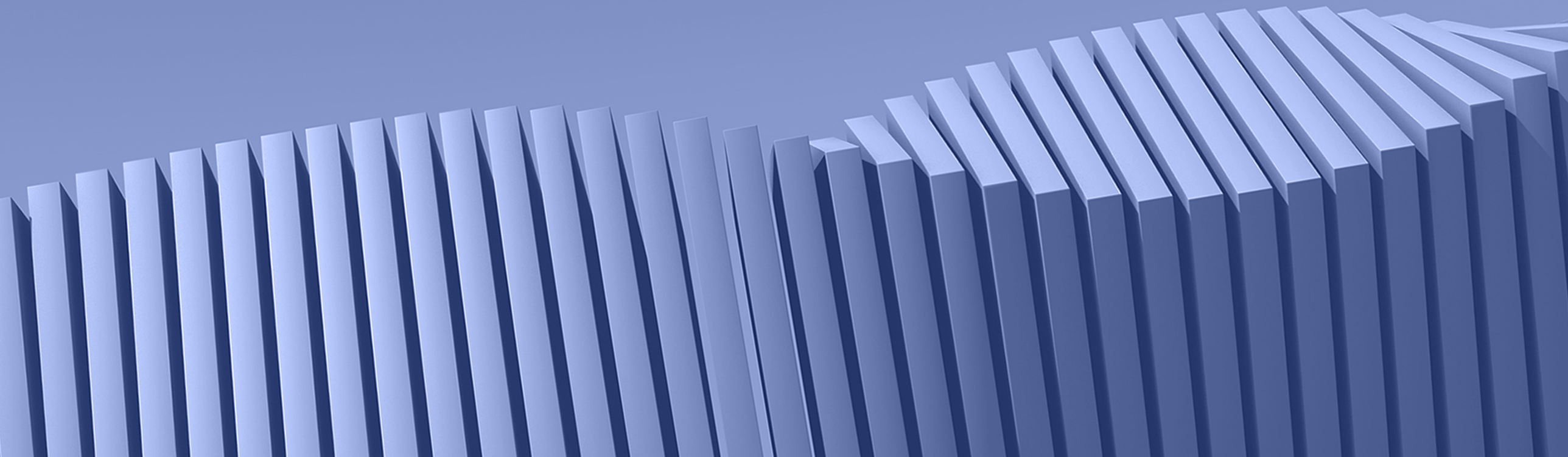
Driving Audit Efficiency in Banking through AI and Analytics

