Big data meets GRC: Bridging the compliance gap with data analytics

kpmg.com
In today’s complex business environment organizations are exposed to a variety of new risks. Increasing compliance regulations, fraud schemes, operational inefficiencies, and human errors can lead to reputational damage and financial loss. At the same time, organizations face increasing stakeholder and regulatory demands to improve governance capabilities, enhance oversight and transparency, and manage risk, all while driving performance and profitability.

More so than ever, efforts to adopt innovative ways to assess and manage risk, help ensure compliance, and enhance performance are critical to competitive advantage. It’s important to consider that the use of data analytics tools and techniques can help to transform and improve audit approaches—and while many organizations have adopted software products to manage governance, risk, and compliance (GRC) activities, forward-thinking organizations are taking the next step—leveraging big data and continuous auditing (CA) within the internal audit function. But it doesn’t stop there. If you get the right business users involved you may be able to achieve efficiencies across the organization. If you don’t have a strategy for data analytics and GRC, you should. Here’s why.

**Continuous auditing**—which combines the manual and qualitative continuous risk assessment process with quantitative, technology-based data analytics processes—makes internal auditing repeatable, sustainable, risk-based, thorough and even cost-effective. As a result, the organization may benefit from increased operational efficiencies and transformational value.

**Enhancing risk management with big data**

Big data software tools can help to enable organizations to share and react to the key information obtained from data analytics and continuous auditing to manage risk. These types of tools use statistical analysis, statistical forecasting, causal analysis, optimization, predictive modeling, and text mining on very large amounts of data. Traditionally, the way to compensate for a rise in volume was to add additional capacity, such as more servers or hard disks. It is more efficient, however, to use better database software. With data analytics software such as SAP HANA or Oracle Exalytics, you may be able to combine and integrate data from multiple sources: internal structured (e.g., database tables) and unstructured data (e.g., e-mail, documents) external structured sources (e.g., Web sites)

**Transforming the traditional audit**

Data analytics and continuous auditing can help internal audit departments and other compliance organizations simplify and improve the audit process, resulting in a higher quality audit and tangible value to the business. Combined, they can create a highly effective way to increase operational efficiency, reduce costs, and enable early detection of potential fraud, errors and abuse. But today’s businesses need to consider how to move from this kind of audit efficiency to create operational efficiency for the function, and therefore, for the business as a whole.

Data analytics tools and techniques are transforming the traditional audit approach—a cyclical and manual process which can be labor intensive, expensive and even inaccurate. With data analytics, organizations have the ability to review every transaction—not just a sampling—which enables more efficient analysis of control effectiveness and operational performance on a much greater scale, while also improving risk-based activities such as fraud detection and regulatory compliance.

Continuous auditing—which combines the manual and qualitative continuous risk assessment process with quantitative, technology-based data analytics processes—makes internal auditing repeatable, sustainable, risk-based, thorough and even cost-effective. As a result, the organization may benefit from increased operational efficiencies and transformational value.

**Enhancing risk management with big data**

Big data software tools can help to enable organizations to share and react to the key information obtained from data analytics and continuous auditing to manage risk. These types of tools use statistical analysis, statistical forecasting, causal analysis, optimization, predictive modeling, and text mining on very large amounts of data. Traditionally, the way to compensate for a rise in volume was to add additional capacity, such as more servers or hard disks. It is more efficient, however, to use better database software. With data analytics software such as SAP HANA or Oracle Exalytics, you may be able to combine and integrate data from multiple sources: internal structured (e.g., database tables) and unstructured data (e.g., e-mail, documents) external structured sources (e.g., Web sites)

**Continuous auditing** is the collection of audit evidence and indicators by an internal auditor on information technology systems, processes, transactions and controls on a frequent, repeatable, and sustainable basis. An internal audit function, it combines the manual continuous risk assessment process, which is largely qualitative, with quantitative, technology-based data analytics processes.

**Data analytics** is an analytical process by which historical, real-time or predictive insights are extracted from operational, financial, and other forms of electronic data, internal or external to the organization. These insights can be risk-focused (e.g., controls effectiveness, fraud, waste, abuse, policy/regulatory noncompliance) or performance-focused (e.g., increased sales, decreased costs, improved profitability, etc.).

**Big data** is data that is used intensively and where traditional means of accessing data are inadequate, due to performance capabilities or other issues. Big data typically has three dimensions: high velocity, large volume and large variety of data.
and unstructured sources (e.g., YouTube, LinkedIn). These big data tools can manage a huge amount of data and return analyses in a timely fashion.

What’s more, big data solutions are forward-thinking, going beyond the measurement and trend-detection functions of business intelligence. They analyze these large data sets to reveal relationships and dependencies and generate predictions of outcomes and behaviors.

As such, big data represents a huge opportunity for organizations to improve governance, risk, and compliance activities. Through predictive analytics—which identifies meaningful patterns in big data to predict future events—organizations can easily monitor and analyze key risk indicators (KRIs) which are driven by competitive forces, consumer behavior, environmental issues, economic issues, fraud, terrorism, political influences, and other issues.

Rather than just monitoring past events, predictive analytics provides insight into potential risk issues. And because of the timeliness of the analysis, management may have time to react to eliminate or lessen the risk potential.

How can the capabilities of big data be leveraged in GRC technology platforms (such as SAP GRC, MetricStream, RSA Archer, etc...)? Auditing for compliance typically involves periodic selection of a sample to test for adherence to compliance standards. This auditing is enhanced with continuous monitoring by choosing 100-percent of the target transactions or settings in frequent intervals. While this audit analysis is possible with traditional database query methods, the use of data analytics tools, such as SAP HANA or IBM DB2 BLU, may help to reduce concerns about performance issues and may have the potential to return the results in a timelier basis. This can enable continuous monitoring to take hold.

Creating value across the entire organization

With predictive analytics and big data, risk management can be enhanced by monitoring KRIIs that are driven by competitive forces, consumer behavior, environmental issues, economic issues, fraud, terrorism, political influences, etc. Rather than just monitoring the events that have happened, important as that is for helping ensure compliance, big data predictive analytics provides insight into potential risk issues. Because of the timeliness of this analysis, management may have time to react to eliminate or lessen the risk potential.

And that leads to another important factor for making this approach successful. The right business users should be involved. It is not just a risk issue or a technology issue, but senior management is increasingly interested in how this information can be coordinated and leveraged across the organization and even become part of broader performance management activities within their organization. In this way, continuous monitoring, enabled by GRC, can play a role in the organizational performance management activities of senior management.

Key points to consider

The increasing regulatory environment around the world and the increasing risks facing businesses require timely analysis of varying types of data from various internal and external sources. GRC can help bridge the compliance gap with data analytics.

Is your organization ready? Going beyond internal audit and getting the right business users involved can enable the continuous monitoring side to take hold, and that is where great efficiencies and ROI can be realized. The benefits are really attained when you look beyond audit efficiency and move into operational efficiency.
Contacts

For more information, please contact:

**Jeff King**
Principal
T: +1 312-399-1489
E: jbking@kpmg.com

**Kent Cowsert**
Partner
T: +1 214-385-7769
E: jcowsert@kpmg.com

**Neil O’Donovan**
Principal
T: +1 267-481-0265
E: nodonovan@kpmg.com

Some or all of the services described herein may not be permissible for KPMG audit clients and their affiliates.

kpmg.com