Changing Trends in Internal Audit and Advanced Analytics

Insights from a qualitative benchmarking study by Protiviti of the current state of internal audit data analytics functions in large financial services institutions

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Introduction

Internal audit (IA) functions in the financial services industry (FSI) have relied on various forms of data analytics to support their work for decades. Current research shows that the use of data analysis tools continues to figure as a top improvement priority throughout FSI IA functions (see "Audit Analytics a Top Priority" below). As chief audit executives (CAEs) look to increase efficiencies while providing broader-ranging services to their clients, they are looking more frequently to data analytics as the answer.

FSI IA functions' interest in advancing their existing analytics capabilities is being driven by several factors, including:

- IA's increasing role in supporting regulatory compliance needs and monitoring, and a growing need to apply continuous monitoring on a broader scale to increase efficiency and add value to the organization through better insights into risks.
- External guidance calling for IA departments to better leverage data analytics to increase sample size and analysis of information for the organization.
- A growing focus on data quality and data governance, driven by organizations' growing reliance on big data and big data tools, increasing the need for sophisticated data analysis within IA.
- Rapid adoption of data analytics in other functions and groups throughout the enterprise (enterprise risk management, data governance, compliance), leading to a similar expectation for the IA function.

Audit Analytics a Top Priority

According to FSI respondents to Protiviti's *2015 Internal Audit Capabilities and Needs Survey*,* knowledge and use of data analysis tools and computer-assisted audit tools (CAATs) rate as top priorities for organizations to address. The FSI respondents to the 2015 survey identified the following analytics-related areas among the top five audit process knowledge improvement priorities they plan to address in the coming year:

- Data analysis tools: Statistical analysis
- Computer-assisted audit tools
- Continuous auditing

*Available at www.protiviti.com/IAsurvey

The findings from Protiviti's *2015 Internal Audit Capabilities and Needs Survey* led us to develop a separate qualitative benchmarking study containing 23 questions, which we distributed to a select group of the largest financial institutions in the U.S., including 13 of the top 25 U.S. banks and two of the top five U.S. insurers.[1] The responses to the study shed light on how the largest FSI IA departments are progressing in their efforts to develop more advanced analytics capabilities, and on their priorities along the way.

Strategic Goals for IA Data Analytics Functions*

- More robust testing
- Increased efficiency
- Continuous auditing
- Visibility to risk indicators
- Meeting heightened expectations

*Benchmarking study participants' responses

The study's questions touched on a number of topics, including staffing levels, types of analytics tools used and key challenges. The most noteworthy findings include the following:

- **Large FSI IA functions treat analytics as a high priority.** All study participants report an increase in demand for data analytics within their audits, and 87 percent of FSI IA functions report that they have a dedicated data analytics/information management group within internal audit.
- **More IA analytics functions appear intent on having access to business data, when they need it.** A majority of participants indicated that IA has access to the business data it needs within its own data warehouse or a similar environment. This highlights a demand for greater flexibility in accessing needed data while also not impacting production systems on which business operations rely.
- **IA analytics functions continue to evolve, progressing toward a more risk-based approach.** The vast majority (86 percent) of IA analytics functions employ continuous monitoring to some degree – most commonly, to plan individual audits, monitor key risk indicators (KRIs) and support risk assessments. Many of these functions also have built pilot tools and have a roadmap for the rollout of additional tools that will cover more areas of the enterprise.
- **There is a significant opportunity to expand continuous monitoring capabilities to areas not currently monitored.** Ninety percent of those who employ continuous monitoring report that their monitoring is currently focused on specific areas of the enterprise where there are known risk issues. Less than half of participants currently monitor KRIs; fewer monitor indicators of fraud risk.

These overview findings indicate there is still progress to be made, and the largest FSI internal audit functions seem committed to developing a forward-looking IA analytics capability that allows for deeper business insights via the monitoring of KRIs, rather than just analyzing data in support of individual audits. IA's use of analytics tools and techniques is transforming in an important way also, according to the internal audit leaders who participated in our study. Rather than requesting data from the business to analyze, more IA functions inside the largest FSI companies are operating independently, accessing the data they need, conducting their own analysis, proactively looking for continuous monitoring opportunities and providing complete population validation, as opposed to a more limited set.