AUDITBOARD



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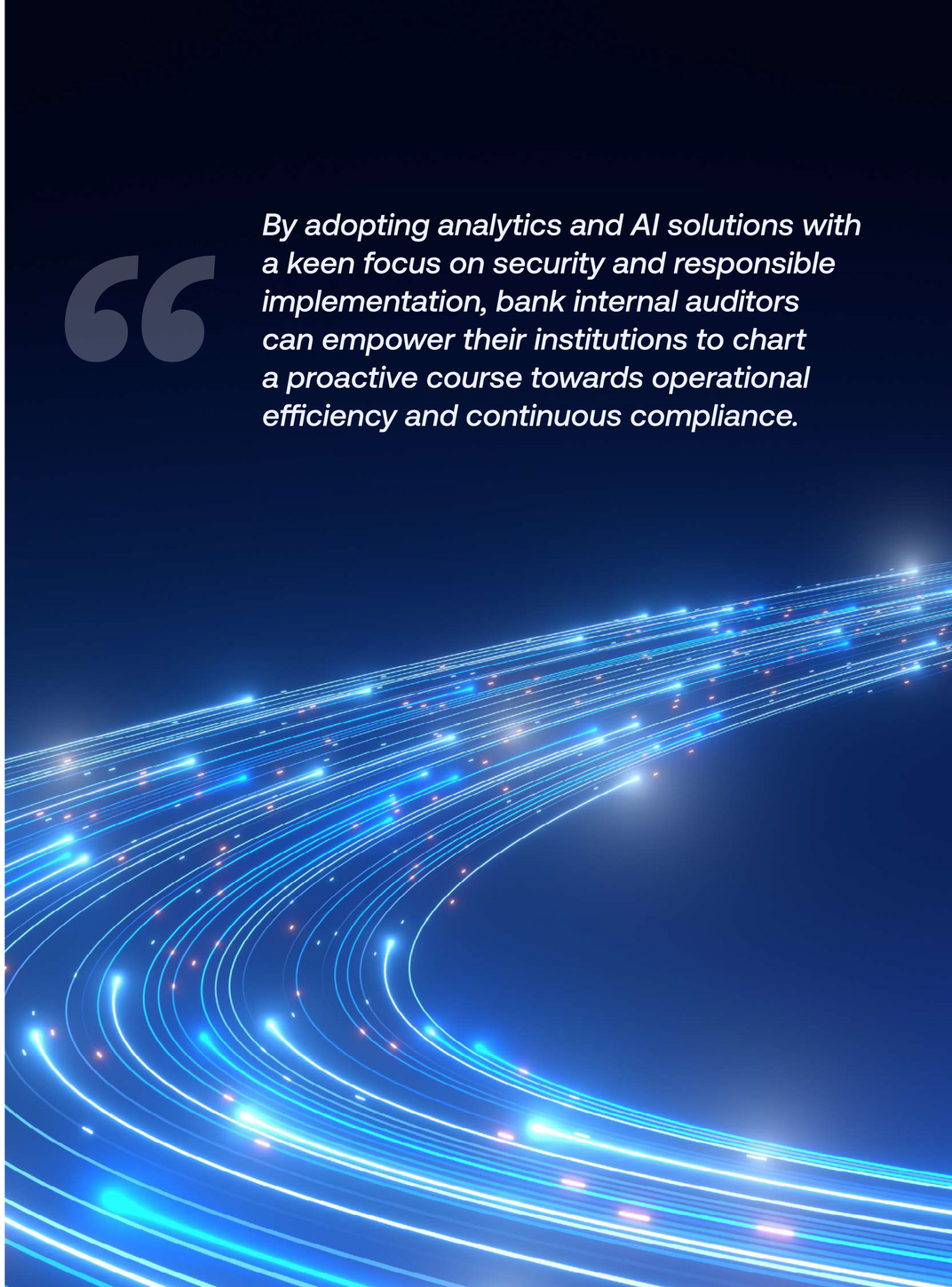
Introduction

Navigating the intricate landscape of financial services auditing has always been a formidable task. However, in today's dynamic environment audit teams within banking institutions face mounting pressures from every direction. In the wake of 2023's high-profile bank failures, **the Federal Reserve and the Federal Deposit Insurance Corporation (FDIC) are increasing scrutiny over banks' risk management practices and ramping up their disciplinary stance in 2024**. Reuters recently reported that examiners are targeting small, mid-size, and larger banks for surprise CAMELs exams, which evaluate a bank's capital adequacy, asset quality, management, earnings, liquidity, and sensitivity to market risk. **On top of this uptick in regulatory activity, banks are contending with ongoing compliance pressure from the SEC's new cybersecurity disclosure requirements, the Dodd-Frank Act, and BSA/AML audits.** These circumstances are further compounded by the competing pressures of heavier audit workloads requiring more headcount and resources, and the perennial directive to contain budgets and costs.

Though auditors in the banking world are used to maintaining a higher standard of data accuracy and controls than may be required for other sectors, their ability to maintain this standard may be compromised without more resources. **This perfect storm of internal and external pressures creates a pronounced need for greater efficiency — highlighting the promise of technologies like advanced audit analytics and artificial intelligence (AI) for audit teams at banks.** Advanced audit analytics and AI have proven value in helping auditors automate repetitive and manual areas in their processes, creating efficiencies that empower them to focus on more value-added activities. In this period of heightened regulatory pressure and heavier workloads, there has never been a better time to consider maturing your audit team's analytics and AI capabilities.

This guide explores the advantages, challenges, and practical considerations of integrating advanced analytics and AI solutions into internal audit teams at banking institutions. **By examining both their benefits and risks, we aim to equip readers with a nuanced understanding of these transformative technologies.** Additionally, this guide will provide actionable insights on effectively implementing these solutions while proactively mitigating against their associated risks. Ultimately, our goal is to empower readers to navigate the complexities of analytics and AI adoption in internal auditing with confidence and foresight.

By adopting analytics and AI solutions with a keen focus on security and responsible implementation, bank internal auditors can empower their institutions to chart a proactive course towards operational efficiency and continuous compliance.



