPACTS PROBLEMS/PROXIES)—Nokia/Blackberry since 2008
- IMPROVE RISK MANAGEMENT—Cost of BP oil spill
APICS Big Data Survey, 2012

- Actual/Real Time Demand: 60%
- Forcecasting/planning/scheduling: 79%
- Actual Product Usage: 37%
- Competitive Trends: 34%
- Supply Chain Inventory Levels: 68%
• Structured data in ERP systems will not go away

• New emerging forms of Supply Chain Big data is mostly Channel data and do not fit into traditional ERP database models

• Channel Data (social media, GPS, RFID, PoS etc.)
  • “The internet of things”

• Analysis of Channel data offer wealth of opportunities for gaining strategic insights into contemporary business questions
The Future ……

- Current focus is Supply Planning (Inside Out processes)
- Future of SCM planning is Demand Shaping (Outside in) i.e. Channel Data
- Current SCM systems are not designed to answer Demand Shaping questions
- Big Data Analytics is specifically designed for such purposes
- Big Data Analytics therefore offer career growth opportunities for aspiring Supply Chain professionals
Reality Check

• Analytics 2.0/3.0 is not 100% accurate 100% of the time

• UPS is a leader in using analytics

• What happened over Christmas 2013?
  Lots of late deliveries
  What happened?

• Their forecasts were wrong
  • Predicted an 8% increase/day (Holiday related shipments)
  • Experienced closer to 37% increase overall and 43% on 12/22/13

• Incomplete or inaccurate data can still creep in

• Leaders must still lead and managers must still manage
Questions, comments, derogatory remarks?
Want more info on this topic?

Attend the 6packed conference in Dallas, TX
We shall be speaking, Friday March 7, 2014
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Thank you very much for your participation in this event