



Rethinking financial services intelligence for the generative AI era

Uncover insights faster, transform productivity, and innovate new experiences for your workforce and customers

This ebook is for decision makers at financial services institutions who are seeking to leverage generative AI to enhance business performance, boost workforce productivity, and offer innovative customer experiences.

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INTRODUCTION

Rethinking data in the generative AI era for financial services

Generative artificial intelligence (AI) has reached an inflection point at which businesses across industries—including financial services—are beginning to transition from theory and pilot projects to real-world applications at scale. With the exponential growth of data, increased availability of scalable computing resources, and the pressure to create market differentiation, generative AI presents a substantial opportunity for innovation and efficiency gains.

Today, financial services institutions are gaining significant traction in several business-critical generative AI use cases, such as automating and enhancing financial crime investigations, delivering hyper-personalized customer experiences that drive growth, and democratizing access to data to drive employee productivity, especially among knowledge workers. While these applications are on pace to bring considerable benefits to the industry, it is important to remember that they only begin to scratch the surface of the potential of generative AI to transform financial services.

To unlock the transformative benefits of generative AI, financial institutions must develop robust strategies and invest in the right tools. This ebook offers guidance on implementing generative AI, explores best practices for maximizing its business value across key areas, and provides insights and lessons from industry leaders.

“Together with AWS, we’re leveraging generative AI to help our people work more efficiently and deliver superior digital experiences to our clients. Adopting Amazon Q Apps will enable our teams to build secure and seamless solutions that create value and differentiation across our business. For example, empowering our teams with access to Amazon Q Apps in just a few clicks will streamline the creation and sharing of applications tailored to their respective needs.”¹

Laura Money, EVP & Chief Information and Technology Innovation Officer, Sun Life

Terms to know

Artificial intelligence (AI):

The field of computer science dedicated to solving cognitive problems commonly associated with human intelligence, such as learning, creation, and image recognition.

Generative AI:

A type of AI that can create new content and ideas, including conversations, stories, images, videos, and music. It is powered by large models that are pretrained on vast amounts of data, commonly referred to as foundation models (FMs).

Machine learning (ML):

The science of developing algorithms and statistical models that computer systems use to perform tasks based on patterns and inference rather than explicit instructions. ML is a subset of AI and the foundation of generative AI.

Foundation model (FM):

An ML model that is pretrained on large amounts of data to power generative AI applications. It may contain billions of variables that enable it to learn complex concepts.

Large language model (LLM):

An ML model that is trained on trillions of words so it can recognize, translate, predict, and generate text, images, music, and other content.

Responsible AI:

The collective term for policies and actions designed to promote the responsible development, deployment, and use of AI. Responsible AI may include testing and assessment procedures that help define, measure, and mitigate concerns about fairness, intellectual property (IP), appropriate use, toxicity, and privacy.

