Unlocking opportunities
What we will cover today

• Overview
  • What exactly is big data?
• Technology trends, tools and technologies
  • Looking into the future
• Global survey
  • Views from our members in industry
• Case studies
  • Examples of how companies are leveraging data
• Role of the finance organization
  • Who owns data analytics?
• Data visualization
  • A picture is worth a thousand words
• Implementation
  • Some thoughts on approaches
Overview
High performing organizations use analytics more than their peers

What is Big Data?

“Big data” refers to datasets whose size is beyond the ability of typical database software tools to capture, store, manage, and analyze.

*(Big data: The next frontier for innovation, competition, and productivity, McKinsey Global Institute)*
BIG DATA

- **Volume**: Data Size
- **Velocity**: Speed of Change
- **Variety**: Different Forms of Data Sources
- **Veracity**: Uncertainty of Data
Levels of data analysis

Source: The Data Warehousing Institute (TDWI), tdwi.org
Vendor landscape
Vendor Landscape
Magic Quadrant for Business Intelligence and Analytics Platforms

Source: Gartner
(February 2017)
Three sources for additional research

TechRadar™: Business Intelligence Technologies, Q2 2017

Ventana Research Value Index: Mobile Analytics and Business Intelligence

Info-Tech Vendor Landscape
Business analytics vs. advanced analytics
Trends
Forrester Research: Top Technology Trends to Watch: 2014 to 2016

1. Digital convergence erodes boundaries
2. Digital experience delivery makes (or breaks) firms
3. APIs become digital glue
4. The business takes ownership of process and intelligence
5. Firms shed yesterday’s data limitations
6. Sensors and devices draw ecosystems together
7. “Trust” and “identity” get a rethink
8. Infrastructure takes on engagement
9. Firms learn from the cloud and mobile
10. IT becomes an agile service broker (or fades away)
Robotic Process Automation

“While the promise of automation has been around for years, the pace and the extent of its adoption in the workplace has significantly picked up over the past 12 months.”

Automation at scale is driving transformative change across insurance, Brandy Smith, McKinsey & Company, June 2017
Other Trends

- Analytics Expands
- Artificial Intelligence
- Blockchain
- Cloud Technology
- Cybersecurity
- IT Transformation
- Internet of Things
Platforms and technologies
Sources of Big Data

- Archived documents
- Email databases
- Social media
- CRM systems
- Health records
- Forums
- RFID tags
- GPS enabled devices
- Smart meters
- You Tube
- Government databases
- Cell towers
- Smart grid sensors
- Automotive sensors
- Building systems
- Wearables
- Public web
Applications and Insights

- Customer analytics
  - Cross sell/upsell/retention
- Fraud detection
- Credit risk modeling
- Process control
- Distribution & logistics
- Operational analysis
- Human capital analytics
- Business planning and forecasting
- Investment analysis
- Scientific investigation
- Stock market analysis
- Terrorism detection
- Social media analytics
- Quality assurance
Techniques and technologies for analyzing Big Data

Nice summary available from McKinsey & Company:

Examples of techniques:

• A/B Testing
• Association rule learning
• Cluster analysis
• Predictive modeling
• Regression analysis
• Sentiment analysis
Self-study CPE

Analytics and Big Data for Accountants

Authors: Jim Lindell, MBA, CPA, CGMA
Publisher: AICPA

Text (2016)

Analytics and Big Data for Accountants
In Stock
Product #: 746271

Online (2016)

Group Training

Find at AICPAStore.com
Global Survey
The opportunity for finance

- 87% said big data and better analytics will change the way business is done over the next ten years.
- 48% have the skills required within their organisation to make use of richer sources of data.
Skills enhance career and employability

Having the skill set to gain more insight from data (analytics, big data, business intelligence etc) enhances your career and your employability

- **AGREE**: 85%
- **DISAGREE**: 6%
Big Data’s mixed picture

32% AGREE

Big data has made things worse not better for decision makers

36% DISAGREE

Joining the dots: Decision making for a new era, CGMA.org
How companies are using analytics
How data led to *House of Cards*

“There are 33 million different versions of Netflix.”

Joris Evers, Director Global Corporate Communications, Netflix
Carvana hosts data analytics competition at Kaggle.com

Improved ability to avoid lemons ("kicks") at auction
What about me?....I use QuickBooks
If you are applying for a job, which web browser should you use?

(Cornerstone OnDemand)
News

Rutgers and AICPA Unveil Data Analytics Research Initiative

BY AMERICAN INSTITUTE OF CPAS // RESEARCH, RUTGERS BUSINESS SCHOOL, COLLABORATIONS

December 16, 2015

ADD THIS

Rutgers Business School
Newark and New Brunswick

American Institute of CPAs®
Role of the finance organization

Who owns data analytics?
Top 5 functions driving business intelligence

2015
1. Executive management
2. Finance
3. Operations
4. Information technology
5. Sales

2016
1. Operations
2. Executive management
3. Finance
4. Sales
5. Information technology

Wisdom of Crowds Business Intelligence Market Study, Dresner Advisory Services, LLC
Strong demand for analytical skills

- Demand for analytics skills has outpaced supply

- Experts predict shortage of both deep technical skills and managers and analysts with the skills to understand and make decisions based on analysis of big data

- Demand for skills has driven new college degree programs
Visualization
Make Your Selections

2. Select Field of Interest*
   Business, Management, Marketing, And Related Support Services

3. Select Institution*
   UT Austin
Earnings by major

Median Earnings at 1 and 5 Years After Graduation

5th-Year Median Earnings

1st-Year Median Earnings
Sales dashboard

SALES RESULTS

CLIENT DISTRIBUTION

TOP CLIENTS

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<thead>
<tr>
<th>Company Name</th>
<th>Order Quantity (Monthly)</th>
<th>Total Spend</th>
<th>Units Ordered</th>
<th>Average Discount</th>
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<td>$210,825,744</td>
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<td>Catfish Company</td>
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<td>547,263</td>
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</tr>
</tbody>
</table>

UPCOMING FUNNEL

UPCOMING MEETINGS IN THE NEXT 45 DAYS

Source: Dundas Data Visualization, Inc., Dundas.com
Google this...

SAS® Visual Analytics Interactive Demos and Tableau Public Gallery
Free/Moderately Priced Tools

- Tableau Public
- SizeUp
- Roambi Analytics
- SumAll
- QlikView
- Visualize Free
- Google Charts
Implementation approaches

- Pilot
- Scaled phase-in
- Enterprise-wide

Source: IFAC International Good Practice Guidance (IGPG), *Predictive Business Analytics: Improving Business Performance With Forward-Looking Measures*
Final thoughts
Thank you!

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