The Potential of Analytics and AI for Bank Internal Audit Teams

Advanced audit analytical capabilities, involving the autonomous or semi-autonomous examination of data or content using sophisticated techniques and tools, enable auditors to ask insightful questions about their business and test full populations instead of just a sample. **Analytics' value lies in their ability to provide more accurate testing results with significantly greater efficiency, uncover recurring issues in high-risk areas, enhance collaboration across all three lines of defense, and improve continuous monitoring.** According to a data analytics study conducted by The Chartered IIA and AuditBoard:

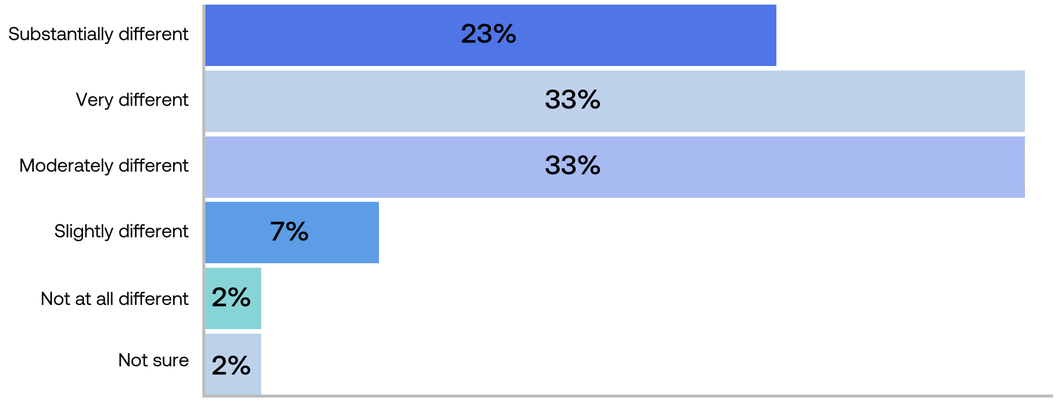
- More than **two-thirds (67%)** of internal audit functions are currently using some form of data analytics in their work.
- **68% of CAEs** would invest in more analytics if they had the resources.

Whereas analytics are programmatic but not intelligent, AI applies advanced analysis and logic-based techniques, including machine learning, to intelligently interpret events, support and automate decisions, and take actions. **In light of increasing compliance requirements and strained budgets, AI's promise lies in easing the stress of more work through supercharged automations for tasks like writing and research.** According to Deloitte's State of Generative AI in the Enterprise report:

- **91%** of all organizations expect their productivity to increase due to generative AI.
- Off-the-shelf AI solutions are most popular with businesses:
  - **71% are using productivity applications with integrated generative AI**
  - **61% are using enterprise platforms with integrated generative AI**

We explore the benefits and risks of both technologies for banking internal audit teams in more detail below.

How Different the Role of AI Will Be in 10 Years



Source: Internal Audit: Vision 2035 for AI, p.6

Advanced Analytics and AI: Benefits and Risks for Internal Auditors

Advanced Analytics Benefits: Greater Accuracy in Less Time

By leveraging analytics, **auditors can pose pertinent questions about business risks, uncover inefficiencies, find outliers in their data, and identify recurring issues** to foster a deeper understanding and connection across all three lines. This enhanced collaboration not only streamlines efforts and eliminates duplicative tasks, but also enables teams to align their activities more effectively with high-risk areas and improves continuous monitoring.

1. FULL POPULATION TESTING

Advanced analytics solutions are currently available on the technology market that enable auditors to perform full population testing in their audits. Full population testing allows auditors to significantly reduce testing time while obtaining more comprehensive audit findings, **leading to a deeper understanding of the business and enhanced insights to support informed decision-making**. This can apply to the following audit areas in banks:

- Substantive transaction testing
- Financial data infrastructure
- Regulatory reporting requirements
- Credit, market, liquidity risk management
- Vendor management
- Key financial IT applications

2. AUTOMATE REPETITIVE PROCESSES

Advanced analytics can help automate manual and repetitive aspects of preparing evidence for testing. In addition to being time-consuming, this process is subject to human error as it involves the manual consolidation and deconsolidation of many spreadsheets, which are then sent out to reviewers for verification against a master spreadsheet. Audit analytics can automate the merging and joining of data, **not only saving auditors precious time, but also improving data accuracy by removing the human element**.

