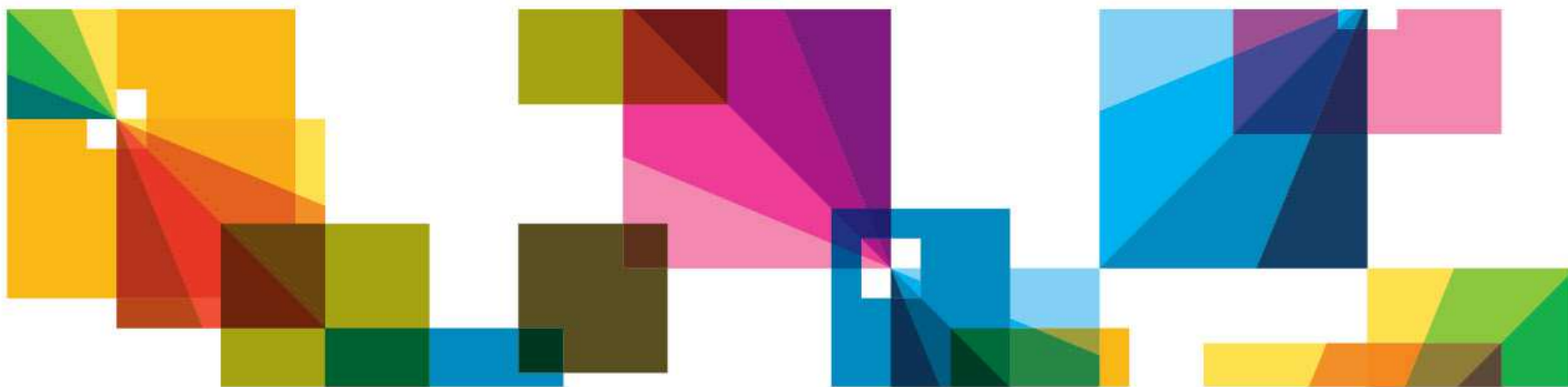


Fabrizio Marcucci, Deloitte ERS

Innovare l'Internal Audit attraverso i Business Analytics.

L'esperienza di Regions Bank, Silicon Valley Bank e Commonwealth Bank



- **Deloitte a livello worldwide ha attivato progetti interni di ricerca e sviluppo finalizzati ad individuare le possibili applicazioni degli strumenti di Data Analytics anche alle attività delle funzioni di controllo e di gestione dei rischi**

- **L'obiettivo è nato dalla necessità di supportare le funzioni di controllo (tipicamente centri di costo e non di profitto) dei nostri Clienti nel perseguire l'obiettivo di dimostrare il valore aggiunto all'Organizzazione attraverso un effettivo miglioramento dell'efficacia e dell'efficienza**

- **L'approccio Data Analytics considera infatti come chiave per il successo l'analisi massiva dei dati oggetto del controllo con la finalità di migliorare l'individuazione dei rischi, ridurre le procedure basate sulla convalida ed aggiungere valore al cliente, anche mediante recuperi di efficienza e massimizzazione dell'efficacia del controllo**

- **Di seguito sono sintetizzati alcuni degli spunti principali derivanti dai primi progetti in cui tali metodologie sono state implementate presso clienti:**
 - **Regions Bank**
 - **Silicon Valley Bank**
 - **Commonwealth Bank**

- **Business Analytics can be a catalyst to help accelerate IA improvement process. Benefits include:**
 - Improve audit quality — enhance risk assessment to focus on risks of strategic relevance to the Board and the business
 - More efficient use of business and IA resources

- **Key to success is to lead with industry/business issues and risks — “so what” of analytics**
 - Value is often lost when the focus is on technology
 - Requires a deep understanding of business strategy and industry risks

- **Industry peers are at different levels of maturity — with few “leading the pack”, presenting to or Clients a unique opportunity to get ahead quickly**
 - Requires senior management commitment over a number of years – vision, funding and resources
 - A new mindset for planning and executing audit – using analytics as a key tool across the audit lifecycle