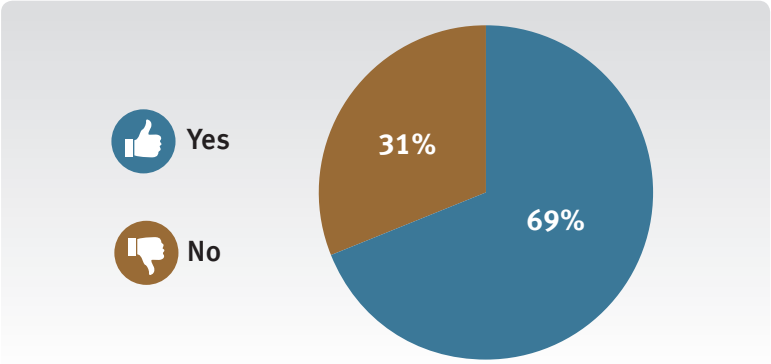
[1] Institutions ranked by asset size.

People, Process and Technology Trends

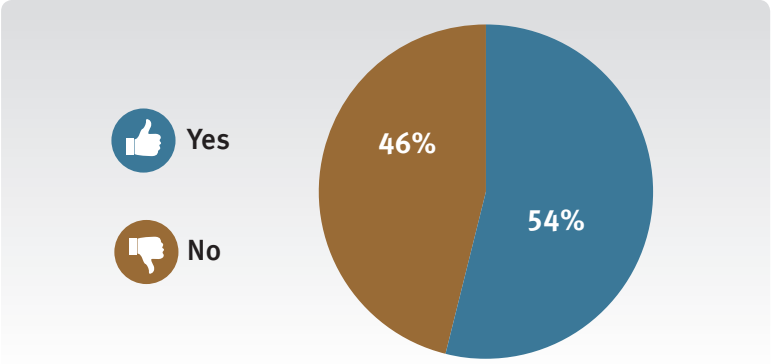
For the purpose of our analysis, responses to the benchmarking study's questions about the current state of analytics functions can be separated into two categories: 1) technology (both software and data), and 2) people and process.

Technology Insights

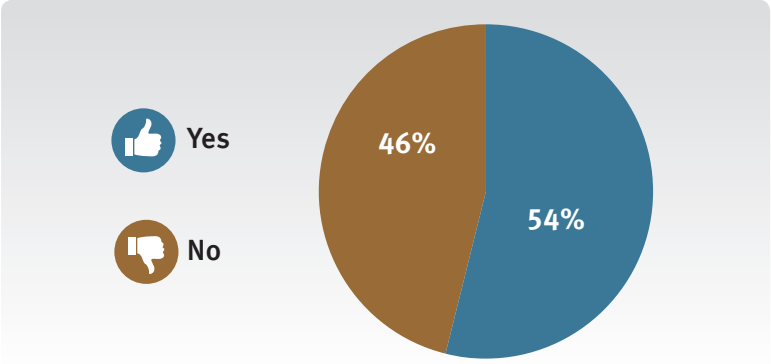
- A majority of the participants (69 percent) said that their internal audit functions have their own data warehouse (or a similar dedicated environment) for accessing data.



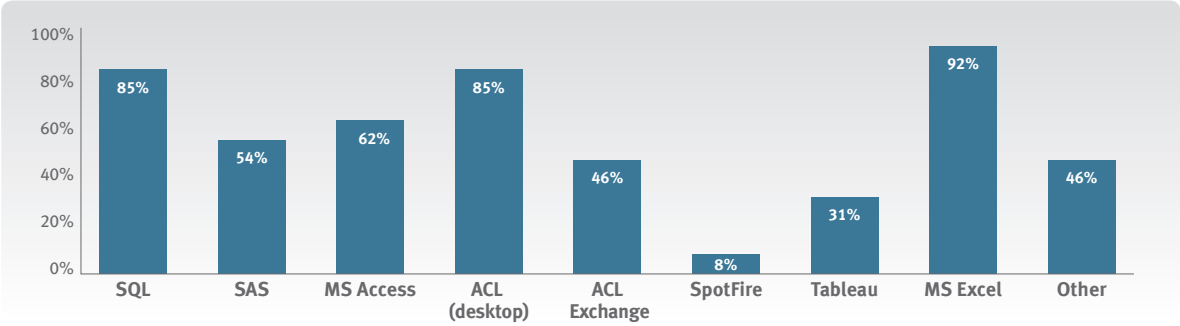
- Slightly more than half of the participants report there are special requirements for the desktops assigned to IA data analytics professionals, underscoring a trend toward giving analytics professionals the specialized tools they need.