3. CONTINUOUS MONITORING

Continuous monitoring enables banks to cover more of their risk and control taxonomy, which is beneficial as banks typically face higher expectations to maintain a thorough risk and control environment than other industries. Testing of repetitive controls designed to mitigate risks related to financial reporting, data security, operational processes, and fraud prevention benefits any team that manages these controls e.g. SOX, regulatory compliance, InfoSec, ESG, etc. Moreover, having **a place to share continuous monitoring data across the business** is beneficial because it allows auditors to test once and apply the results to different parts of the organization.

4. ENHANCE RELATIONSHIPS ACROSS THE THREE LINES

As the third line of defense, internal audit has a unique opportunity to leverage analytics and automation to not only cover more risk and control testing, but to enhance the level of insight and connection with the first and second lines. Auditors can ask meaningful questions about the risks in their business using analytics — e.g., where do inefficient processes exist and what high-risk areas have recurring issues? — and identify outliers that potentially would have been overlooked. **These valuable insights contribute to a more comprehensive view of activities within the audit function and across the bank.** This creates additional benefits, such as:

- Eliminating duplicative efforts across the second and third lines and creating a more efficient and robust reliance strategy.
- Helping teams better prioritize their activities in alignment with higher-risk areas of the business.
- Facilitating process improvement across the organization.
- Fostering greater trust and transparency between internal audit, auditees, and stakeholders.

5. ATTRACT NEXT-GEN AUDIT TALENT

Analytics can help audit teams remain competitive and relevant in today's talent market. As smaller audit firms vie with larger counterparts for top talent, providing hands-on experience with cutting-edge data analytics solutions is emerging as a key competitive edge. **The prospect of acquiring valuable technical skills can be enticing to the most talented and ambitious internal auditors with an eye on long-term career development** and can factor into their decision-making when choosing employers.

Risk Assessment: Understanding Challenges in Advanced Analytics Adoption

At the same time, the risks of advanced analytics include potential security breaches and unauthorized access to data, data quality issues stemming from fragmented data sources, challenges in governance and compliance adherence, and the risk of low adoption rates resulting in underutilization of invested resources and missed ROI opportunities.

1. SECURITY/ACCESS BOUNDARIES

Depending on whether the business opts to self-host their analytics in-house or use an outside technology provider, there can be a number of data privacy and security risks. For example, the risk of toxic combinations when centralizing data in an unsecured platform or the risk of unauthorized access to the business's data centers.

2. DATA QUALITY

Your analytics will only be as good as the data you provide. **It is essential for internal audit teams to ensure their data is in the right place and format for their audit analytics to perform as intended.** Oftentimes, audit data can exist in silos across the business and may be challenging to consolidate and configure into the proper format for analytics.

3. GOVERNANCE AND COMPLIANCE

Governance of audit analytics is more stringent in banking than in other sectors, as banks are subject to surprise reviews by federal regulators. For regulators to be comfortable using testing results derived from analytics rather than manual testing, banks must have detailed documentation and data validation procedures in place to ensure their data is complete and accurate to support their findings. **Yet, there tends to be a lack of formal process around building analytics and integrating them into audit processes**, as well as a lack of strong rationale tying analytics projects to the overall strategy of the internal audit department.

4. LOW ADOPTION RATES

A CAE's worst fear is investing in internal or external analytics, only for the application to get shelved months down the line due to low adoption rates because it is too complex for day-to-day use. In a profession where maintaining or reducing costs is a top priority, **not capitalizing on the full ROI of your analytics, based on its capabilities, is a great risk**.

Artificial Intelligence Benefits: Supercharged Efficiency and More Audits

From expediting document creation to automating complex analyses, AI holds the key to unlocking new efficiencies and insights within internal audit functions, paving the way for enhanced performance and value delivery. The integration of AI in audit workflows offers a promising avenue for streamlining processes and driving operational excellence.

1. WRITING FACILITATION

Writing constitutes a significant part of audit workflows. Generative AI can help auditors quickly create initial drafts for documents like audit findings or report summaries, which the auditor can then edit. Furthermore, audit teams can train their AI to use their organization's preferred language, creating consistency in language.

2. IMPROVE INFORMATION/CONTEXTUAL AVAILABILITY

AI can assist auditors in looking up information in reference databases — such as their internal auditing manual or a regulatory framework or requirement — with greater speed. Moreover, AI can help auditors locate information quickly without needing to know the exact phrasing in the reference text offhand.

