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Connecting the Dots:

Contracting for Big Data, Cloud-Based Services and Cybersecurity

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Critical Issues in Sourcing BUSINESS & TECHNOLOGY SOURCING WEBINAR SERIES

Speakers



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<u>estroz@strozfriedberg.com</u> **Stroz Friedberg** T +1 212.981.6541 F +1 646.536.8901 **Anshu Prasad** leads a global team focused on applying advanced analytic techniques to improve results, primarily from supply chain, operations and logistics engagements. Over the past 18 years in consulting, Anshu has worked with clients across a range of industries, including consumer products, process/heavy manufacturing, financial services, and retail. He graduated from Cornell University with a degree in Biochemistry and holds a Masters from Oxford University.

Joe Pennell is a senior associate in the Business & Technology Sourcing practice in Mayer Brown's Chicago office. Joe focuses his practice on information technology and managed services transactions, including cloud computing, software licensing and development, and the outsourcing of finance and accounting services, IT infrastructure services and support, managed network services, and application development and maintenance. He is a Council Member for the ABA Section of Science and Technology Law and the co-chair of that Section's Cloud Computing Committee. He graduated from Harvard Law School in 2008 and earned his undergraduate degree in Electrical Engineering (with high honors) from Michigan State University.

Ed Stroz is Executive Chairman of Stroz Friedberg, a digital risk management and investigations firm. Previously, Ed was a Special Agent with the FBI where he formed their computer crime squad in New York. Ed has extensive experience in investigations of white collar crime including bank fraud and securities fraud. Ed is a trustee of Fordham University, and serves as an advisor to the Center on Law and Information Policy (CLIP) at Fordham Law School.

Agenda

- Big Data: Exemplary Business Cases
- Big Data: Contracting Recommendations
- Privacy and Security Risks in the Cloud
- Security: Not Just the Cloud



Big Data: Exemplary Business Cases





A.T. Kearney's recent LEAP1 survey explored different strategies taken by global executives around analytics



LEAP Survey Participation



1. LEAP (Leadership Excellence in Analytic Practices) survey with 430 Sr. Executives across 10 countries and 11+ industries

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We observed four key leadership practices





Only 10% of companies have the level of analytics maturity needed to greatly affect business results

Enterprise Analytics Maturity



Maturity of Analytic Competency

1. LEAP (Leadership Excellence in Analytic Practices) survey with 430 Sr. Executives across 10 countries and 11+ industries

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Impact to Business Results

Leaders adopt a holistic approach to build a roadmap to achieve their analytics vision



'Big Data' is voluminous amounts of structured and unstructured data that are difficult to manage using conventional tools

A working definition...

Is it Data?

Massive volume of structured and unstructured data from numerous sources making it difficult to process with traditional database and software techniques

Is it Technology?

The tools and processes that an organization requires to process, store and analyze vast amounts of data

Is it a Concept?

"Big Data encompasses a wide variety of concepts and technologies, but in the end it doesn't really matter.

What matters is what you do with your data."

Source: Informationweek, Big Data Insight group, LogLogic survey (N = 207) Feb 2012, A.T. Kearney



A wide range of uses are being identified to help users manage the scale and complexity of Big Data...



...along with the tools and techniques to develop Big Data business applications



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Example: Shifting activities to customers

Technologies and capabilities enabling a business shift



What is it?

Shifting activities from data entry, information provision, customer need assessment, product and service configuration, transaction handling, administration, etc. from the company to the customer – creating cost improvements, more attractive pricing, and increased customer choice

What are some of the implications?

- Shifts internal activities externally
- Requires upskilling
- Increases need for automation and connectivity

What are some examples?







Managing trades

through online

brokers

DAMS more

Managing financial affairs though online banking

Example: Distributed resourcing

Technologies and capabilities enabling a business shift



What is it?

Allows large groups of contributors to make contributions that generate large scale impact. Advantages include contributions made by true experts, when best available, minimizing waste, and accessing broader network of capacity.

What are some of the implications?

- Enterprise boundaries blur, affecting business models
- Individuals collaborate to form new competitive assets
- Contributions are often not geographically bound

What are some examples?



Apple users solve problems though the user forum



P&G engages a global community of product developers



Volunteer networks address a company's issues

Example: From transaction to consumption

Technologies and capabilities enabling a business shift



What is it?

