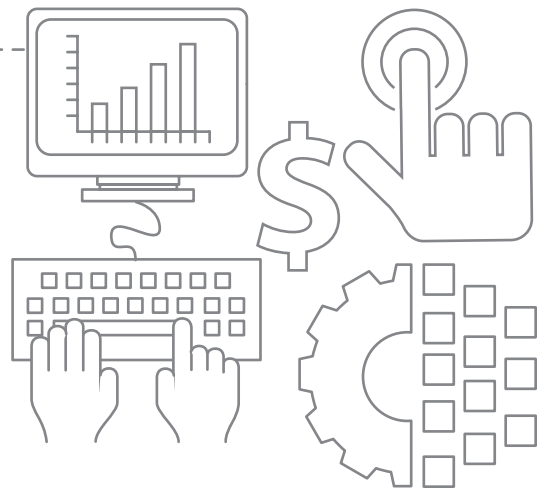


CASE STUDY:**How RSM's intelligent automation solution streamlined a global bank's audit function**

Instead of auditors downloading dozens of reports and digging for relevant information, applying data science to interrogate the data enables audit teams to make better decisions faster, and more consistently, across hundreds of internal controls.

Jim Tarantino, an RSM director focused on risk analytics and automation

**A collaborative approach to implementing machine learning enhanced agility and increased efficiency**

The bank—which has tens of thousands of employees in offices across the United States and internationally—wanted a machine-learning-based approach to audit planning that would not only decrease the time spent scoping audits, but also allow auditors to focus on processes and subprocesses involving the highest risk. Improved audit effectiveness and greater efficiency were equal priorities.

RSM's team of data scientists and an Agile product owner collaborated with the bank's internal audit group to develop a custom machine-learning solution for the organization's enterprise technology environment.

"Instead of auditors downloading dozens of reports and digging for relevant information, applying data science to interrogate the data enables audit teams to make better decisions faster, and more consistently, across hundreds of internal controls," says Jim Tarantino, an RSM director focused on risk analytics and automation.

Results

RSM's team worked with the bank to develop a custom machine-learning solution that would:

- Enable faster planning
- Identify gaps, pain points and inconsistencies in how risk is quantified during the audit planning process
- Incorporate data sources like consumer complaints, regulatory standards and application risk assessments
- Allow the internal audit department to spend less time gathering data and scoping audits and more time on fieldwork

Over the span of 16 weeks, the team developed a custom model using Python, an open-source computing language, to scope the audit in a more data-driven and risk-based way—ultimately proving that data science can enhance the audit scoping process. After RSM completed the proof of concept, the client engaged the team to increase the depth of information accessible to the model by incorporating additional data sources like consumer complaints, regulatory standards and application risk assessments. The resulting solution is usable not only by internal audit, but also by other risk owners such as compliance specialists.

"There were a number of positive outcomes of the process, including faster planning, a focus on the 'right' risks and controls, leveraging 'dark data,' and increased machine-learning accessibility and literacy," says Michael Apmann, national leader for RSM's financial services risk technology practice. "We also started to see collaboration across the lines of defense to share models, ideas and data."

Enhancing agility

Internal auditors face real challenges in scoping and designing an audit, often wading through large volumes of data to fine-tune their focus, particularly in complex cases. While planning is important, the time spent on this initial step can sometimes impede performance of the audit itself—and for the sake of expedience, audit departments frequently fall back on results of prior years' audits without assessing the organization's current risk profile.

Audit departments across the globe are increasingly harnessing technology to streamline and improve this complex and often subjective process. Doing so is especially crucial for banks subject to rigorous regulatory and compliance standards and/or that have integrated internal audit teams with specialized subsectors like

compliance and technology. Aligning opinions and independent risk evaluations within an integrated audit team is a frequent challenge. An intelligent automation solution serves as a truly objective third party that can use data to facilitate conversation and consensus quickly and consistently.

The solution RSM's team developed for this client uses data from control self-assessments, issues, consumer complaints and regulatory standards to help quantify risk within the organization's processes and controls and enable faster, more agile decision making. But the solution wasn't just about tapping into data; use of documentation of team members' daily process flows enabled identification of gaps, pain points and inconsistencies in how risk is quantified during the audit planning process.

Driving scalability

RSM's collaborative approach was another factor that increased agility for the client down the line. The firm used an Agile methodology to facilitate the audit planning project—an approach so effective that the bank's internal audit department sought to apply it to the audit function itself.

The solution RSM helped the bank implement was developed in conjunction with a scheduled audit of retail credit card lending, but can be applied to risk across other aspects of the business. Through its project experience with other big banks, the RSM team understood that to optimize value, the solution would need to be scalable across other business lines, like mortgages and loans.

"We don't have a tool that can just be used by one specific group," says Louis Castagliola, a data analytics manager at RSM. "It can be leveraged across other functions in the bank."

+1 800 274 3978

rsmus.com

This document contains general information, may be based on authorities that are subject to change, and is not a substitute for professional advice or services. This document does not constitute audit, tax, consulting, business, financial, investment, legal or other professional advice, and you should consult a qualified professional advisor before taking any action based on the information herein. RSM US LLP, its affiliates and related entities are not responsible for any loss resulting from or relating to reliance on this document by any person. Internal Revenue Service rules require us to inform you that this communication may be deemed a solicitation to provide tax services. This communication is being sent to individuals who have subscribed to receive it or who we believe would have an interest in the topics discussed. RSM US LLP is a limited liability partnership and the U.S. member firm of RSM International, a global network of independent audit, tax and consulting firms. The member firms of RSM International collaborate to provide services to global clients, but are separate and distinct legal entities that cannot obligate each other. Each member firm is responsible only for its own acts and omissions, and not those of any other party. Visit rsmus.com/aboutus for more information regarding RSM US LLP and RSM International. RSM, the RSM logo and *the power of being understood* are registered trademarks of RSM International Association.