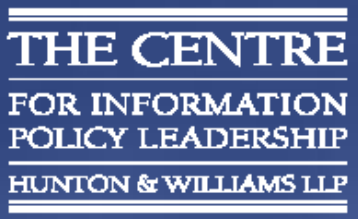

The Power of Analytics and Ethics in an Age of Ubiquitous Data

Milestones

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- Renaissance – character and capacity defined bankabl3
- 19th Century – merchant co-ops shared data
- 1930s - Sucker lists defined direct mail marketing
- 1960s – first automated credit bureau
- 1970s – first credit prescreen
- 1980's – first bankruptcy score
- 1980's – emergence of response modeling
- 1990's – web, cheap communications, robust storage
- 2000's – explosion in data and analytics

Trend: Better concepts, more data, more science

Historical Direction

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- More data
  - Contributed
  - Observed
- More Sharing
- More Science applied to the shared observations
- Information based action faster
- Data and analytics redefined markets
- Observation and analytics redefining the relationship of communities to markets

Analytics and An Information Age

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- 5 Exabyte of data collected every two days
  - Equals all the data collected from the dawn of history until 2003
- That data feeds innovation and economic growth
- The innovation comes from broad application of the predictive sciences in analytic models
  - The processes relate to people, materials and processes
    - Not all is privacy sensitive

Financial Services Led the Way

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- Financial products exist as zeros and ones
- The digital revolution began in the 1960s with the automation of credit reports
- Continued with automated scoring
- Progression through underwriting, marketing, risk assessment and identity management
- The financial services innovation is ongoing
  - Not always wise
  - Only history tells us what is true

The Online Big Bang and Analytics

- 5 Exabyte's of data every two days
- More data means more raw material for analysis
- Speed, speed, speed – analytics in fractions of a second
  - Credit scores used to be delivered in seconds
  - Online predictions must be faster
- Observation becomes the basis for businesses
- To be innovative one must be skilled and fast
- Not always consistent with pre frontal lobe thinking

Data protection Law and The Ethical Use of Analytics

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- Professor Paul M. Schwartz the author
- Worked with 14 companies to understand the application of analytics in commercial settings
- Defined four stages to the analytics process
- Applied privacy principles to the general analytics process and to the specific stages

Four Stages

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1. Collection
2. Integration and Analysis
3. Decision-making
4. Review and Revision

Overarching Requirements

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- Comply with legal requirements
- Determine if analytics use reflects societal norms
- Measure against trust by stakeholders
- Use accountable processes
- Security safeguards
- When using sensitive data have reasonable safeguards
- Children are special

Stages One and Two

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- Collection
  - Exclude information that is problematic based on laws and norms
- Integration and Analysis
  - Don’t use data that is if insufficient quality
  - Anonymize personal information when appropriate

Stage Three and Stage Four

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- Decision-Making
  - Decisions should be based on accurate information and process
  - Make available reasonable compensatory remedies when appropriate
  - Mitigate harm where appropriate
  - Determine whether analytics use meets norms
- Review and revision
  - Engage in ongoing review and revision of analytic processes
  - Review and revise based on changing data quality an relevance
  - Be responsive to the impact of decisions and unforeseen consequences
  - Only use information that proves predictive

Analytics and Privacy Principles

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- Roughly right
- Two areas where there is tension
  - Restrictions on automated decisions
    - EU Directive issue, not OECD
  - Purpose specification and use limitation