

Big Data & Global Flows


The Power of Analytics

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THE
POWER
TO KNOW.

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- Power and value of analytics
 - The “baby with the bath water”
 - Three examples

Bank Fraud

Banks and Merchants Worldwide



■ Challenge

- Credit Card Fraud costs \$400,000,000 (\$400 Billion USD) per year
- Drives up the cost of every purchase
- Drives up the cost of credit
- 200-500 transactions per second 24-7-365
- Transaction approval/denial in 2 milliseconds
- Financial fraud models have short life span (fraud perpetrators are clever)

Bank Fraud

Banks and Merchants Worldwide



- **Opportunity**
 - Prevent paying fraudulent transactions
 - Lower the cost of credit
 - Lower the cost of goods and services



Human Genome



■ Challenge

- 20,000-25,000 genes in human DNA
- 3 billion chemical base pairs that make up human DNA
- Drugs may make you better or kill you
- One works, one does not / which one to take?
- 13,000 prescription drugs on the market
- 1.4 billion people in EU, Japan, U.S.

Public Health

Human Genome



- **Opportunity**
 - Cost to have genome sequenced reduced by factor of 10,000
 - Made to measure drugs within 10 years
 - Gene therapy, cure diseases

Public Child Care

Los Angeles County



- **Challenge**
 - 40% increase in child care services fraud
 - » Provider fraud & recipient fraud
 - Perpetrated by highly-organized fraud rings
 - GOAL: Need to identify benefit recipients and service providers and predict those most likely to engage in fraud and where there might be a potentially large loss of funds

Public Child Care

Los Angeles County




- **Analytics Deployed**
 - Data integration
 - Data mining tools
 - Predictive capabilities

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- Results
 - 85% accuracy in identification of suspected fraud ring
 - Able to effectively to detect fraud before it occurs
 - Pilot program identified \$31 million in fraud
 - Expected return on investment: \$7 to \$30 million annually

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- Analytics and personal data can be a powerful, positive force
 - Be careful of the unintended consequences of legislation