- **Internal audit needs to define an operating model around the use of analytics within context of three lines of defense**
 - Understand and leverage the data, reports, key risk indicators, etc. that businesses or control functions may have built
 - Clearly own the analytics for “audit execution” and work with the business in the area of “ongoing” risk models and monitoring

 - **Transformation is a multi year journey; however, quick wins are required in year 1 to demonstrate business value**
 - Identify key business risks where analytics will provide significant value
 - Define overall strategy and roadmap (people, process, and technology) for integrating analytics into audit lifecycle

Audit Committees, regulators and business leaders are expecting Internal Audit to transform their mindset and modernize their operations – risk intelligence, latest technology, emerging trends, etc.

Internal audit is challenged to:

- Focus on real business **risks** which are of highest strategic relevance to the board and key stakeholders
- **Materially improve** risk identification and prioritization, audit coverage and resource efficiency
- Provide **value** to the business through insightful and fact based recommendations
- Drive **improvement** in company's monitoring efforts and governance framework
- Utilize audit and business resources more **efficiently**, while providing broader coverage on an on-going basis
- Support **quantification** of potential exposures related to audit observations

Analytics enables Internal Audit to:

- Provide **insights** to the Business by developing deeper understanding of business risks and industry trends
- Become **adaptive** to risks — target audit plans and focus resources towards areas that matter
- Obtain greater audit coverage through analysis over entire **population** of data versus sampling
- **Substantiate** findings using facts based analysis and quantification of exposures
- **Assess** the effectiveness of business monitoring procedures and processes
- Shift from stagnant or point-in-time reviews to focused implementation of **on-going** monitoring

Analytics can play a critical role in achieving your vision of becoming a world-class Internal Audit function.

- Answering the strategic questions below, can shape the vision and strategy for the analytics program

WHAT & WHY?

- What are the objectives and how will we measure success against the following:
 - Risk Assurance?
 - Audit Quality?
 - Efficiency?
- Where could (and should) analytics be deployed in the audit lifecycle:
 - Audit Planning?
 - Audit execution – controls testing, profiling/tests of detail?
 - Audit reporting?
- What support will be needed from internal stakeholders?
- What technologies will need to be used and deployed?
- What skills does the internal audit team need to sustain and where?

WHO & HOW?

- How does the role of internal audit's analytic team complement the assurance framework?
- How will existing business analytics be leverage by Internal Audit?
- How does the use of analytics impact the audit delivery cycle?
- How do the skill requirements impact recruitment, learning, etc.?

WHEN?