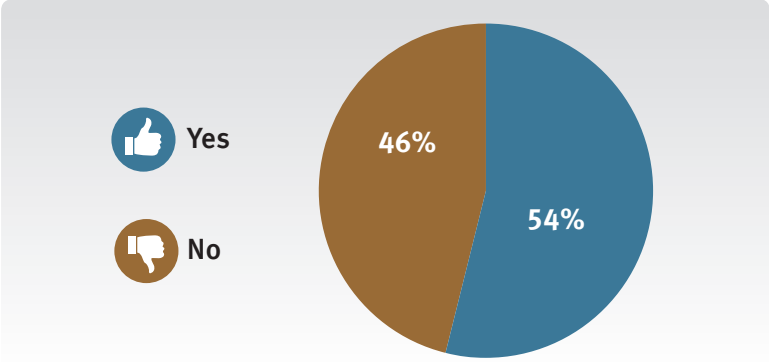
- Slightly more than half of the participants say that specific defined protocols are used for the extraction of data leveraged during the audit process to validate the data's quality and completeness.



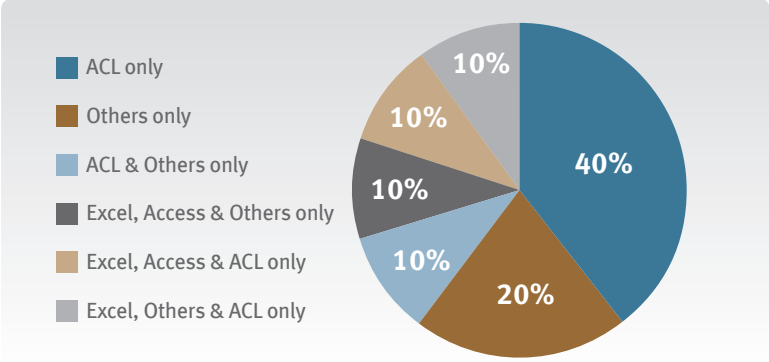
- The three most commonly used tools that IA analytics groups leverage in their work are Microsoft Excel, SQL and ACL (desktop) – not a surprise, since these tools have been in use by IA groups for a long time to perform traditional IA analytics work. The identification of tools like Tableau and SpotFire demonstrates a move toward data visualization and other approaches to analyzing risk on a continuous basis.



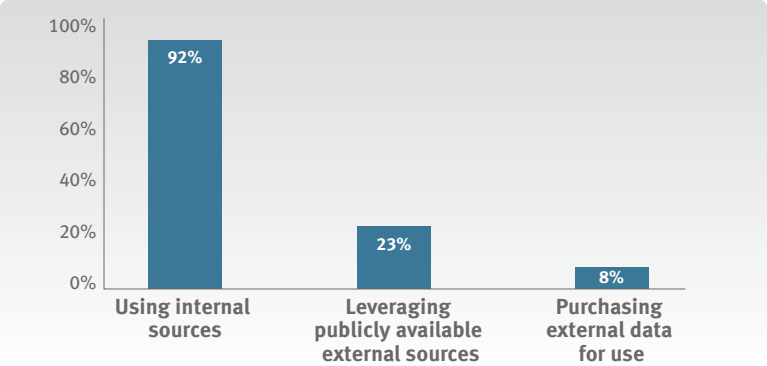
- More than half of the participants indicate that internal audit functions also use business intelligence (BI) and related dashboarding tools to support their processes (Business Objects, Oracle, QlikView, SAS JMP, SQL and other internal tools).



- Participants note that analytics tools are available in some form for use by all internal auditors – not just those who work in the analytics group. The tools available to auditors are as follows:

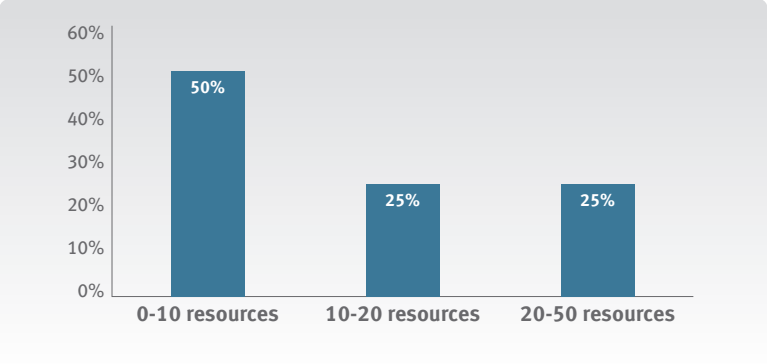


- Finally, when it comes to data sources, relatively few IA analytics groups currently incorporate external data (e.g., syndicated data sources and/or industry benchmarking data) into their activities.

