Data analytics – the changing use of data within Internal Audit

Kiran Sudhakar
Associate Director, Grant Thornton UK
Overview

Areas of discussion

• Introduction
• Common questions asked
• Evolution of data analytics
• Data analytics and the changing landscape
• What does this mean for internal audit (IA) and risk
• Future data driven world
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• Same value….increasing complexity
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• Questions and answers

“There are three kinds of lies: lies, damned lies, and statistics”  
Mark Twain

“Simple liars, damned liars, and experts”  
Thomas Henry Huxley
Introduction

Kiran Sudhakar
Associate Director, Grant Thornton UK

- Worked for GT for c.8 years with over 15 years specialising in technology and business risk
- Focus is on enabling technology to enhance business process, risk and control objectives from an internal audit and risk perspective
- Main focus on the Insurance and Banking sectors especially with regards to data interrogation and analysis within the Financial Crime and trading perspective
- Performed various Solvency II data analysis, interrogation and remediation reviews across the Lloyds' of London market
- Conducted a number of reviews over the role of Internal Audit within a Three Lines of Defence perspective and the use of data to support all lines and provide insight to management and Audit Committees
- Previous roles includes working in risk assurance positions at Deloitte and PwC
- Historically setup a web 2.0 social networking business utilising bleeding edge technologies and approaches
- Data evangelist of using data visualisation to enable a more effective decision making process and prevent bad decisions from bad or sub-optimal data
How can I maximise the increased onus on three lines of defence and the increasing desire for internal audit insight?

How do we understand the changing current and emerging risks that we see?

Continued dynamic audit plans – can you quantify it or only ‘feel’ it?

More audits and either less budget or the same… how?

How to meet the increasing requirement to quantify issues?

What do we do in order to meet the changing regulatory requirements and appeasing multiple regulatory regimes?

How do I make sure my audit and auditors are only focussing on the right things? How does data analytics assist this?

Management has seen the phrase big data and wants me to apply it. How?
Evolution of data analytics

We are gaining market share
Is everyone using data to make good decisions?
How do we make the data on demand?
Let us use our data for strategic decisions
We need to coordinate our actions
How do we optimize?
Now I understand the numbers, how do I act?
What should I do with all the numbers?
We need reports, lots of them!
Can we trust the data?
We need to measure our online activity
Data analytics – changing use of data in Internal Audit

Data analytics the changing landscape
From 2001 and the 3 V’s to now

Capitalizing on Big Data:
Strategies outperforming companies are taking to deliver results

- Leaders are 166% more likely to make most decisions based on data
- And they are 2.2x more likely to have formal career path for analytics
- 75% of Leaders cite growth as the key source of value from analytics

Leaders measure the impact of analytics investments
Leaders have predictive analytics capabilities
Leaders have some form of shared analytics resources

Source: CapGemini
Source: IBM
What does this mean for IA & Risk?

Interesting use of infographics by SAP ....
What does this mean for IA & Risk?

<table>
<thead>
<tr>
<th>Areas in which Canadian organizations want greater internal audit involvement over the next 12 months</th>
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<tbody>
<tr>
<td>Growing reliance on technology and IT systems</td>
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<tr>
<td>Business transformation/change management initiatives</td>
</tr>
<tr>
<td>Increased reliance on Big Data and business analytics</td>
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<tr>
<td>Faster pace of internal change</td>
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<tr>
<td>Greater reliance on third parties</td>
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<tr>
<td>Innovation around products, services and business models</td>
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<tr>
<td>Changes in talent/staffing/resources</td>
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<td>ERP implementation</td>
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<tr>
<td>Mergers, acquisitions, and divestitures</td>
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<tr>
<td>Reputation and brand initiatives</td>
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Percent of respondents indicating that internal audit should be more involved over the next 12 months

More infographics by PwC Canada ….
Future data driven world

- An on-demand data driven enterprise where data analytics is at the core of all services and functions (both customer and corporate)
- Corporate growth considerations will be driven by data not by 'feeling the market' or sample based market research
- Your data could be your only IP in a cloud computing world
- Serious mistakes could be made on misinterpretation of data
- Real/in-time analytics with open source systems may fragment organisations into an ecosystem of joint ventures
- More and more data due to the cost of data storage and analysis getting cheaper by the day
# How we meet the future data driven world