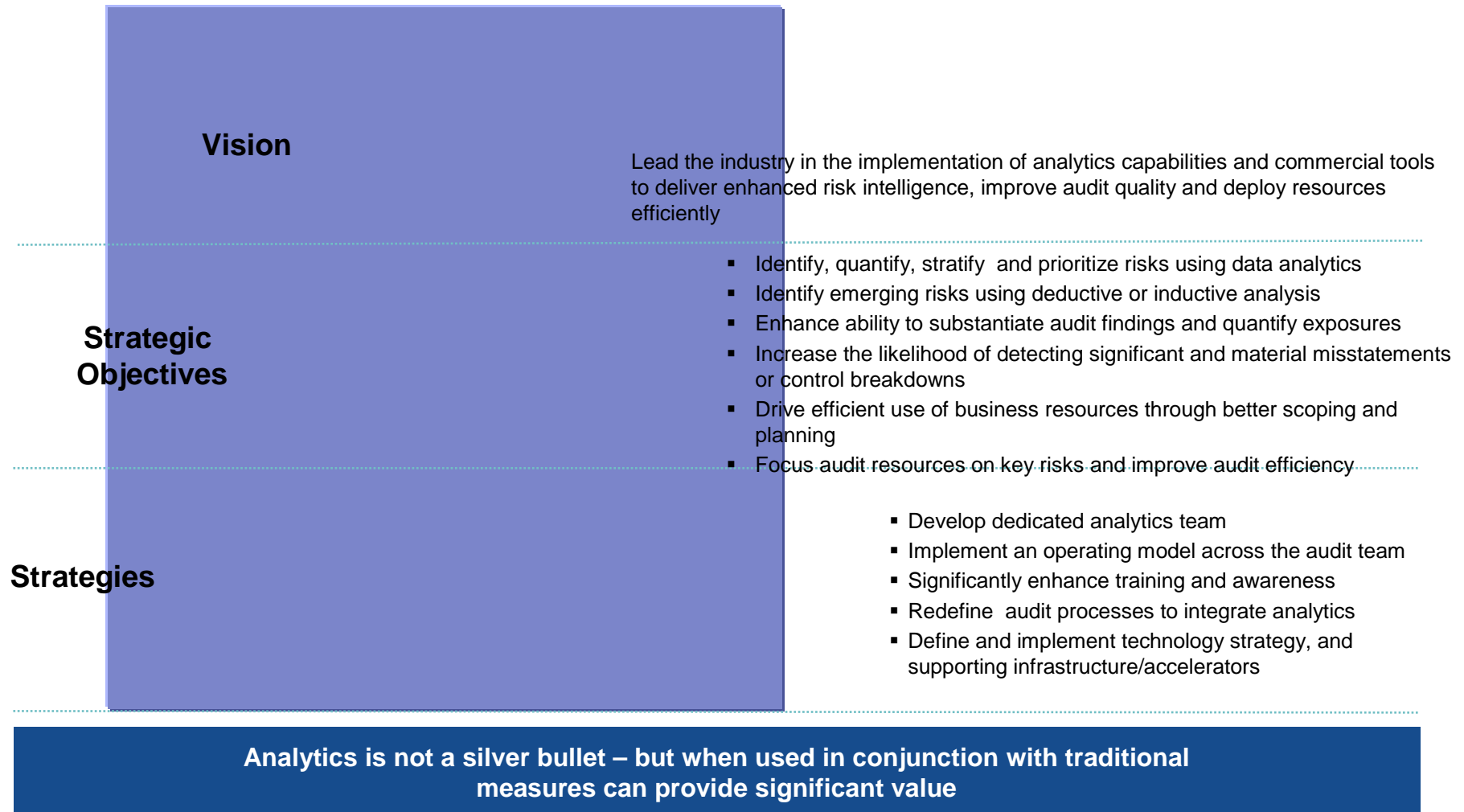
- When should analytics be featured within internal audit planning exercises?
- When should analytics shift from one-time to automated tests:
 - Ad-hoc?
 - Repeated?
 - On-going?
- For ongoing – which model is appropriate?
 - Management implements/owns; Audit oversees?
 - Audit implements solution and transfers to Management. Management owns; Audit oversees?
 - Audit implements & owns ongoing monitoring and testing of business process controls?

Development of internal audit analytics program requires a full understanding of the use of data and analytics by the businesses and control functions



Internal audit clearly owns the analytics for “audit execution”