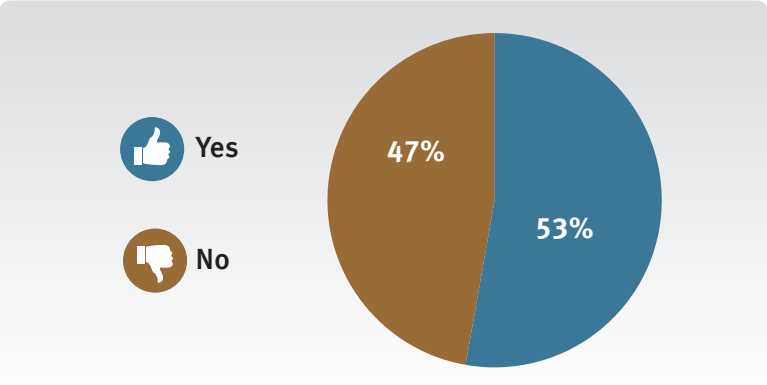


People and Process Insights

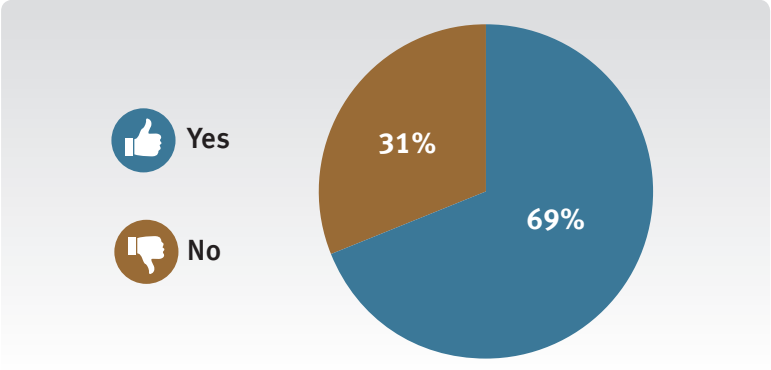
- Of IA departments with dedicated analytics groups, half employ 10 resources or fewer; one-quarter employ 10 to 20 professionals; and the remaining 25 percent employ 20 to 50 analytics professionals.



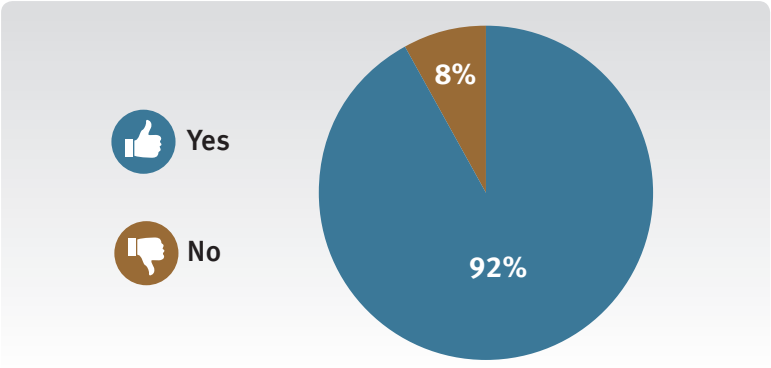
- Slightly more than half of the IA functions surveyed plan to increase their data analytics function's headcount this year.



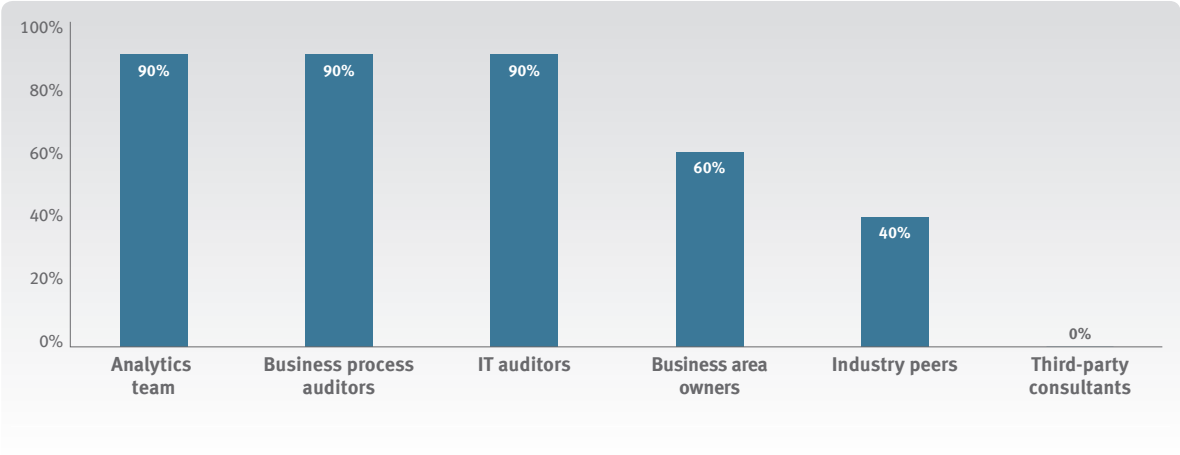
- More than two-thirds of study participants indicate that members of their department, including professionals outside of the IA's analytics function, possess analytics skills that they deploy on audits.



