The Internal Audit Analytics Conundrum—Finding your path through data

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At a glance

Leading organizations are able to gain significant competitive edge through data. The increasing sophistication of analytics technologies, coupled with the access and linkage of traditionally disconnected data sources is providing a level of insight and perspective not seen before in large organizations.

These same methods are rapidly making their way into Internal Audit and compliance functions, allowing auditors to better understand and quantify risk, test controls and business processes quickly and efficiently. Advanced analytics can uplift and even change the audit proposition. The question is—"Where do I start?"

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Introduction

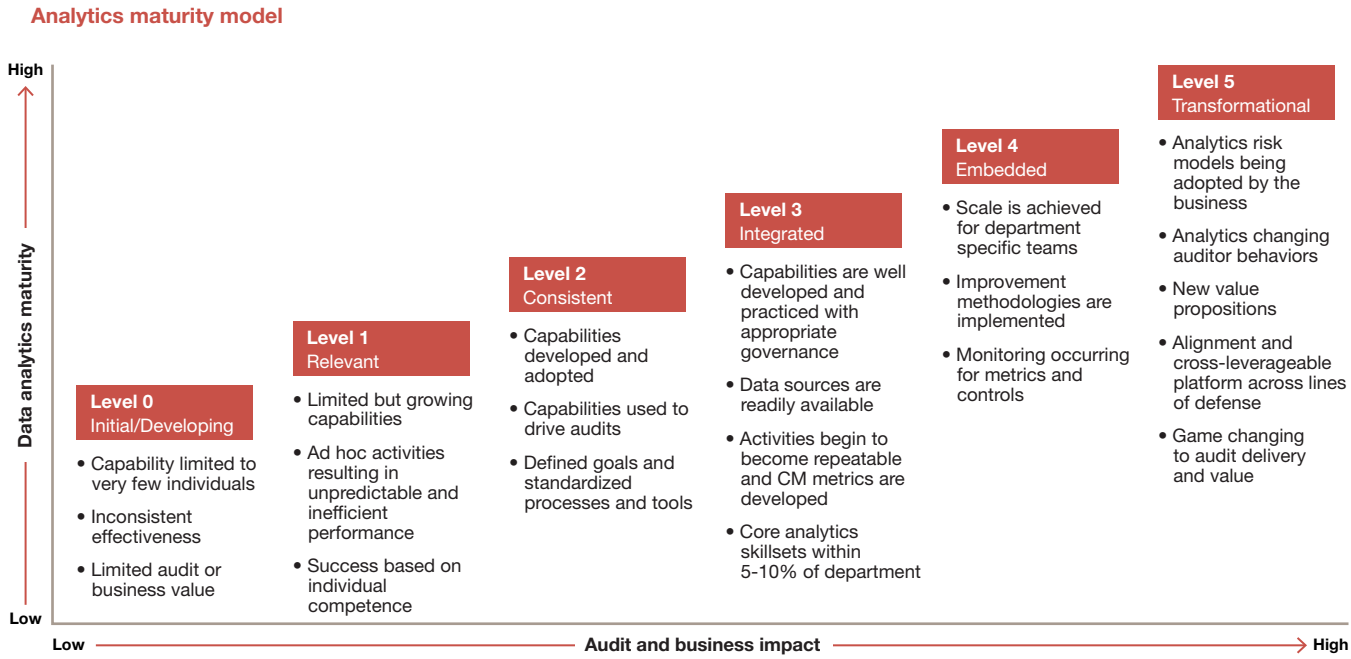
In order to position themselves as accelerators of organizational transformation, internal auditors need to be trend-setters in technology usage. It is almost impossible to conduct audits in an effective and efficient way without using technology. By leveraging data analysis technologies internal auditors are able to lead the way in responding to this new business reality.

Recognizing the potential created by analytics

Advancements in technology, coupled with increased availability of data, are paving the way for companies to generate powerful, timely and indisputable insights to answer questions on complex issues. Business management, risk committees, Boards, and even regulators use data analytics extensively to understand and monitor the ever changing business environment and business performance in the face of these evolving environments. Internal Audit functions that leverage a more quantitative, data-driven approach to identifying and assessing risk, testing controls and reporting issues are more relevant to the business and can provide management and the Board more risk coverage with greater efficiency.