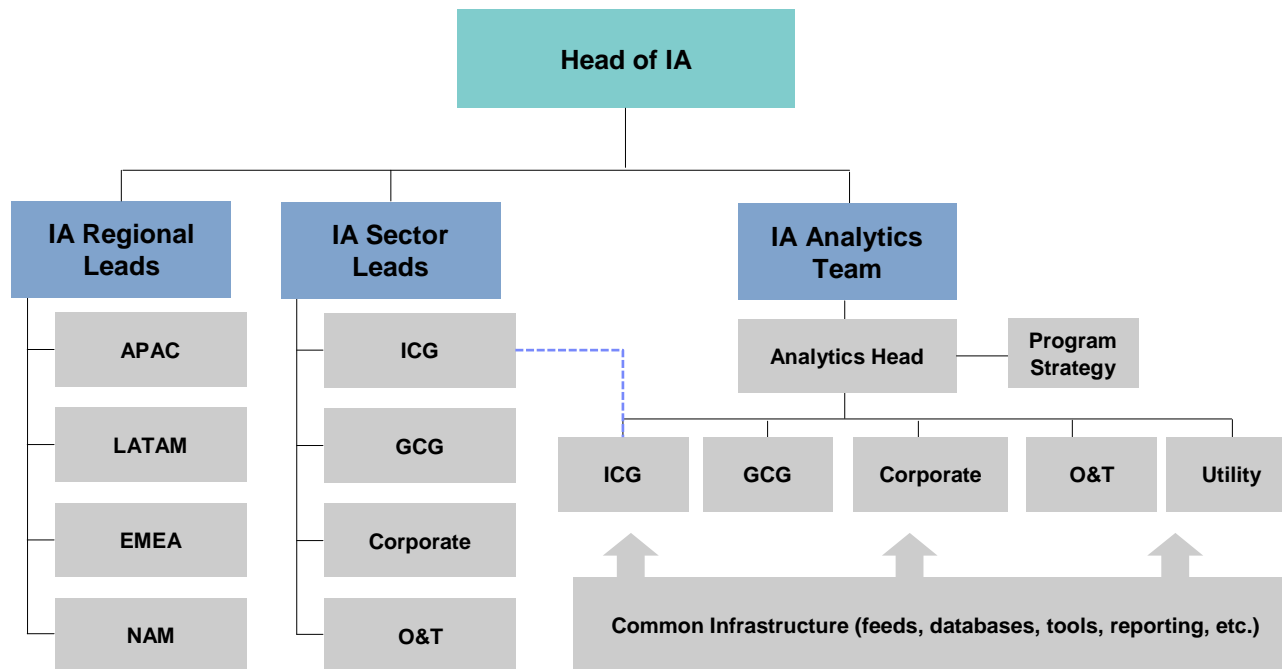
- A common understanding of the vision and strategic objectives – with supporting measures of success – is required to drive the program forward. Analytics will affect all elements of the audit lifecycle – planning, execution and reporting



Maturity model below is directional, based on evolving trends in the adoption of analytics for Internal Audit

		Maturity		
		Initial	Developing	Leading Class
People		<ul style="list-style-type: none"> 1%–4% dedicated Analytic FTEs Sector/function FTEs build awareness of analytical capabilities 	<ul style="list-style-type: none"> 4%–7% dedicated Analytic FTEs 30% of Analytic FTEs aligned to specific sector/function 50% sector/function FTEs trained to enhance audits using analytical capabilities 	<ul style="list-style-type: none"> 7%–10% dedicated Analytic FTEs 70% of Analytic FTEs aligned to specific sector/function 100% sector/function FTEs trained to enhance audits using analytical capabilities
Process		<ul style="list-style-type: none"> Pilots executed, processes updated to embed analytics into audit lifecycle Limited use of data analytics in annual planning or targeting risks in processes 	<ul style="list-style-type: none"> Process well defined—updated manuals based on lessons learned from the pilots Data analytics formalized into annual planning – limited automation Leverage existing business and control function risk monitoring 	<ul style="list-style-type: none"> Processes optimized and institutionalized, continuous improvement implemented Data analytics embedded into annual planning – targeted automation Integrated risk monitoring in partnership with business and control function
Tools		<ul style="list-style-type: none"> Basic tools (Excel, Access, ACL, etc.) Pilot of advanced tools, e.g., SPSS, SAS, Visualization tools — early use of deductive and inductive approaches Business requirements documented for tools strategy 	<ul style="list-style-type: none"> Basic tools embedded in audit process Advanced tools used more frequently — increased adoption of both deductive and inductive approaches Technology platform for audit implemented 	<ul style="list-style-type: none"> Mature use of deductive and inductive approaches — supported by strong industry and business knowledge and experience Technology platform mature — implementation issues ironed out
Results		<ul style="list-style-type: none"> 10-20% of prioritized audits use analytics Inconsistent use of analytics for risk assessment Business partnership still evolving — early wins start to demonstrate value Establish initial resource allocation model 	<ul style="list-style-type: none"> 50–75% of prioritized audits use analytics Analytics identifies emerging risks Increased confidence for business leadership — delivering value Targeted and more efficient use of business and IA resources 	<ul style="list-style-type: none"> > 75% of prioritized audits use analytics Analytics integral to risk assessments and identifying emerging risks Strategic partner to the business — delivering value Optimized use of business and IA resources
<p>Few organizations are leading – most are in the initial to early stages of developing</p>				

