Big Data in Supply Chain and Procurement:
From Cost-to-Profit Center to Career Advancement

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Big Data in Supply Chain Management

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- Outsourcing, Technology, IP within Wall Street Practice
- Offices in U.S., China and Europe
- The law firm’s IP & Tech Transaction Group is ranked in the “First Tier” Nationally by *U.S. News & World Report* and is “one of New York City’s most outstanding transactional IT practices.” (*Chambers*)
- 14 other Practice Groups also ranked in First Tier
- 14 Practice Groups and 48 Lawyers are Ranked in *Chambers USA* and others in *Chambers* in Europe and China where firm has offices
- Practice Head Bill Tanenbaum named “Lawyer of the Year” in New York in 2013
About PwC

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“Saddling Up: Moving Beyond Transactional Processes to Harness the Strategic Value of Partnerships”. PwC
Overview of Presentation

• Solving problems by making them bigger
• Big Data converts sourcing and procurement from cost to profit center
• Creates enhanced career path
• Uncover hidden weakness in supply chains
• Uncover product defects and avoid recalls
• Improve and develop new products
Overview (2)

• Combine with IOT to increase supply chain management
• Enhance brand and mitigate reputational risk
• Increase business continuity through management in adverse weather
  – Especially in advance of extreme weather; worldwide basis
• Sustainability and its advantages
• Convergence of business objectives and contractual protection
• Offensive and defensive use of Intellectual Property agreements
Greater Visibility Into the Supply Chain

• Big Data gives you greater visibility into the supply chain
  – Identifies potential problem suppliers
  – Identifies problems for suppliers
  – Enables disaster mitigation before the problem/disaster . . . and after it
  – Risk mitigation
  – Leverage the global chain to compensate

• Forensics

• Need data, IT tools, analytics and business analysis

• Whom do you replace and after what analytics?
Steps in Big Data

• Decide business objectives
• Decide data needed
• Collect that and other data
  – Yours and from public and third-party sources
• Conduct analytics (not statistics)
  – Refine analytics software
• Make business decisions based on analytics
• Convert decisions into business outcomes
  – This is an important step
  – What presidential campaigns can teach business
Big Data Characteristics

- **Velocity**
  - Info in real- or near-real-time

- **Variety**
  - Contextual Value
  - Not fixed data model

- **Volume**
  - Opportunities to analyze and reanalyze

- **Sensitivity**
  - Going beyond the 3-Vs
Big Data Supply Chain Benefits

- Early warning system
- Cost center to revenue center
- Improves transparency of information
- More accurate operational information
- Better supplier management
- Teach suppliers how to be better suppliers
  - How to measure
Benefits (2)

- Insights into variations and evaluation of them
- Real-time decisions vs. reliance on historical trends
- Develop product improvements
- Develop new products
- Understand customer segmentation to improve targeting of products and services
- Grow demand planning
Benefits (3)

• Understand defects in products/services in chain
• Enable timely correction or supplier change
• Prevent recalls and government-mandated remediations
  – Costs
  – Reputation
  – Ultimate cost of capital
• Understand defects in products/services in chain
• Summary: use Big Data to accomplish normal business objectives: reduce cost, increase revenue, achieve competitive advantage
Big Data and Role of Suppliers

- Better cross-functional insights
- Over the horizon planning
- How to involve suppliers?
- How to fire suppliers?
- How to report sustainability and regulatory requirements?
- Reduce order-to-delivery and cycle times
- Teach suppliers how to be better suppliers
- Mitigating against just-in-time risks
Convergence of Business and IP

• How to prevent your Big Data provider from providing your proprietary methods and data – which you paid for – to a competitor

• Provider’s interest and business model

• Defensive use of IP – protect disclosure or required reporting of adverse supply chain and sustainability events

• Licensing for profit

• Controlling licensed data and IP
Convergence (2)

• **IP Protects the Process**
  – Hidden risks in joint development of collaborative improvements
  – IP formalities are IP protection
  – Limitations of Work Made for Hire Doctrine
  – Privacy is now contextual privacy
Convergence (3)

- Ownership of Big Data analytics software
  - Patent
  - Software
  - Trade secret

- Ownership of Data
  - Your data
  - Third-party data
  - Combination of above

- Will be a combination of ownership and IP
- How much do companies share about common suppliers?
Cybersecurity

• Protect your data and business advantages
• Prevent unauthorized competitive business intelligence
• Know your provider
  – Is security backed in?
  – Is your data for sale?
• Due diligence of smaller provider
• Due diligence of the Stack
• World of persistent attacks = supply chain managers + CISO + Big Data
What Data Do You Have?