Ubiquitous networking, sensors, and growing data management capabilities allow for cost effective real time measurement and enable new business models where products and services are priced based on consumption.

What are some of the implications?

- Improved market access and lowered thresholds for new products and services
- Less waste and improved utilization of assets (sharing economy)
- More accurate pricing and better tailored incentives

What are some examples?



Pay as you drive and pay how you drive car insurance

Office 365 Home Premium Set the battert Office againguines and more, all its one convenient adaptation.		For S PCs or Macs
\$99.99 per peer	Buy now	+ 2008 StyDrive Honge 60 minutes of Skype only per re
\$9.99perments	Buy new	Always up to date
		Learn More 💿

MSFT shifting to

subscription

models



Rolls Royce Jet Engines sold as "power by the hour"

Organizations don't lack data; they typically lack the analytical capability to analyze and transform it into actionable outcomes

Elements of Big Data



Source: Gartner - Real World Lessons from Big Data Deployment



Improvements may be made in the short run by evolving data management capabilities incrementally

Big Data Stages of Evolution



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Clear articulation of business objectives is necessary to build upon the foundation of analytics tools and capabilities







Long term success requires a focused strategy, organizational effectiveness, and practical analytics expertise

Big Data and Advanced Analytics Applications

- Creating advanced analytics engines that combine crossfunctional and interorganizational data sets into a single space
- Automating data lifecycle machine collects, processes, and analyzes information (using sophisticated techniques) before humans interact with the data



Analytics Strategy

- Starting small with projects and POCs for quick wins that drive immediate value
- Developing an agile culture for scaling analytics across the organization
- Developing talent and organizational maturity

Data Science Organization and Governance

- Dealing with governance in an era where shared and open data is necessary
- Embracing data science from a process point of view
- Building an analytics toolkit

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Big Data: Contracting Recommendations



Recommendation: Update Your Contract Clauses to Protect Your Interests in Big Data Insights

- Value may be generated in a form that is not protected by traditional contract clauses
 - Designate your data (and derived data) as:
 - Confidential Information
 - Customer Data
 - Trade Secrets (if practical)



Recommendation: Obtain Options on Data/Insights

- Obtain options to:
 - Continue using data after the term, including right to provide that data to outsiders for data analysis.
 - Obtain access to other data in provider's possession
 - Obtain access to new data streams or analytical tools when implemented by the provider
 - Option to receive insights derived from your data, including aggregated data
 - Prevent changes in services that may harm you or reduce value



Recommendation: Use Incentive-based Sourcing Strategies to Drive Value Creation by Providers

Current key challenges in contracting for Big Data services

- Difficulty in specifying outcomes
- Difficulty in specifying skills
- Difficulty in specifying activities
- Rapidly evolving technology and laws

Sourcing strategies

- Ongoing multi-provider competitive model
- Gain share or other outcome-based model
- Agile sourcing model

Recommendation: Flow Down Privacy Obligations to Providers

- Big Data technologies create new issues and concerns in:
 - Existing privacy policies and license agreements
 - Informed consent
 - Access /participation
 - Anonymization/de-identification
 - Do Not Track
 - Profiling
- Update your contracts to require your providers to be consistent with your compliance strategies



Recommendation: Obtain Compliance Commitments

- Regulations and market norms are also evolving rapidly
 - A White House report on May 1, 2014 concluded that "The federal government must pay attention to the potential for big data technologies to facilitate discrimination inconsistent with the country's laws and values."
- Obtain rights to:
 - Audit and obtain reports on uses of your data
 - Learn the basis for recommendations, including sources
 - Prevent use of your data by others without your consent
 - Stop uses of your data that are prohibited by regulations



Recommendation: Continue to Destroy Appropriate Data as Part of Your Records Retention Policy

- Your big-data enthusiasts will say that it is always better to retain more data because you will find more secondary uses as time goes on
- However, more data may impose more legal burdens, such as:
 - Expense of preservation and production in discovery
 - Expense of complying with contractual and legal obligations to protect and limit use of that data
 - Increased liability for product defects or other safety problems because more harms are arguably foreseeable
 - Risk of privacy or data security breaches and related regulatory actions and consumer class actions