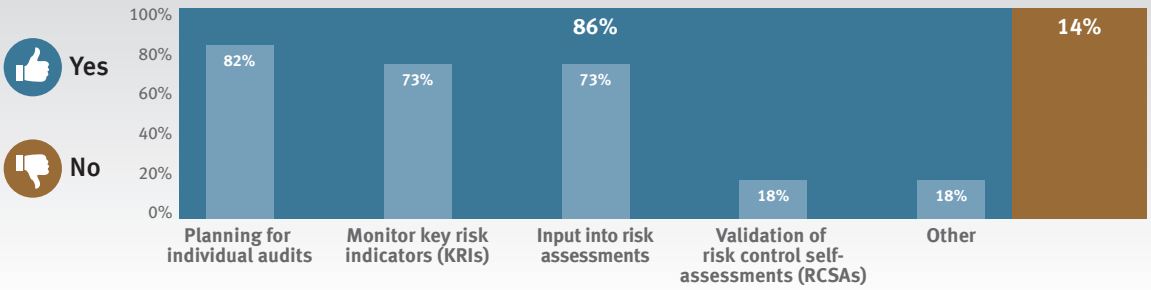
- A large majority of the participants say that there are designated analytics "champions" within the various groups within IA.



- A majority of participants indicate that several different stakeholders – namely members of the IA analytics team, business process auditors, IT auditors and business area owners – provide input on what custom-built analytics programs are developed and what processes are monitored with them.



- A majority of IA analytics functions report that they employ continuous monitoring to some degree. Among functions that use continuous monitoring, the most common applications are planning for individual audits, monitoring KRIs, providing input into risk assessments and validating risk control self-assessments (RCSAs).



Top 5 Activities of IA Analytics Groups*

1. Testing support of specific audits
2. Sample selection
3. Risk assessment
4. Audit planning
5. Continuous monitoring

*Benchmarking study participants' responses

The Challenges

In addition to providing the information on technology, people and processes, study participants also gave insight into some of the challenges they have encountered in their analytics efforts. While data-access challenges are notable, other obstacles related more broadly to time and resource constraints also emerged from the study responses.

Identifying where sought-after data is located is one of the most difficult undertakings in complex enterprise environments. Many FSIs have a number of geographically distributed business units that behave autonomously and utilize different systems, making data sourcing difficult. Another challenge is normalizing the data that's gathered. For example, IA analytics professionals seeking to monitor an aspect of loan processing may encounter several different loan-processing platforms, none of which defines loan groupings by exactly the same parameters – capturing the same fields or having the same data structures. In other words, locating the data is only half the work – the data must also be "normalized" (stated in the same terms) to facilitate an apples-to-apples comparison.

Another access challenge is posed by confidentiality/privacy policies and concerns. These policies may require IA analytics professionals to chase down approvals before they obtain ongoing access to certain systems and data. The IA analytics team must be able to address successfully process-related questions, such as: *How is our team going to use the data? What kind of controls will be set around the use of that data? How will the data be kept secure? How will chain-of-custody requirements be satisfied in the process of capturing, using and storing the data?* IA analytics teams may also be required to obtain IT certification for their own data warehouses before they can populate them with data.

Top 5 Data-Access Challenges*

1. Identifying where data resides
2. System constraints
3. Confidentiality and privacy
4. Data elements not currently captured
5. Ability to combine data from multiple systems/environments for analysis

*Benchmarking study participants' responses

Not least, time figures as an obstacle to building and expanding monitoring tools. A combined 64 percent of participants indicate that they currently spend the majority, if not all, of their analytics professionals' time (60-100 percent) on supporting individual audits as opposed to building monitoring tools. By contrast, 82 percent spend anywhere between one-fifth of their time and no time at all on building monitoring tools.