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Internal Audit response</th>
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<tbody>
<tr>
<td>An on-demand data driven enterprise where data analytics is at core of all services and functions</td>
<td>The need for specialist technology resource to meet the data demands</td>
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<tr>
<td>Corporate growth considerations will be data driven by 'feeling the market' or sample based market research</td>
<td>Robust processes around business strategies with a focus on validating large data sets</td>
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<tr>
<td>Your data could be your only IP in a cloud computing world</td>
<td>Information security becomes critical, accounting treatment of IP important and data integrity</td>
</tr>
<tr>
<td>Serious mistakes could be made on interpretation of data</td>
<td>Reputational risk approaches more time sensitive and more onus on testing of data strategies</td>
</tr>
<tr>
<td>Real time analytics may fragment organisations into an ecosystem of joint ventures</td>
<td>Legal risks of ownership and recourse and onus on MI across all business performance (internal/JV)</td>
</tr>
<tr>
<td>More and more data due to the cost of data storage and analysis getting cheaper by the day</td>
<td>Assessing risks of external/cloud storage and availability considerations of using bleeding edge IT</td>
</tr>
</tbody>
</table>
Additional challenges

- How do you weave in continuous monitoring and sustainable analytics into the Internal Audit fabric?
- While you may have data evangelists at management level does that apply for the Audit Committee?
- Some people just want numbers on a table not visualisation.
- Where do you start? So much data…..
- IT don't pass me the data to interrogate and analyse in a timely manner.
- A slow start loses stakeholder enthusiasm.
- Moving between descriptive, predictive to prescriptive analytics is too utopian.
- Is prescriptive analytics the role of IA and risk?
- Do I recreate analytics or utilise someone else's business intelligence and analysis framework?
- Where do I find the staff to do this?
Stages of data analytics maturity

Ad-hoc

- Utilised when needed but limited to select individuals with limited use of tools perhaps Excel. No agreed approach or linkage to other data sets.

Limited value

- Increasing adoption and perhaps use of IDEA/ACL. Some value but not integrated with other data and unpredictable results. A value add to the audit not expected.

Limited and valued

- Analytics policy and methodology and in the 'driving seat' at the testing stage to validate controls. Wider usage within Internal Audit and value seen by stakeholders.

Meshed

- On request data sources in place and skillset starting to be embedded within the department. Equally reliance on continuous monitoring in 2nd line evolving to form combined view.

Embed

- Metric based monitoring allowing for the creation of more dynamic audit plans. Skills embedded within the team. Focus on root cause of issues by management not incidents.

Forward looking

- Analytics driving audit plans with changed audit and risk behaviours based on analytics results. Fully established three lines with horizon scanning in prescriptive analysis.
IA data analytics spectrum

### Current state

- **Current Internal Audit process**
  - Risk assessment
  - Audit plan
  - Fieldwork & testing
  - Audit report
  - Issue tracking
  - Stakeholder management

- **Validation and replanning process**
  - Stakeholder discussion
  - KPI & KRI
  - Combined assurance results

### Future state

- **Establishing a risk-based dynamic plan that flexes to your needs**
- **Short more concise audits based on continuous monitoring and auditing**
- **Data validation planning and insight driven testing**
- **Visually insightful audit reports and packs**

- **Audit reports and audit committee packs with insight**
- **Continuous monitoring by 2nd line and continuous auditing by 3rd line**
Using data analytics through your lifecycle

Risk assessment
- Collating information and 'slicing and dicing' blended data you are able to identify any trends or patterns that may not have been previously possible
- If the data sets continue to be the same you can reuse this information continually

Planning & Testing
- Perform complex analytical review may identify anomalies that require clarification against wide time series
- Higher sampling are achieved with insightful blended data sets e.g. high value transactions linked to segregation of payment thresholds

Reporting
- By combining different datasets with high sampling you are able to quantify issues quicker and better
- Representing information visually can be more insightful such as differences in risk profile or control effectiveness by countries
The value of data analytics is not reserved for large audit and risk functions. Every type of function can use a mix of tactical or strategic functionality to achieve their goals.
Survey responses and questions

What are smaller companies doing in the data analytics space

Lots…some start tactically and then expand and some look for smaller data analysis solutions but with lots of data

Digital marketing web analytics

The godfather of the invention of analytics. Google analytics, Bing, Yahoo and digital ad firms are creating clear open architectures to connect data together

How to best use visualisation techniques to deliver insightful messages to all stakeholders

I will show you the use of Tableau that I do for various clients and how this can be incorporated

The anonymous survey responses will be provided to the IIA after the discussion for sharing with all attendees
Data visualisation and business intelligence

There are a number of players in the market that can help. This can be supported by implementation consultants or some of the implementations can be done with minimal training.

The cost of implementation varies between different types of suppliers with various different features. Analysis on most appropriate supplier should be performed.

Source: Gartner Group – Business Intelligence and Analytics: http://www.gartner.com/technology/reprints.do?id=1-2ACLPLP&ct=150220&st=sb
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Questions?

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