3. ENHANCE CONNECTEDNESS

AI can help auditors map framework requirements from one standard to another and identify gaps and differences between frameworks, all automatically and in bulk. This helps reduce redundancy and contributes to greater connection across the three lines.

4. SUPERCHARGED EFFICIENCY

AI can help auditors at banks automate a number of tasks that create efficiencies and improve the quality of their work. For example, AI can assist in reperformance of portfolio management or perform automated analysis around credit portfolios to better understand credit/risk exposure. As a result, internal audit teams can realize greater efficiencies without needing to ask for new headcount.

74% OF AUDITORS SAY AUTOMATION HELPED THEIR TEAM WORK MORE EFFICIENTLY

Source: The Audit Management Playbook 2024, p.37

Risk Assessment: Exploring Challenges in Artificial Intelligence Adoption

While AI has the ability to create significant efficiencies in audit processes, it also carries significant risks, including: data privacy, data quality, reliability/consistency of AI-generated results, and the potential security vulnerabilities posed by individuals using non-vetted AI solutions.

1. DATA PRIVACY

A big risk AI poses is what happens to your data beyond the initial automation. How do you protect your sensitive business data from being used to train future AI models or compromised/exposed in other ways down the line?

2. DATA QUALITY

To make the most of AI in your finance processes — e.g. forecasting, risk mitigation, portfolio management — you'll first have to ensure your data is not siloed and is in the right condition to make the most of large language algorithms and other AI technology.