PwC's *2013 State of the Internal Audit Profession Study* confirmed that the majority of Chief Audit Executives understand the value of analytics in improving coverage, depth and quantification of issues, and more timely identification of current and emerging risks. Yet just 31 percent of Internal Audit functions use data analytics with regularity. What can Internal Audit leaders do today to increase the maturity of data analytics in the profession (Figure 1) and capture the widespread and known benefits data analytics has to offer?

Figure 1: PwC's data analytics maturity scale



The barriers to better leverage of data

"As audit plans diversify, we're also seeing a diversified skill set needed to help stakeholders sleep well at night. Our Audit Executive Center's biannual Pulse of the Profession surveys indicate that data mining and analytics are among the top five audit skills most sought by CAEs looking to hire new talent,"

– Richard Chambers, CIA, CGAP, CCSA CRMA, president and CEO of The Institute of Internal Auditors

Most executives would agree the risks to their organization are getting tougher than ever to assess, quantify, and manage. As the risk landscape becomes more complex, stakeholders expect Internal Audit to be involved in the organization's areas of greatest risk while simultaneously maintaining the traditional and critical focus on controls and compliance. This requires Internal Audit to become more agile and creative in order to meet these multiple priorities.

Increasing the use of data can help Internal Audit meet the needs of its stakeholders; however historical barriers to leveraging data analytics must be overcome. Research indicates these barriers include: building and/or acquiring the right data analytics skill set; embedding data analytics across the internal audit life-cycle; identifying and acquiring appropriate technology; and gaining access to accurate, complete and relevant data in a timely manner.

Building the Skill Set: The skill set requirement for effective application of data analytics is quite different than that of the traditional auditor. For example, many traditional auditors are very comfortable with a judgmental assessment of risk and sample-based approach to selecting transactions for testing. However, the skill set needed to apply analytics holistically requires an analytical, quantitative, and creative mindset. Without the right skills, Internal Audit struggles to synthesize various data points, understand the trends it identifies, and decide where to focus. This usually results in a reactive approach based on historical events compared to a proactive approach based on risk and trends. Many functions try to place equal responsibility on everyone to be a data user. In reality, most internal audit functions need a core group of "power" users with strong technical and analytical skills. These individuals serve the rest of the users in the department who are, in turn, trained to understand how to recognize the uses of data and synthesize the output.

Internal Audit must determine where they will acquire data analytics expertise. According to industry experts, data analysts will be a scarce, valuable commodity by 2015 and a shortage of analytics talent is already an issue[1]. McKinsey Global Institute (MGI) forecasts a 50 to 60 percent gap between the supply and demand of people with deep analytical talent by 2018[2]. While some Internal Audit departments may have the resources in house that can be trained to provide the needed skills, others will need to acquire these skills in a scarce talent market. Rather than building an analytics team from the ground up, many organizations are recognizing the value of leveraging outside experts. These firms are often better able to compete for the best talent, specialize in delivering the needed technical skills and offer the advantage of having already traveled the data analytics journey.

1 "Gartner Says Big Data Creates Big Jobs: 4.4 Million IT Jobs Globally to Support Big Data By 2015", Gartner.com, October 22, 2012, http://www.gartner.com/newsroom/id/2207915, accessed November 6, 2013.

2 "Critical Shortage of "Data Geek" Talent Predicted by 2018", Tibco Software Business Intelligence Blog, http://spotfire.tibco.com/blog/?p=6886, accessed November 6, 2013.

Fully Embedding Data Analytics: As a first step into data analytics, many Internal Audit departments are focused on attempting to incorporate analytics into discrete audits, mainly in testing. They have not evolved to looking at data analytics across the internal audit life cycle.

Furthermore, many companies start by directing analytics toward financial processes such as accounts payable or time and expense reporting as they are relatively "low hanging fruit." This narrow focus limits Internal Audit's ability to incorporate data into the identification and assessment of areas of higher enterprise risk.

To increase the value of data analytics, Internal Audit should determine how to use analytics strategically around core risk and compliance issues such as the Foreign Corrupt Practices Act (FCPA) in global organizations. It should also leverage data in every aspect of the internal audit process, from risk assessment to reporting to on-going monitoring. By doing so, Internal Audit can add more impactful insights on a continuous basis and demonstrate efficiencies in how the function allocates resources. This will drive the behavior change and vision of the "future" internal auditor that our profession is forecasting. (See sidebar "Utilizing Analytics Across the Internal Audit Life Cycle.")