Clearly, there is room to grow, confirmed by the participants themselves: Less than 10 percent say that their IA analytics functions have "very mature processes with access to usable dashboards, drilldown capabilities, etc., covering many areas of the business." The good news is that more than 80 percent of participants have begun their journey to that destination. They have developed some pilot analytics tools and have created plans and roadmaps to build and implement other tools (or those tools on a broader scale). Getting from pilot programs to a mature capability, however, requires time, the majority of which is currently spent on supporting individual audits.

Advancing the Analytics Function: Six Considerations

Below are six considerations CAEs should keep in mind as they improve their current IA analytics capabilities and work to build a sustainable data-driven process for greater insights into risk across the organization.

1. Set expectations with senior management.

Given the changes that IA analytics tools will enable – real-time updates on key risks, more efficient audits, more effective fraud detection capabilities, more information for process-improvement initiatives – it is important to set and manage expectations outside of the IA function, especially among the senior executive team and audit committee, with regard to the resource and process changes that will be required and the possibilities for the future. Every study participant reported a growing need to integrate more data analytics into auditing activities. Regulatory changes, the continual addition of new enterprise technology and growing complexity of information ensure that this need will continue to grow. Audit committees, CEOs, CFOs and other executive partners will need to understand why and how audit functions are building additional analytics capabilities and what these changes can enable for the future.

2. Address the use of existing and new data analytics technology.

As data streams into nearly every corner of the enterprise, the number and type of data analysis tools available has expanded significantly. In many cases, internal auditors are adapting analytics tools already in use by business partners for their own monitoring and analysis activities. These analytics toolsets have become easier to use and more powerful; however, there are often governance, technical and change management considerations that IA analytics functions will need to work out with the business. As IA functions develop more advanced data analytics and continuous monitoring capabilities, they will also need to figure out how to incorporate and maintain new technology as part of their daily activities; in other words, they will need to operationalize the technology.

3. Integrating external data represents a key opportunity.

Relatively few IA analytics groups currently use external data (publicly available or fee-based). Use of external data represents a significant opportunity to add a new dimension to IA analytics, and should be recognized as such by IA leaders. By integrating data from external sources into their analytics tools, internal auditors will gain a sharper industry perspective and stronger benchmarking capabilities.

4. Building out an IA analytics function is a time-intensive balancing act.

It's not easy to build an IA analytics group when most or all internal audit time is devoted to supporting individual audits. This challenge helps explain why more than half of IA functions at large FSI companies plan to hire more data analytics specialists this year. It is important to create detailed project plans that identify how tools will be built and who is responsible for the work while also ensuring that sufficient time is dedicated to the advancement of these items.

5. Continuous monitoring requires ongoing stakeholder engagement.

Assembling the right tools and designing the right type of monitoring requires internal audit functions to coordinate and collaborate with multiple stakeholders. This is the case both inside and outside the internal audit function. Within IA, the team responsible for building and running the analytics capability needs to work with IT and business process auditors; this team also needs to collaborate with compliance and business partners outside the IA function. The purpose of this interaction is to ensure that the analytics tools monitor the business in the most risk-relevant manner. Coordination and collaboration among all these units is important.

6. Dynamic risk assessments and audit plans will require change management.

The biggest change that mature IA analytics capabilities will deliver relates to a more dynamic approach to assessing and monitoring risk. Most audit committees are accustomed to approving an audit plan that remains fixed throughout the year. Robust IA analytical capabilities will present numerous opportunities to adjust the audit plan regularly based on risk indicators. As a result, audit committees, senior executives and business partners will need to get comfortable with much more dynamic audit plans, where adjustments are driven by real-time, analytical insights.

CONCLUSION

FSI organizations have maintained data analytics capabilities within their internal audit groups for a long time. Those activities traditionally consisted of sampling support and specific, point-in-time analytics. Today, FSI IA functions are being asked to play increasing roles in compliance and risk management. The results of our qualitative benchmarking study indicate that more FSI IA departments are leveraging data analytics in more expansive ways to help accomplish those goals. We expect this progression to continue and accelerate in the years ahead.

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For additional information, insight and thought leadership, please refer to the Internal Audit, Data Analytics and Financial Services sections on our website, www.protiviti.com.

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