An organizational model that creates business and functional alignment is necessary for the successful execution of the program



- **Dedicated analytics team** required to establish capabilities
- **Program Strategy lead** drives organizational enablement and defines methodologies/ processes, etc.
- **Sector IA leads** will drive **audit execution** – with strong support of the sector aligned analytics team
- **Utility** will create common infrastructure, tools and accelerators to support analytics program – working with CATE and CTI

Teaming between IA Analytics practitioners and IA sector specialists is critical in delivering effective and efficient reviews

Organizations are performing risk assessment to drive the selection, timing and depth of audits

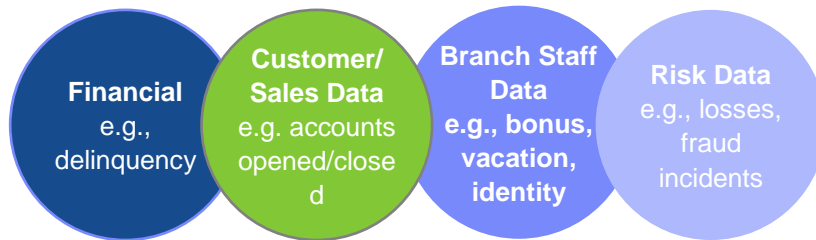
Business Process

Business Risk / Audit Challenge:

Large number of branch locations and dispersion makes it difficult to select and gain coverage / depth over audit locations

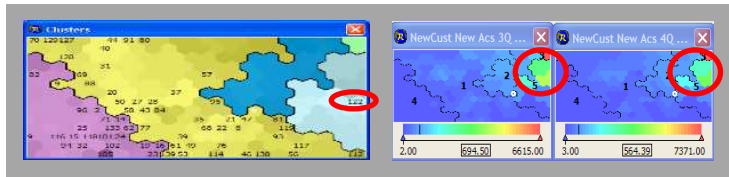
Approach Using Analytics:

Analyze relevant data from branch network. Approach allows analysis of a broader array of key risk indicators



Outcome:

Analysis highlights outliers and assists targeted audit activity:



Annual Plan

Qualitative



Structured process to mine the right macro data and use best thinking to develop the audit plan