Utilizing Technology: Data from PwC's *2013 State of the Internal Audit Profession Study* indicates Internal Audit departments have not historically planned and invested appropriately for the technology required to routinely analyze data, whether that be simple analytic tools or more complex, enterprise-wide options (i.e., the spectrum of ACL/IDEA, Data Visualization tools, and GRC tools). Technology should be viewed as an enabler and Internal Audit's short-term and long-term analytics goals will have a direct effect on the technology needed and the amount of training the Internal Audit department requires. This type of planning is essential to moving forward on embedding data analytics in the department's methodology and should be considered and built into the annual budgeting process. Although the shift in auditing approach and auditor behavior will be a defining step in measuring your return on investment (ROI), the complexity of the technology should align with your department's longer-term goals.

Utilizing analytics across the internal audit life cycle

A large, publicly traded healthcare company is distinctive in its use of data analytics. Its Internal Audit function has been executing its data analytics program for a decade and team members actively participate in industry groups focused on the use of technology in auditing.

At this company data analysts represent about five percent of Internal Audit's approximately 150-person department. Auditors have data already downloaded to their computer with appropriate analyses and testing data/ populations before they begin a hospital audit. Internal Audit also uses analytics as part of its risk assessment to select which of its many locations to visit.

At one point in Internal Audit's data analytics evolution, local unit CFOs grew concerned because Internal Audit had more information than management. In response, Internal Audit now makes available to local management via a website the reports it uses, so they can produce their own site-specific reports. Data queries have evolved beyond financial information to also include certain aspects of compliance and security risk. Internal Audit measures the usage of these reports and uses this insight to manage which scripts and reports remain on the website long-term.

Any assessment of technology should involve determining if there is technology resident in the organization that can be leveraged or if it will need to be acquired. If technology needs to be acquired the decision should be made in collaboration with other departments that can benefit from the output of the analytics effort. In order to address both the skill set and technology short falls companies may have internally, some organizations are beginning to utilize a managed services solution to complement their core team rather than making the upfront capital commitment to invest in advanced analytic and data visualization tools.

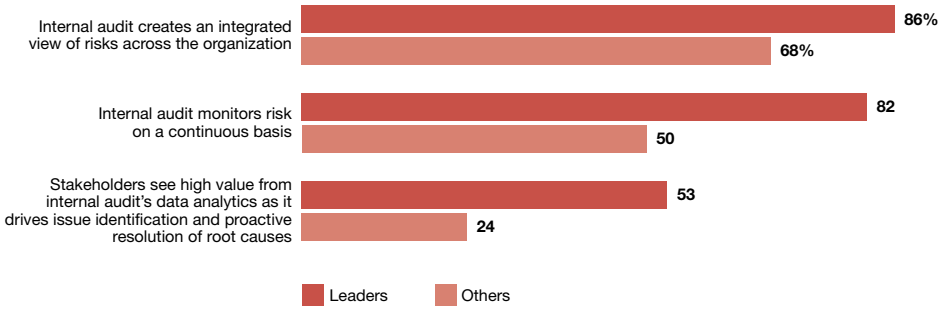
Gathering Relevant Data: Internal Audit departments continue to face challenges in obtaining timely, complete, accurate and relevant data. There are consistent themes related to data availability including: "multiple systems," "known data quality issues," "limited technology to download requested data," that Internal Audit must overcome once the previous hurdles of skill set, technology, and embedding data throughout the audit lifecycle have been addressed. One step that can be taken to move past this barrier is for Internal Audit to evaluate what data other departments are using that could serve their purpose as well. Partnering with other stakeholders, including IT, can be critical in determining what data sets are easily accessible and reliable.

In addition, Internal Audit should narrow their data request, as much as possible, based on the key risk they are trying to address. Avoid the common desire to "get all the data" in order to determine where the issues might be as this often slows down the process or leads to frustration when the data request cannot be fulfilled. Rather, focus on the key pieces of data that are needed, where that data may already reside and who might already be using it. This will ease the data acquisition challenges. For example, if a concern exists pertaining to increasing DSO (Days Sales Outstanding), focus only on the data to analyze the calculation (such as invoice creation date and date the invoice is sent to the client). More granular data, such as invoice support details, may be available but is not necessarily key to DSO.