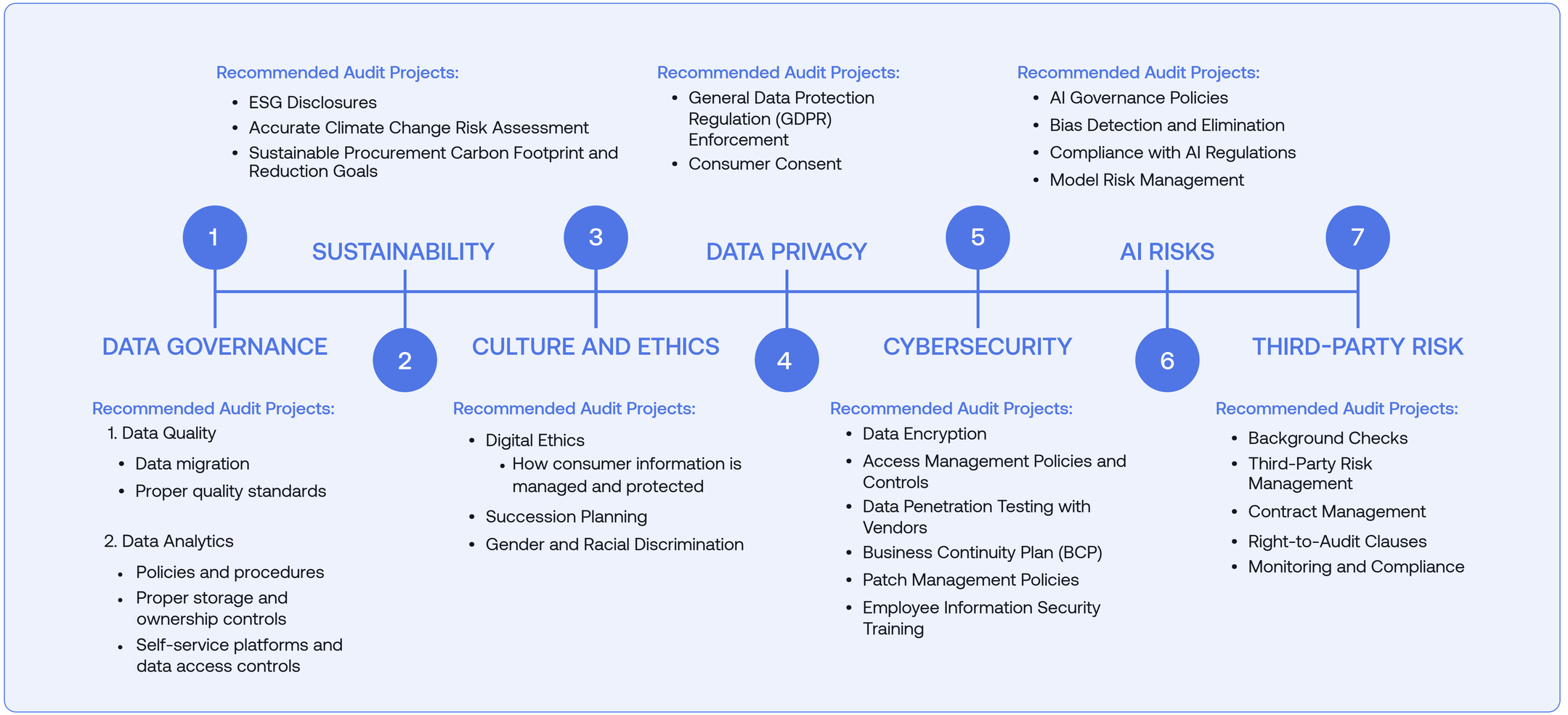
3. RELIABILITY/CONSISTENCY

There are risks to relying on AI-generated information and results, as AI cannot innately differentiate fact from fiction and may not always be trusted to produce consistent results. AI models also tend to have knowledge cutoff dates, which can create a risk of using outdated information.

4. INDIVIDUALS USING NON-VETTED AI

While there are AI solutions with built-in protections for enterprise use, such as a purpose-built domain AI or solutions like ChatGPT enterprise, if these options are not available or allowed by the business, there is a risk that individuals will use non-vetted AI options, exposing the business to security risks.

7 Critical Risk Areas to Include in Your Audit Plan



7 Best Practices for Implementing Analytics and AI at Your Bank

In light of the significant benefits and risks of analytics and AI, as bank internal auditors begin considering these technologies for their programs, it is important to build **strong security controls and internal processes when implementing applications alongside robust hiring, educating, and training initiatives**. In accordance with your organization's policies and guidance around analytics and AI usage, the following are best practices to consider when implementing analytics and AI at your bank.

1. Build a strong case for why you want to bring analytics and/or AI applications into your internal audit function.

Set clear objectives that ideally tie to your internal audit strategy for what you aim to achieve using analytics and AI. For example, helping the first line automate manual aspects of their regulatory compliance work such as controls monitoring, so they can focus on higher value tasks. **Another common use case is using analytics and automation to create greater assurance around regulatory requirements.** In addition to your objectives, it can be helpful to provide the following when making the case for implementing analytics and/or AI:

- POCs demonstrating how the analytics will work
- Clear examples of how the bank's sensitive data will be used
- Examples of questions you want to answer using analytics
- Examples of how automation enhances internal audit's ability to support the business's key strategic objectives

2. Ensure your data is clean.

To mitigate against feeding incomplete or inaccurate data to your analytics and/or AI applications, take the necessary steps to ensure your data is clean and ready for use. Ahead of implementing an analytics or AI solution, internal audit should engage with other groups in the business to consolidate and cleanse organization-wide risk and control data. To prepare your data for use, you'll need to have:

1) Data cleaning procedures

2) Data validation procedures for completeness and accuracy

3) Questions to ask about your data

3. Invest in people.

Technology alone is not enough. An investment in analytics and AI technology should be more than just developing or buying a tool, it should also be an investment in the people who will be using and maintaining these technologies.

- **Analytics:** Make sure you have the right employee(s) who can perform the data analysis — **either via hiring or upskilling — and train the rest of your team to be comfortable using that analysis**. Every internal audit team looks different; some have existing resources that can support analytics, while others may need to hire a consulting firm and/or rely on a technology partner to round out the expertise required to effectively deploy and manage the analytics.
- **AI:** Prioritize training/education as well as adopting safe enterprise AI options for employees, for instance, purpose-built domain AI or LLM such as ChatGPT enterprise. Team-wide training is essential to educate stakeholders on AI use cases in audit, as well as AI's limitations and weaknesses. **Allocate a specific time in the week to make an hour of AI education/training a priority for your team**, and hold your team accountable to it. Training topics can include:
  - The importance of having an audit practitioner verify AI results
  - Exercising caution regarding sensitive business information
  - Refraining from entrusting non-vetted AI systems with such data

4. Invest in processes.

You might have a great analytics solution in place and the right people in charge of using it, but without an overarching process around your analytics program, it will likely falter at some point. Ensuring there is a concrete strategy that can be executed around your analytics, as well as repeatable processes where it can be applied, ensures that it will have longevity. For example, when implementing audit analytics:

- **Start with areas of repetition.** IT General Controls (ITGCs) and annual recurring audits such as BSA/AML are a great place to start.
- **Have a triage process to prioritize your projects.** Once an analytics solution is working and adding value, requests can come flooding in. Implementing a framework for triaging your analytics projects can help your audit analyst prioritize which projects have the greatest impact or highest risk so they can focus on those first.

