The Institute of Internal Auditors Malaysia

Technical Newsletter

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The Data Analytics Imperative – and the Reality Gap

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INTRODUCTION

Stakeholders are placing increasing pressure on internal audit functions to transition from traditional periodic, sample-based reviews to more continuous, data-driven assurance methods. There is also a growing expectation for audit teams to adopt artificial intelligence (AI) to enhance both efficiency and effectiveness. However, the successful integration of AI into audit processes depends on strong foundational data analytics capabilities and auditors with the expertise to ask the right, insightful questions.

Despite these rising expectations, a significant skills gap persists within the profession. According to the 2025 IIA North American Pulse of Internal Audit report[1], 60% of internal audit functions have between 1 and 9 full-time equivalent (FTE) staff, and 92% of Chief Audit Executives consider data analytics the most crucial technology skill for the future. Nevertheless, only 28% of audit functions currently report utilising advanced analytics in their work

This article explores the challenges that small audit functions—defined here as teams with 1 to 9 FTEs—face in adopting data analytics. It also presents practical strategies to bridge the gap between stakeholder expectations and actual implementation.

CHALLENGES TO IMPLEMENTATION

The internal audit profession stands at a crossroads. For smaller audit functions, the issue is not whether they can afford to invest in data analytics, but whether they can afford not to. Starting this journey requires clearly identifying the challenges that must be addressed.

- **Resource Constraints**

Small audit functions face acute resource and human capital constraints. Auditors are stretched by audit plan delivery, ad hoc requests, and follow-up work, while tight budgets often cover only essential costs, leaving limited capacity for analytics initiatives. At the same time, small teams struggle to build and sustain analytics capabilities due to limited headcount, competing priorities, skills gaps, and challenges in attracting, developing, and retaining auditors with both technical and traditional audit skills.

- **Technology Infrastructure**

Even with investments in tools and training, small audit teams frequently encounter outdated technology and inconsistent data. Legacy systems and fragmented databases can make basic data extraction difficult, and the lack of centralised data repositories forces auditors to work across multiple systems with differing access protocols and data formats. As a result, a disproportionate amount of time is spent on data management rather than on value-added analysis.

CHALLENGES TO IMPLEMENTATION

- **Data Access and Quality**

Accessing reliable data is a persistent challenge for internal audit teams in small organisations. Barriers include resistance from business units, limited executive support, and technical constraints. Even when data is accessible, its quality is often compromised by incomplete records, inconsistent coding, and poor standardisation. These factors, combined with restricted resources and reliance on implicit business knowledge, limit the effectiveness of analytics efforts.

- **Organisational Buy-In**

Smaller audit teams often struggle to secure the necessary support from management and audit committees to adopt data analytics. Difficulty in demonstrating quick returns on investment and concerns about transparency can hinder buy-in. Unrealistic expectations for immediate results may further weaken support, and without strong executive sponsorship and sustained commitment, analytics initiatives risk being abandoned before their long-term value is realised.

- **The Comfort of Tradition**

Many smaller audit functions continue to rely on traditional methods such as interviews and sampling, mainly due to habit and the proven effectiveness of these approaches. The uncertain returns and substantial upfront effort required for early analytics projects can cause auditors to question their value. Additionally, Chief Audit Executives may favour established audit methods to avoid professional risk if innovative analytics initiatives do not yield clear and immediate improvements.

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STRATEGIES FOR IMPLEMENTATION

While the challenges facing small audit functions are real and significant, they are not insurmountable. The key lies in adopting a pragmatic, incremental approach that recognises resource limitations while still advancing the analytics agenda. The following strategies could be considered by audit functions operating under similar constraints.

Leverage Existing Tools and Technology :
Maximise the use of accessible tools such as Excel, Power BI, and open-source SQL through focused training before investing in specialised analytics software.

Build Targeted Internal Capabilities :
Develop an analytics champion and build team-wide analytics literacy through targeted training and cross-functional knowledge sharing.

Start Small with Quick Wins :
Focus on narrow, high-impact analytics projects that deliver tangible results within short timeframes to build momentum and credibility.

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Focus on High-Impact, High-Risk Areas:
Prioritise analytics on high-value, high-volume, and high-risk areas to maximise impact and strengthen audit credibility.

Partner Strategically with IT and Other Functions :
Leverage IT and business unit expertise to improve data access, reduce effort, and enhance analytics outcomes.

Measure and Communicate Value :
Track and clearly communicate analytics benefits through metrics and success stories to sustain executive support.

STRATEGIES FOR IMPLEMENTATION

The strategies together with their practical applications are summarised and tabulated below.

Strategy	Key Focus	Practical Application	Benefit
Leverage Existing Tools and Technology	Maximise current tools	Use Excel (Power Query, Power Pivot), Power BI Desktop, and basic SQL; provide focused training	Avoids high software costs while enabling meaningful analytics
Build Targeted Internal Capabilities	Develop people, not just tools	Appoint an "analytics champion"; build team-wide analytics literacy; cross-train with IT and finance	Creates sustainable capability within limited resources
Start Small with Quick Wins	Demonstrate early value	Target narrow, high-impact analyses (e.g. duplicate payments, access reviews) within 4–6 weeks	Builds credibility, confidence, and momentum
Focus on High-Impact, High-Risk Areas	Prioritise risk and value	Analyse high-value, high-volume, fraud- or compliance-prone areas	Maximises impact and strengthens audit credibility

STRATEGIES FOR IMPLEMENTATION

Strategy	Key Focus	Practical Application	Benefit
Partner Strategically with IT and Other Functions	Leverage organisational expertise	Collaborate with IT for data extraction and automation; involve process owners	Reduces effort, improves data access, and increases buy-in
Measure and Communicate Value	Sustain support	Track efficiency and effectiveness metrics; share success stories and lessons learned	Maintains executive support and justifies continued investment

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MOVING FORWARD WITH CONFIDENCE

The journey to analytics maturity for small audit functions is challenging but achievable. By starting small, leveraging existing tools, building focused capabilities, and partnering strategically, audit teams can progress despite resource constraints. Analytics adoption is not all-or-nothing—even modest capabilities deliver real value. The real risk is not starting at all.

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REFERENCES

[1] https://www.theiia.org/en/resources/research-and-reports/pulse/