How progressive Internal Audit groups are breaking these barriers

Some advanced Internal Audit groups have broken the barriers to leverage data across the full audit lifecycle and are creating a clear distinction between high and average Internal Audit performance (Figure 2). The leaders identified in PwC's research understand how the integration of data analytics can effectively help their department become more agile and relevant. They recognize the importance of having a data strategy and the value in executing against that strategy. Further, the methods used by these audit groups are paving the way for bringing new ideas to business management in monitoring risk and control effectiveness, as well as introducing new forms of preventative and detective controls. In these leading organizations, more than double the percentage of internal audit stakeholders see data analytics as highly valuable, indicating that strong data analytics drives strong overall stakeholder satisfaction.

Figure 2: Distinctions between leaders and average performance



Source: 2013 State of the Internal Audit Profession Study, PwC

In PwC's experience, those Internal Audit departments deriving the greatest value from data analytics have built the required skills and technology, either through hiring in house resources or partnering with a service provider, and are leveraging data during each stage of the audit cycle. They are able to perform impactful and persuasive risk assessments by identifying trends, outliers, anomalies, and hidden risks that guide their audit plan focus and then will assist them down the line with audit planning, scoping, execution, and reporting. In addition, they have been able to quantify the value they get from leveraging data and are telling a more impactful and engaging story about their focus areas. Finally, they are aligned with management on recognizing trends that should be monitored.

Finding your path on the data journey

The journey to Internal Audit's integration of data analytics consists of assessing where the organization is today in its journey, laying out a plan to build data analytics into the full internal audit lifecycle, and sustaining the data analytics capability over time.

Assessing Where the Organization is Today: To take significant steps forward, Internal Audit must evaluate what barriers have not been overcome in their data journey and ensure the data analytics plan addresses these barriers in a way that is aligned with the organization's vision, and short- and long-term milestones. This includes agreeing on the people, skills, processes, technology and budget needed to successfully execute the plan. Certainly there is a financial and human capital investment required to build and sustain data analytics within Internal Audit. Careful consideration about both the initial and long-term investment approach is needed. This includes considering how to leverage the investments already made by a service provider rather than taking on the full burden of the investment internally. If done right, the investment in technology enablement and data analytic skills, whether built or acquired from a service provider, will not add to the total cost of the internal audit function, but rather will shift resources from more traditional approaches to more progressive data driven approaches.

Building the Plan: When building the data analytics plan, it is critical to set achievable goals and milestones that align with Internal Audit's budget and skill, and acknowledge the investment requirement. An example of an achievable goal includes an evaluation of how data could begin to be used to inform the risk assessment process this year, then be leveraged in a specified number of audits over a six-month period. Alternatively, start with how it could help with a specific area such as fraud risk assessment procedures. The key is to identify a logical starting point with reliable data that could build the foundation for how Internal Audit would adjust its audit approach based on the results of data analytics. (See sidebar "Building Momentum for Sustained Data Analytics.")

Building momentum for sustained data analytics

A U.S.-based public utility is early in its journey of continuous auditing and data analytics. Working with PwC, this 10-person Internal Audit group began by targeting areas of data analytics focus, interviewing stakeholders, and building support from management. It was particularly important to gain IT support to both understand data issues and to gain access to the desired data. While the internal team focused on building and leveraging relationships in IT, PwC brought data analytics depth, discipline and technical talent to the project. Inevitably, one view of data would lead to the desire to look at it another way, so having the data, tools and skills needed to re-aggregate the data in various ways, and drill down on short notice, was important to early success.

Ultimately the project resulted in visibility and specific actionable data on individual employees, functions, locations and business units that helped gain CEO and CFO attention and strong support. The results have been used with the COO and other business leaders to generate discussion and action on areas not previously visible to the company.

In reflecting on Internal Audit's performance, the CEO, CFO and audit committee chair all identified this as an area of significant internal audit value. The utility's Internal Audit team is now working to sustain the momentum, incorporating data analytics as a key aspect of its 2014 strategic plan.