5. Develop strong data privacy, quality, and governance controls.

Prioritize creating a strong internal control environment around your analytics/AI program from the beginning. While formal compliance standards around AI are relatively new — the world's first standard on AI management systems, ISO 42001, was published in December 2023 — **there is a growing movement in the EU and US to develop standards, tools, and tests to help ensure that AI systems are safe, secure, and trustworthy**. The IIA released its first AI Auditing Framework in 2017, which it last updated in 2023. In addition, many information security frameworks will likely begin to expand their standards to include more guidelines for AI in the near future. In the meantime, **to set strong policies and procedures in place for your analytics/AI programs from day 1, engage your InfoSec team, SOX team, or a consulting partner** to utilize their breadth of knowledge and expertise in IT and information security frameworks such as ISO 27001, SOC 2, and NIST.

6. Prioritize ease of use when vetting technology solutions.

An application must first demonstrate its ability to solve for your audit team's automation and workflow needs. Beyond this key requirement, it is important to prioritize ease of use. The more user-friendly an application is, the higher the likelihood it will be adopted by your audit team. One anecdotal example is generative AI chatbots; one of the reasons apps like ChatGPT have been picked up so quickly by the general public is that they are easy and intuitive to use. Analytics tools in particular have a reputation among auditors for being code-heavy and difficult to operate for non-technical users. **If most of your analytics users will be auditors with little to moderate technological expertise, opting for a low-code or no-code analytics solution (i.e. designed for users with no data science or analytics backgrounds) can significantly improve your chances of high adoption rates.** The following checklist describes features audit decision-makers should consider when researching analytics applications:

Low-Code/No-Code Analytics Features to Prioritize

- [ ] Short learning curve for technology novices and experts alike
- [ ] Drag-and-drop based interface that is easy for an auditor to pick up
- [ ] Features Excel language and formulas, a language familiar to auditors
- [ ] Any auditor can run an analytics workflow without the help of a super user
- [ ] Cloud-based and can integrate with other "best-in-class" platforms
- [ ] Out-of-the-box use cases tailored for audit processes
- [ ] Flexible and scalable workflows

7. Conduct strict vendor due diligence.

There is a common perception among audit practitioners that the safest option for analytics and AI is self-hosting. However, developing your analytics/AI in-house may not always be safer than working with an external technology partner — especially if your business does not have sufficient resources to build secure systems and train models to the highest level of performance and security. In these instances, performing vendor due diligence can help you prioritize security and protect your business's data, while also enabling your internal audit team to experience the benefits of analytics, AI, and automation. **Work closely with your InfoSec and IT teams to vet prospective vendors and provide up-to-date IT questionnaires.**

Analytics Security Considerations

- [ ] Vendor follows a robust TPRM process validated as part of SOC 2, ISO, and other industry-recognized security certifications
- [ ] The audit practitioner retains full control over the selection and utilization of data analytics results, ensuring that an auditor is always required to review and validate which findings are recorded and applied
- [ ] Vendor demonstrates robust quality control across their IT infrastructure, e.g., access controls, data encryption, etc.

AI Security Considerations

- [ ] Vendor due diligence on data privacy and security (don't expose sensitive data)
- [ ] Vendor due diligence on data usage (don't train on sensitive data)
- [ ] Vendor due diligence on practitioner control (user validation/sign-off)
- [ ] Vendor due diligence on training data source
- [ ] Vendor due diligence on fact-check features and data staleness
- [ ] Mitigate against non-vetted AI usage by enabling safe AI options
- [ ] Train users on appropriate AI usage
- [ ] Familiarize yourself with available governance frameworks and standards such as ISO Standard 42001:2023

Internal Audit and SOX Analytics Use Cases

Where can you use advanced analytics? By automating key SOX and internal audit business processes, auditors can transition from routine testers to insightful reviewers, uncovering deeper insights and enhancing overall audit effectiveness.