Recommendation: Carefully Allocate Liability for Potential Harm

The law isn't clear on allocation or extent of Big Data liability, making it hard to size the risks when contracting and expensive to resolve disputes when they occur

Service Providers often seek broad liability waivers

Identify and allocate risks such as:

- Collection or retention of data in violation of law or contract
- Improper or unwanted disclosure of data
- Inaccurate, incomplete or misleading data
- Incorrect analysis or recommendations
- Use of analysis and recommendations

Privacy and Security Risks in the Cloud



Privacy and Security Risks in the Cloud

- 1. Provider Due Diligence
- 2. Additional Exposure to Vulnerabilities
- 3. Data Transfer Issues Location of Data and Users
- 4. Data Destruction
- 5. Data Retention
- 6. Breach Notification
- 7. Audits
- 8. Subcontractors
- 9. Ability to Comply with Laws

Ability to mitigate risks contractually will depend on negotiating leverage with the cloud provider

Are the nominal cost savings of cloud computing greater than the cost of additional risks you take on in the cloud?

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1. Provider Due Diligence

- Legal requirements vendor diligence prior to data access
 - E.g., Massachusetts Data Security Regulations
- How much diligence will cloud provider allow?
- Recommendation: Read service descriptions for information about:
 - Data storage locations
 - Backup, redundancy and security processes
 - Options for customer control
- Key point: The due diligence process is about evaluating the cloud provider's offering as compared to your requirements, versus having the provider develop a solution around your requirements

2. Additional Exposure to Vulnerabilities

- Legal requirements implement reasonable safeguards against security threats
- Cloud new vulnerabilities outside your control
 - No visibility/approval over cloud provider personnel
 - Virtual servers of other cloud customers sharing a physical server with your data
- Potential Mitigation Strategy:
 - Private/dedicated cloud solution
 - Commitment to Background Checks and Security Controls

3. Data Transfer Issues – Location of Data and Users

- Data locations in the cloud subject to change
- Approved transfer methods
- Moving data to a new jurisdiction = new requirements
- Data access may constitute a data transfer
- Surprise compliance issues
- Recommendation Obtain commitments regarding:
 - Countries where data will be processed, or
 - Commitments to transfer data using approved transfer methods (e.g., EU Model Clauses or Safe Harbor)



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4. Data Destruction

- Legal requirement Only keep data as long as needed
- What is erased?
 - Your data?
 - The pointer to your data?
- Overwriting after deletion
- Distributed cloud architecture poses challenges
- Recommendation:
 - Basic commitment to return, delete, or destroy data upon request

5. Data Retention

- Less control in the cloud
- Less accommodating of Customer requests
- Litigation holds and e-discovery more challenging
- Does cloud provider have e-discovery tools?
- Mitigation: Can the customer perform these tasks itself?



6. Breach Notification

- Legal requirements:
 - Most laws: provide notice upon knowledge or notice of breach
 - Some laws: require investigation of extent of the breach
- Access to virtual servers
- No access to cloud provider's physical servers?
 - Compliance challenge for due diligence and investigations
- Mitigation:
 - Commitment to notify customer of breach
 - Information and cooperation in investigation



7. Audits

- Legal requirement ability to monitor provider performance
- Traditional approach auditing
- Cloud challenges:
 - Reliance on standardized reports that may not fit needs
 - Inability to perform customer-specific audit
 - May make cloud unviable for certain sensitive data
- Recommendation:
 - Right to standardized audit report (e.g., SSAE 16) on regular (e.g., annual) basis
 - Right to follow-up questions and corrective action reports

8. Subprocessors

• Subprocessors

- Allow capacity flexibility in the cloud
- Amplify compliance issues
- Mitigations:
 - Notice and approval rights
 - Rights to perform due diligence (or commitment from provider to perform regular monitoring and assessment) on subs
 - Flow down of contract terms to subprocessors
9. Ability to Comply with Laws

- Your ability to comply may be dependent on the provider
 - "Salesforce.com has to comply with this law for us to comply with this law." –
 Belkin CIO.
- Terms to consider in your cloud contract:
 - Provider must comply with Customer's laws.
 - Provider will assist Customer in meeting Customer's data privacy compliance obligations, including:
 - Agreeing to sign new data protection clauses as needed (e.g., new law)