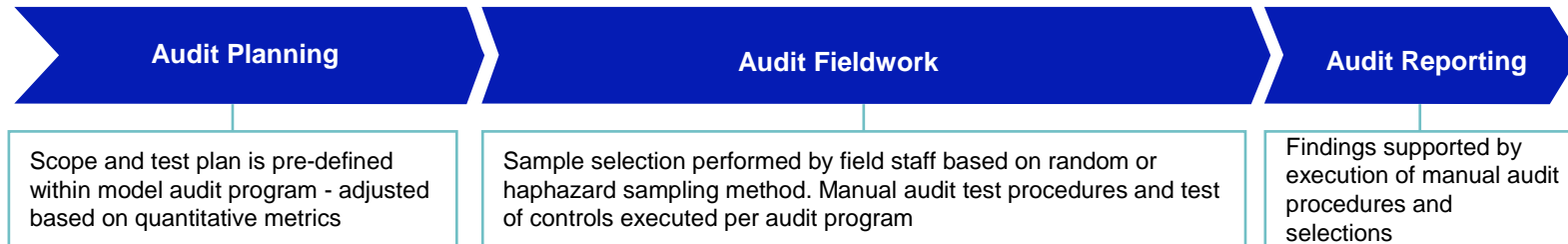


Quantitative

Start with the left... Grow into the right

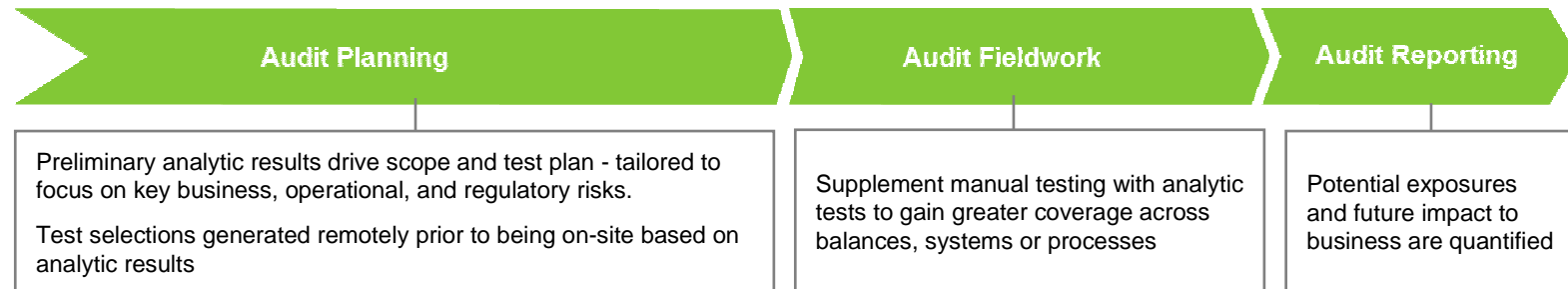
- Audit execution can be improved by fully embedding analytics throughout the lifecycle – integrating the right analytics and tools that the situation warrants

Traditional Approach



Analytics Approach

- Data Quality
- Reconciliation
- Data Profiling
- Stratification
- Extrapolation



Up-front time for scoping and planning increases. Over time and with experience, overall review time may be shortened

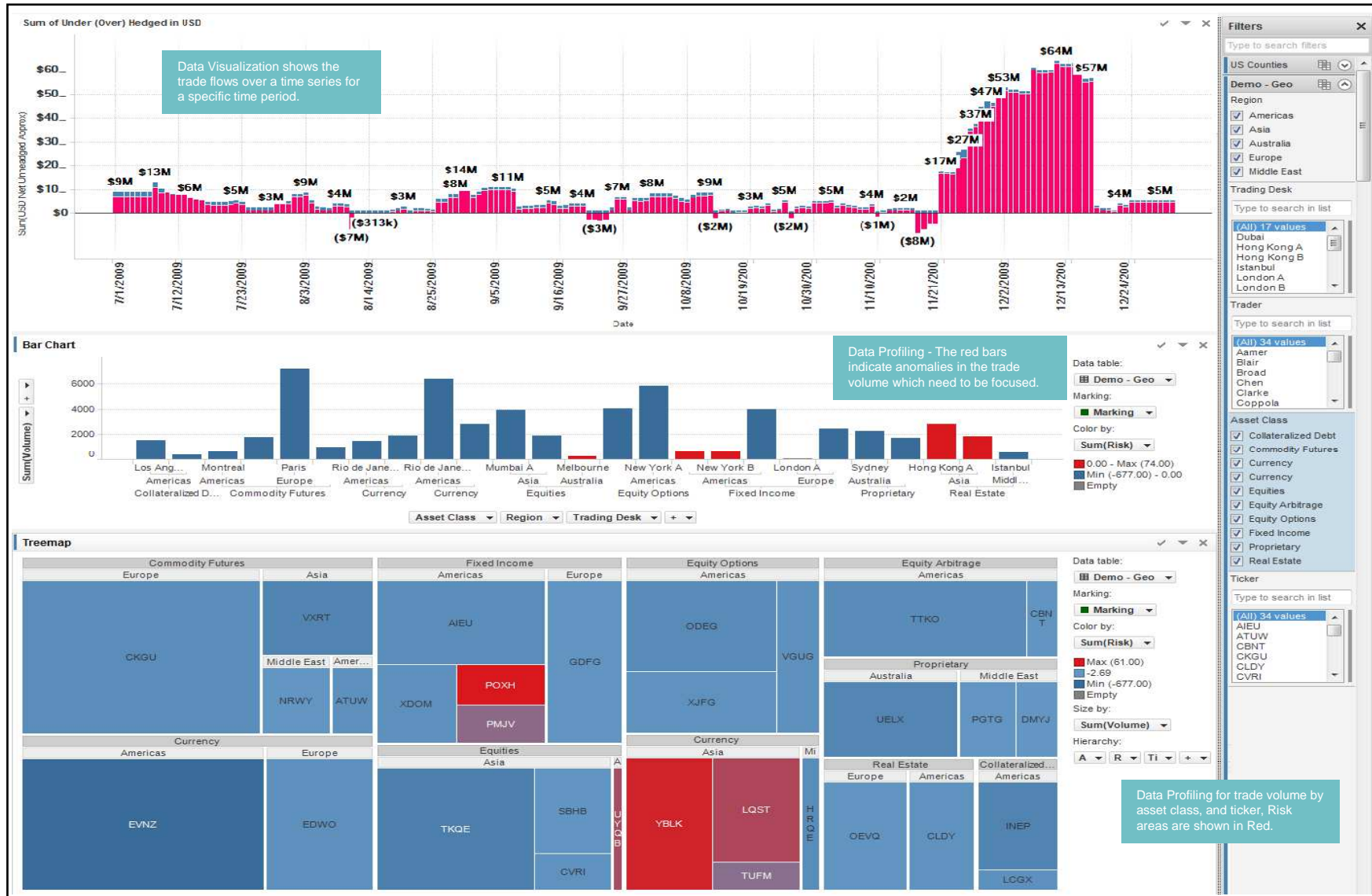
Credibility of the audit report increases when supported by fact based findings and insightful recommendations