• From sustainability programs
• From traditional supply chain information
  – Now you can get more from suppliers because they can get more
    • But you need IT/data program for them to use
    • IP and confidentiality protection
  – And from the goods themselves
  – IOT/sensors
    • Going beyond shipping dock to within the plant
• Global in scope
• But must leave the spreadsheet behind
What Data Do You Need?

- To leverage what you have
- To supplement what you have
- To cross-license
- How long is data retained
- How is destruction ensured
Do You Outsource Analytics?

- Will you be an outsource customer?
- Provider = data scientists plus analytics provider using your data
- Confidentiality
- Regulatory obligations
- The Stack
- Contracts
- Open source is attractive but it can eliminate proprietary rights
  - There are multiple types of open source
Analyzing the Analysis

• What does good use of Big Data look like?
• What does sub-optimal use look like?
• At the enterprise level
• At supplier level
• Making the ROI case
Getting to Good

• Develop strategy
• Decide on tech, allowing for speed of improvement
• Pilot program to reduce investment in tools, personnel, impact
• Factor in industry disruptive forces
• Involve suppliers and model their behaviors on pre- and post- basis
• Develop roadmap
Getting to Good (2)

- Data reporting
- Contract and IP
- Derivative datasets
- Operationalize analytics
  - Embed analytics into day-to-day supply chain ops
- Repeat
- But there is no one “right” way
- Decide on degree of mix of external and internal resources
Disruptive Technology

• Cloud
  – Technology vs. data vs. PII vs confidential business info
  – Need to know why collected, nature of data, external vs. internal, and how it is aggregated
• Mobile
• Social Media
• Web-based supply chain tools
• IP Protection for Data in the Cloud
• Access control
• Lessons from “traditional” sourcing/procurement
How Build an Analytics Team

- The scientist in data science
- Provide career path
- Provide improved IT tools
- Contracts to measure and enforce results
- Recognize what is different
- Again, internal vs. external mix
- Role for key suppliers and their employees/resources
Questions and Answers

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Bill Tanenbaum is the Head of the law firm Kaye Scholer’s multidisciplinary, multi-office IP & Technology Transactions Group, which is ranked in the First Tier at the National Level by U.S. News & World Report/Best Lawyers. His practice areas include outsourcing, IT, offensive and defensive IP strategies, vendor management, data security and data flows, IT and IP aspects of corporate transactions, technology agreements and licensing, Big Data in procurement and supply chain management, and sustainability. Bill was named “Lawyer of the Year 2013” in IT in NY by Best Lawyers in America. He is ranked in Band One in Technology & Outsourcing in NY by Chambers, America’s Leading Lawyers for Business, which found that he “built one of New York City’s most outstanding transactional IT practices.” IP Law Experts Guide named Bill as “The Recommended IT Lawyer in New York.” (Only one attorney is designated in each state.) He is past President of the International Technology Law Association and currently a VP of the Society for Information Management (NY), a CIO industry association where he serves as the only lawyer on the Board. He is: “one of the best IP attorneys I have worked with” (LMG CleanTech Guide), “smart, practical, tactical and highly strategic,” “an effective negotiator” (Chambers), “intellectual yet pragmatic” and “among the foremost IT licensing experts and a leading authority on related issues such as data security, privacy and Cloud” (World’s 250 Leading Patent and Technology Lawyers).

Bill is a graduate of Brown University, Cornell Law School and the Bob Bondurant School of High Performance Driving.
John Fafian runs the Sourcing Strategy and Negotiation Team at PwC. He has extensive technology and non-technology sourcing experience including infrastructure, application development, and business process outsourcing on an onshore, near shore, and offshore basis. He is a frequent lecturer on a broad range of areas related to sourcing and outsourcing. Prior to joining PwC, John held a variety of executive sourcing positions in financial services and industry.
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