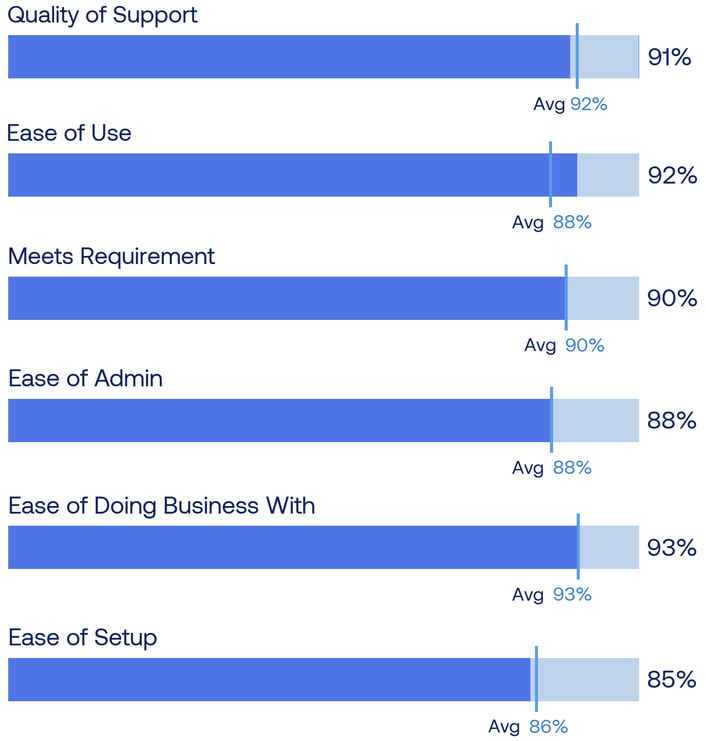
Internal Audit Use Cases:

- Automated Sampling
- General Ledger (G/L) Analytics Review (e.g. duplicate journal entries)
- Benford's Law (explore random number digit distributions)
- Purchasing (e.g. approval/ authorization limits)
- Procure-to-Pay

SOX Use Cases:

- Terminated Users
- Journal Entry Testing
- Access Provisioning
- Segregation of Duties
- Key Report Testing
- Depreciation Calculations
- User Access Review

AuditBoard received the highest Satisfaction score among products in the Fall 2024 G2 Grid® Report for Audit Management.



Source: Grid® Report for Audit Management | Fall 2024, p.7

Pioneering Progress: Partnering with Trusted Vendors for Success

The transformative potential of automation through analytics and AI is far too great an opportunity to let pass by. As auditors in the banking industry navigate an ever-evolving and complex regulatory ecosystem, these promising technologies offer audit teams not just a competitive advantage from a recruiting standpoint, but also a strategic advantage by improving the audit lifecycle. By empowering auditors to work with greater efficiency, analytics and AI solutions have the potential to enhance audit's ability to cover more risks and add value to their business. **As the third line of defense, internal audit has the unique opportunity to not only expand risk and control testing coverage but also to strengthen relationships across the three lines of defense.**

Simultaneously, it is imperative that audit teams take a proactive and vigilant approach to the risks associated with these powerful tools. One way to start on the right foot is by working with a technology partner with a proven track record of safely and successfully helping audit teams streamline their audit workflows. Ultimately, by adopting analytics and AI solutions with a keen focus on security and responsible implementation, auditors can empower their institutions to chart a proactive course towards operational efficiency and continuous compliance.

To learn how AuditBoard can help your banking internal audit team manage increasing audit priorities and workloads by leveraging audit analytics and AI capabilities — visit auditboard.com to request a tailored demo.

The Business Value of AuditBoard's Connected Risk Platform

Business Benefits:

$1 million
average benefits annually

281%
three-year ROI

7-month
payback period

Connected Risk Benefits:

34%
reduction in time to make risk-related decisions

50%
improvement in stakeholder engagement

49%
deeper understanding of organizational and operational risk

45%
more productive audit and compliance teams

40%
more productive InfoSec and IT compliance teams

34%
more productive risk management teams

39%
more productive ESG teams

$165,273
in annual cost avoidance

63%
improvement in real-time data reporting

Source: The IDC Business Value White Paper, sponsored by AuditBoard, The Business Value of AuditBoard's Connected Risk Platform, doc #US52315024, June 2024.

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