Illustrative Example

The image shows two pages of an audit report. The left page is the 'INTRODUCTION' section, and the right page is the 'AUDIT RESULTS' section. Three callout boxes highlight specific parts of the report:

- Scope:** A blue callout box points to the '1.2 Scope' section on the left page. It contains the text: "Using analytics to support audit coverage enhances credibility of report." The '1.2 Scope' section includes two pie charts and a table of key stakeholders.
- Findings:** A blue callout box points to the '2.1 Summary Audit Findings' section on the right page. It contains the text: "Fact based audit findings and quantification of exposures reduces debate with the business." The '2.1 Summary Audit Findings' section lists several findings related to data anomalies and trends.
- Risk & Opportunities:** A teal callout box points to the '2.3 Emerging Risks and Opportunities' section on the right page. It contains the text: "Data anomalies and trends provide insights into emerging risks." The '2.3 Emerging Risks and Opportunities' section lists several risks and opportunities related to data anomalies and trends.

Integrating analytics results into the final report provides perspective on the results and improves audit quality



Our differentiators include knowledge and experience with the industry where Clients operate, extensive global analytics footprint, leading financial services practice, and global risk professionals network

Global Financial Services Industry Experience

- Deloitte is a leader in serving world-class financial services companies, with a client base that represents nearly one-fifth of the world's financial institutions
- Deloitte member firms serve:
 - **83 percent of financial service companies** listed on the *Fortune Global 500*
 - **20 of the top 20 Banks**
- Dedicated FSI practices in more than **40 countries**
- Global network of 3,100 partners and **23,300 practitioners**

Global Analytics and Risk Services Footprint

- Over **3,400 global analytics** resources - broad set of statistical and analytic capabilities. Deloitte Analytics institute to support our practitioners
- Received Gartner's **highest rating** of "strong positive" for analytics capabilities in both North America and Western Europe
- Fully staffed and **dedicated analytics offshore team** with development and solution delivery capability
- Established relationships with major **analytics vendors**
- Over **12,000+** risk services professionals globally
- Demonstrated **internal audit approach** that has been honed over the years
- **Human Capital practice** that specializes in delivering training and change initiatives