Security: Not Just the Cloud



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Global Data Breach Cost – Per Capita, by Industry



Source: 2014 Cost of Data Breach Study: Global Analysis Sponsored by IBM, Conducted by Ponemon Institute LLC

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Responding to An Incident: Containment & Investigation

- Common Investigative Hurdles
 - Lost or Stolen Devices
 - What data was on the device?
 - Time and effort needed to access the data?
 - Insider
 - What did the employee actually or likely access?
 - Is the data at home?
 - Hacker
 - What could the intruders access?
 - What proof is there of exfiltration?
 - Outsourced Service Provider



Containment & Investigation

• Common Investigative Hurdles

- In All Cases
 - Type of Personal Information (PII/PHI) at Risk
 - Encryption or protection involved
 - Time of exposure
- Can we get a network map?
- Where does client store their sensitive data?



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During and After-Action

• Use the Incident as a Teaching Tool

- Analyze root cause
- Critique incident response
 - What worked? What didn't?
 - Evaluate customer, regulator satisfaction
 - Evaluate speed and timing expectations
- Collect summary data on all incidents
 - Types of incidents, locations, cost
- Update training and "war games"



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Breach Preparation



- Plan for Different "Triggers" that Cause Action
 - "Breach" reported by the press
 - Notification by law enforcement
 - Notification by business customer/partner
 - Complaint from a single individual
 - Lost or stolen device
 - IT escalation of an "event"

Communication

- Timing and Expectations
 - Communicate often, not all the time
 - Let the facts/law drive timing
 - Not the press
 - Set reasonable expectations
 - Solid investigations take weeks



 "We are moving quickly to preserve the evidence and gather the facts in this matter. We take this matter seriously and are conducting a thorough investigation. We will let you know when we have more [helpful] information to report."



Communication

- Timing Paradox
 - More careful analysis takes time
 - More careful analysis increases certainty
 - Locate lost/stolen data
 - Account for malware changes, attacking IP's
 - Scan entire network
 - Account for PII and PHI sources
 - More careful analysis reduces cost
- 2014 Ponemon Findings:

Quick response* increases cost \$10.45/record *notification within 30 days







Notification

- Common Challenges
 - Media has already reported a breach
 - Customer's legal analysis differs from yours
 - Customer or regulators demand change in letter
 - Substitute notice undermines other marketing
 - Can't get data from an outsourced service provider in a timely manner

Communication

• Reporting on the Investigation

- Create a timeline of events
 - Establish a date of discovery
 - Anticipate state-specific questions about victims
- Prepare separate reports as needed
 - Technical report for IT/Security
 - High-level report or slides for Board
 - Summary report for victims or regulators



Containment & Investigation

• When the investigation is "inconclusive":

- Focus on known or likely facts; avoid speculation
- Draw upon expert opinion and experience
- Develop a "bucket list," ranking the
 - Likely scenarios based on the forensic evidence
 - The number of individuals known to be affected
 - The number of individuals likely to be affected
 - The number of individuals potentially affected



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Breach Preparation

- Conduct a Risk Assessment
 - Select an appropriate security standard
 - (NIST, HIPAA, ISO, PCI, Safeguards Rule, etc.)
 - Locate your most sensitive data
 - Identify most likely threats and vulnerabilities and which of those could do the most damage to you.



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Breach Preparation

• Create and Practice Incident Response Plan

- Take into account:
- Different business units
- Different laws and contracts
- Different scenarios
 - External hackers bent on massive ID theft
 - Single misdirected mailing to customer
 - Disgruntled employee who steals HR data
 - Stolen encrypted device (but left on)
- Everyone "owns" security



The Fundamental Five



Conduct a Risk Assessment.

Practice your Incident Response Plan.



Investigate Different "Buckets" of PII/PHI.

Let the Law and the Facts Drive your Timing.



Learn from each Incident.

Questions

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- As a reminder, if you are applying for CLE credit, please include the code below on the Attorney Affirmation form.
- A recording and link to the materials from this program will be distributed by email to you in the next day or two.
- For those applying for CLE credit, please note that certificates of attendance will be distributed within 30 days of the program date.
- Watch for our next webinar invitation coming in the next week or so.
- To submit topic ideas for future programs, please email us at <u>BTS@mayerbrown.com</u>.

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