

Big data and analytics in the audit process: mitigating risk and unlocking value

In today's business environment characterized by constant disruption, slow growth and uncertainty, boards face more challenges than ever in creating a risk-aware corporate culture and establishing sound risk governance and controls.

In just the last few years, the terms "big data" and "analytics" have become hot topics in company boardrooms around the world.

For many, embracing big data and analytics is crucial to keeping their organization nimble, competitive and profitable. Board members need to understand the complexities and have a grasp of the issues surrounding these technology trends. Equally important, they should be prepared to ask the right questions of the executives in charge of big data and analytics initiatives.

The sheer volume, variety and velocity at which data becomes available present technological challenges in how it is secured, stored and analyzed. But companies that can effectively do so in an efficient manner stand to uncover a treasure trove of valuable insights that can help drive growth while enhancing risk management. These insights can be leveraged by management and boards to better inform decisions and actions and help prioritize resources to create strategic value.

Leveraging big data and analytics in audit functions

To keep pace in today's increasingly complicated governance and risk management landscape, progressive external audit firms and internal audit functions are beginning to use technology to revolutionize the way that audits are conducted.

Both internal and external auditors are combining big data and analytics, and greater access to detailed industry information, to help them better understand the business, identify risks and issues, and deliver enhanced quality and coverage while providing more business value. Information and insights that may be relevant to board members now extend far beyond traditional financial transactional data in a company's general ledgers and extends into data from email, social media, video, voice, texts – mountains of unstructured data. Insights gleaned from such data can and should extend beyond risk assessment.

Integrating analytics into audits is not without its challenges. Access to audit relevant data can be limited; the availability of qualified and experienced resources to process and analyze the

data is scarce; and timely integration of analytics into the audit continues to be a challenge for auditors. However, progress is being made on each front.

Properly developed, analytics can help internal auditors act as a strategic advisor while holding the line on cost or even reducing it. Analyzing data to produce actionable information is a key challenge and opportunity for companies. Properly utilizing this information will be a differentiator for forward-leaning companies.

The board's role

Boards are generally not involved in the day-to-day activities of managing big data and analytics and the associated costs. But in discussions with the CEO and other C-level executives, board members should insist on clarity of vision and collaboration across all disciplines to maximize the return on any investment in big data and analytics.

First and foremost, board members should gain a better understanding of how the company is internally leveraging big data and analytics and how those items can drive the business. In addition to using big data and analytics for compliance and risk monitoring efforts, leading companies and boards should consider leveraging analytics for other strategic imperatives for value creation. Leveraged appropriately, big data and analytics provide an endless range of opportunities for companies – from uncovering ways to optimize cost structures, gaining invaluable insights into consumer preferences, and identifying opportunities for new revenue channels, to name a few.

Boards also need to ask management about the resources being deployed to capitalize on big data and analytics and whether the company has the right talent to develop a quality big data and analytics program effectively.

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Boards and audit committees can also be proactive with its external auditors by having discussions early on regarding the scope and use of data analytics in the external auditor's risk assessment process and audit.

Action items for the board

So how can big data and analytics improve a company's audit capabilities? Topics to consider as a board or to discuss in more detail with management might include:

- ▶ Decide what you want to achieve with big data and analytics
- ▶ Determine what is relevant
- ▶ Focus on what will drive value

In discussions with fellow directors, the CEO, finance leaders and other C-level executives, there are key questions that board members, especially audit committee members, should be asking to ensure that investments in big data and analytics are successfully leveraged.

Questions related to internal audit

- ▶ **Strategy:** What are management's plans for using big data and analytics for auditing, compliance and risk management over both the near term and long term? Does the company have an enterprise risk strategy regarding big data and analytics?
- ▶ **Functional areas:** How are the company's internal audit, compliance and risk management functions leveraging big data and analytics to achieve business objectives and maximize ROI? Has internal audit evaluated how data analytics can be leveraged in validation and monitoring efforts, such as internal controls and SOX compliance? Has the company evaluated how other functional areas, such as finance, supply chain management, human resources, can leverage big data and data analytics to drive decision making and actions to create strategic value? How is the company addressing talent implications and needs for analytics tools?
- ▶ **Technology:** Deeper data mining increases the complexity and volume of big data and analytics. What are the steps the business is taking to identify and capture the most relevant data? How is the quality of the data assured? How is data governance managed to ensure the data can be used efficiently? How is the data secured?
- ▶ **People:** Which new data and analytics talent needs to be brought into the organization? How can the board create an analytics-focused mindset in the company's finance, risk and compliance functions to ensure that data is consumed and analyzed in an optimal manner? How can the board balance audit judgment with the findings and results from analytics?

Questions related to external audit

- ▶ **Resources:** What resources and technologies does the external auditor have in place to capitalize on big data and analytics? Does the external auditor have programs in place to develop the right talent and technical competencies to appropriately leverage big data and analytics? How is the external auditor coordinating with management to use data analytics tools?

- ▶ **Strategy:** How is the external auditor leveraging analytics in the audit today, and what are the plans for doing so in the future?
- ▶ **Data capture:** Data capture is often a key barrier in the big data and analytics process. Can the company's external auditor determine the scope of data currently being captured? How can the company's internal IT function work with the external auditor to streamline the data capture process?
- ▶ **Cybersecurity:** Effective use of big data and analytics for audits usually requires external auditors to access internal corporate data. But many companies have invested heavily in protecting their data with multilayered approval processes and technology safeguards. How can the company give external auditors access to data while still maintaining the security of that data?

Embracing the future

In today's increasingly complex business environment, data-driven risk governance and controls are critical. Meaningful operational change comes from the top. Board members and C-suite executives need to embrace this change, identify the best talent and empower other senior executives and the rest of the organization to adopt the best systems, technologies and analytics for their businesses.

To drive better decisions, boards must first ask the right business questions and then seek answers in the data. Not only can the integration of big data and analytics into the audit help mitigate compliance and reputational risks, but it can also lead to better financial reporting and insights to ultimately drive better decisions and actions within an organization to create strategic value.

The four Vs

Big data refers to the dynamic, large and disparate volumes of data being created by people, tools and machines; it requires new, innovative and scalable technology to collect, host and analytically process the vast amount of data gathered in order to derive real-time business insights that relate to consumers, risk, profit, performance, productivity management and enhanced shareholder value.

Big data includes information garnered from social media, data from internet-enabled devices (including smartphones and tablets), machine data, video and voice recordings, and the continued preservation and logging of structured and unstructured data. It is typically characterized by the four Vs:

- ▶ **Volume:** the amount of data being created is vast compared to traditional data sources
- ▶ **Variety:** data comes from different sources and is being created by machines as well as people
- ▶ **Velocity:** data is being generated extremely fast – a process that never stops, even while we sleep
- ▶ **Veracity:** big data is sourced from many different places; as a result, you need to test the veracity and quality of the data

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