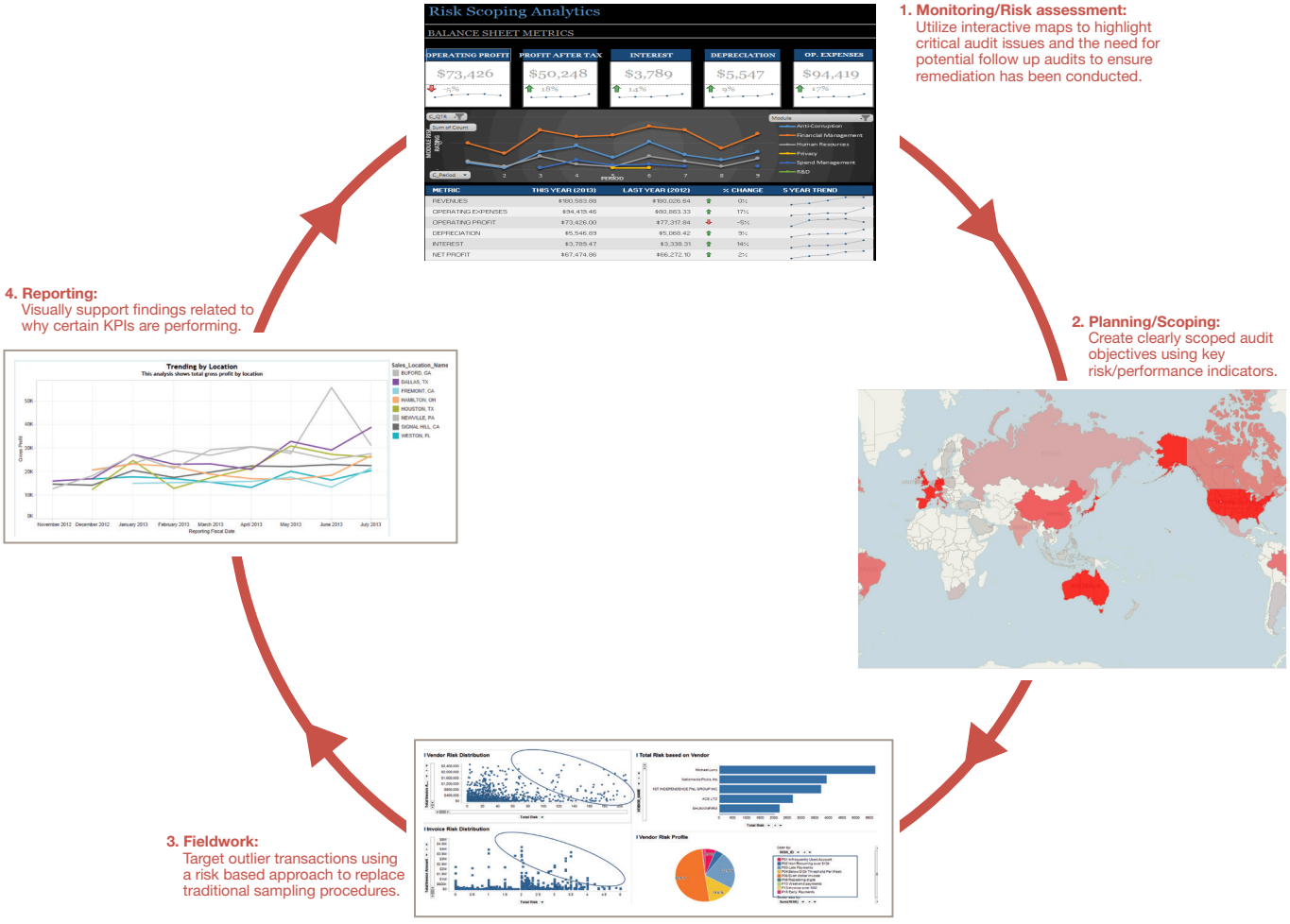
Effective planning requires a deep understanding of what data exists within the organization, including where it is stored, and how it is used by various departments. For example, during the formation of the audit plan for the year, Internal Audit could consider conducting an assessment of data sources that relate to known risks, link the data sources to the audit plan, determine which data sources could be obtained on a regular basis, and compare that to known data quality issues within databases outside of Internal Audit's control.

As part of this process, Internal Audit should gain a better understanding of key performance indicators (KPIs) already being measured and what fluctuations in those KPIs mean to the business. By partnering with other groups such as Operations or Finance, Internal Audit can gain an understanding of how data is being utilized by these various groups, build on their work, and improve coordination. Such collaboration will help Internal Audit create an integrated view of risk across the organization, perform continuous risk identification and assessment, and adapt its Internal Audit plan to narrow gaps in coverage.

Finally, as part of planning, it is important to determine how the audit methodology will change to fully leverage the use of data analytics.

Points of consideration include:

1. Risk Assessment: What historical trends does the data show that provide insight into business risks (i.e., business unit or specific location's profit margin quarter over quarter)? What groups within the organization should Internal Audit partner with to capture and evaluate this data?
2. Planning: What baseline analytics should Internal Audit conduct to determine the level of audit effort required? For example, in a shared service center audit can Internal Audit evaluate the group's proposed KPIs and actual performance to see what specific processes might be higher risk and should be an area of focus during an audit?
3. Scoping: For each risk/audit objective, has a data analytic been considered and the source of data identified? Could Internal Audit leverage previously requested data?
4. Fieldwork: Are your analytics conducted and results in hand prior to your auditors going to the field and what scoping changes were made as a result?
5. Reporting: How has your Internal Audit function traditionally illustrated the results of the data analytics conducted? Could your findings be communicated through a few succinct points using graphs or charts?
6. Monitoring: How will your audit approach change if this area or process would need to be audited again? What one or two analytics would help determine if a problem still exists or might be emerging?



1. Monitoring/Risk assessment:
Utilize interactive maps to highlight critical audit issues and the need for potential follow up audits to ensure remediation has been conducted.

2. Planning/Scoping:
Create clearly scoped audit objectives using key risk/performance indicators.

3. Fieldwork:
Target outlier transactions using a risk based approach to replace traditional sampling procedures.

4. Reporting:
Visually support findings related to why certain KPIs are performing.

Sustaining Change: Like any sizable project, sustaining a significant analytics improvement effort requires strong project management and monitoring. It also requires active change management, including creating the right culture and getting the team excited about the journey. The mindset within Internal Audit must fundamentally shift from a perspective of "Could we use data?" to one of "Our objectives are better addressed by using data. Viewed through the right lens, the data could substantially improve our understanding of this issue." In this new mindset the team's thinking is focused on which analytics may be applied and how that might replace or supplement previous audit approaches. Reporting of internal metrics that illustrate how Internal Audit is embracing data analytics will help build and sustain momentum for change.

Addressing these key areas will be vital to long-term sustainability. To assess if your plan is robust and your program is on track, there are some key questions that should be answered to reach your data analytics goal (Figure 3).

Figure 3: Checklist of critical success factors

Organization	• Do we build centralized capability? • What level of project management is needed? • Is the sponsorship message strong enough?
Human resources	• What skill sets do we have today? • What new skills are required? • What training is required? • Do we have a build or buy strategy?
Working practices	• How does this change our methodology? • Is data analytics embedded into every phase of Internal Audit? • How does this impact our strategy?
Technology	• What is already available to us and what do we need? • Should we build or buy new solutions and do any solutions already exist within the company?
Communication & reporting	• What is our role in reporting/trending remediation efforts of the business owners? • How are we educating audit practitioners on successful outcomes through the adoption of data analytics?
Knowledge management	• How will we share information with the other key business areas, such as Controller or Compliance functions?
Metrics	• How will we assess progress?

What next? Increased relevance and efficiency

PwC's *2013 State of the Internal Audit Profession Study* clearly indicated that stakeholders expect more from Internal Audit. A data-focused approach allows Internal Audit functions to identify issues, target risks and allocate resources more effectively. Whether Internal Audit departments build the skills internally or partners with a third party provider to overcome the barriers to success, those that can adjust in more real-time and establish an end to end data driven Internal Audit model, will elevate their relevancy and allow them to move from simply auditing around historic risks to monitoring and pivoting based upon prospective risks. Ultimately, the result of incorporating data analytics is companies can be confident that Internal Audit is allocating resources against the most important objectives and the greatest areas of risk, therefore obtaining maximum value from the audit work scoped and performed.

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To have a deeper conversation about how this subject may affect your business, please contact:

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