START WITH A DATA STRATEGY

Building a solid strategic foundation for generative AI

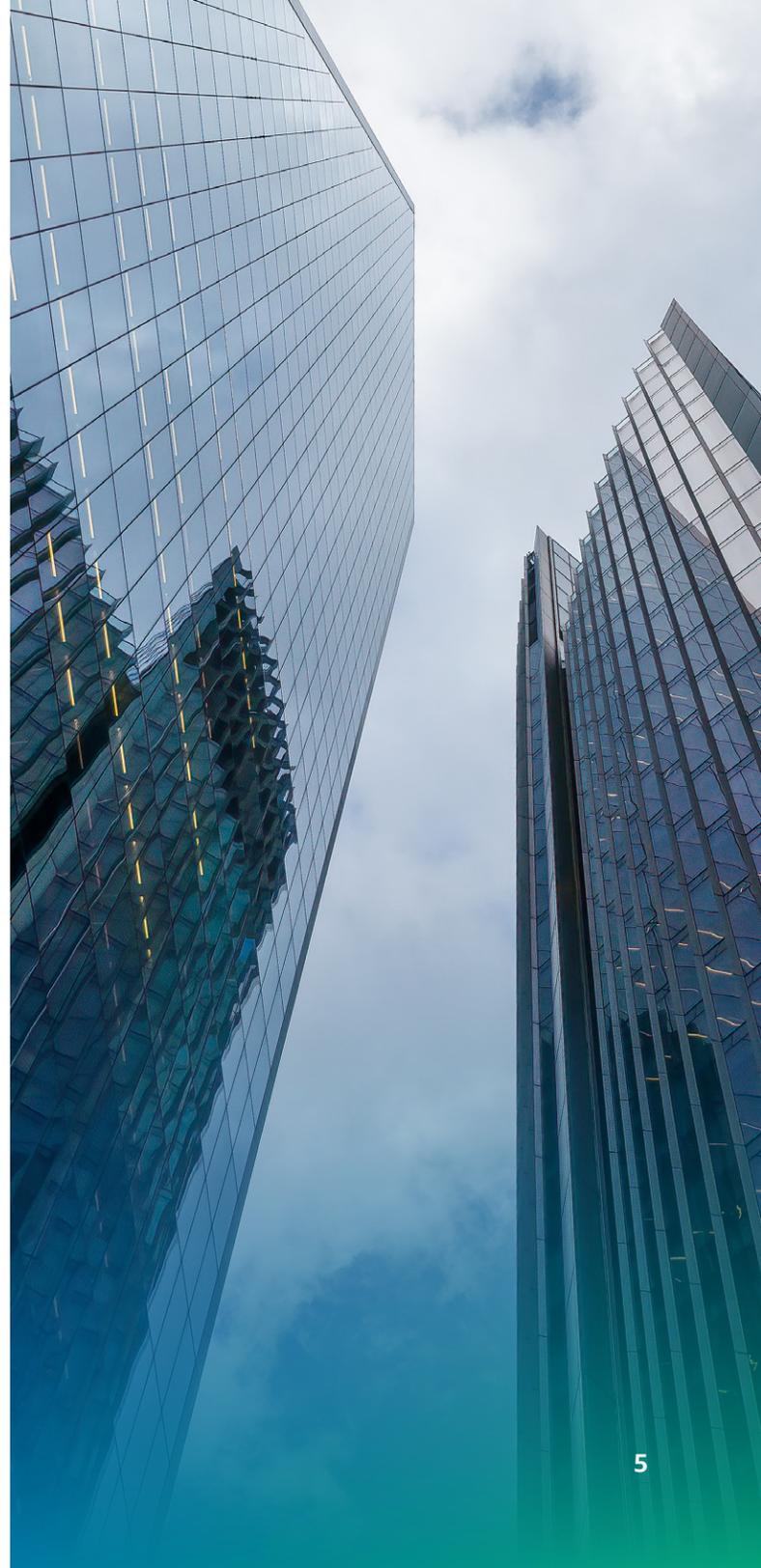
Developing the right strategy is essential to successful generative AI adoption. A proper strategy can help you identify your ideal use cases, achieve quick wins to build momentum, maintain stakeholder support throughout challenges, and continuously measure and iterate to drive increasingly impactful results.

The specifics of your generative AI adoption strategy will vary according to your institution's unique needs. However, one best practice is virtually universal; an end-to-end lifecycle should live at the core of your larger strategy. This practice helps ensure that you can unify data from disparate sources and transform it into high-quality, structured datasets that can then be used to train the FMs that power generative AI applications.

Leveraging a comprehensive data strategy as the foundation for your generative AI implementation will help you deliver the highly accurate market predictions and relevant financial insights your workforce requires and your customers demand. Further, it can help to build trust for generative AI solutions across your organization and client base—driving smarter financial decisions and a competitive advantage for your services.

The right data strategy for generative AI includes a comprehensive set of services to store and query data at scale, breaks down silos to provide access to all the data needed for generative AI applications, and makes sure your data is secured and governed throughout the generative AI lifecycle.

In addition, your strategy should consider various “human-in-the-loop” scenarios that add manual review steps to the generative AI workflow. This will help you address potential risks, improve security, and maintain compliance.



THREE AREAS OF VALUE

Maximizing the value of generative AI in financial services

Early generative AI use cases in financial services have focused on streamlining and enhancing elements of the value chain where AI had already demonstrated clear value. With LLMs rapidly evolving—and confidence in AI growing—the industry is beginning to explore broader adoption.

Today, innovative financial institutions are beginning to implement use cases that can yield transformative results—not only for the institutions themselves but also for their workforces and customers.

The following sections explore how this cutting-edge technology can drive innovation and elevate your business across three key areas:



Improve accuracy and efficiency of financial crime detection and investigation



Democratize access to data to boost employee productivity



Deliver hyper-personalized customer experiences

Amazon Web Services (AWS) can help your financial institution maximize the value of generative AI across these areas and more.

AWS generative AI solutions

Amazon Q uses generative AI to provide your workforce with relevant information and advice based on your company's information and systems. Employees can simply chat with Amazon Q in natural language to solve problems, generate content, and immediately act on the answers they find.

Amazon Bedrock is a fully managed service that offers a choice of high-performing FMs from Amazon and leading AI companies, along with a broad set of capabilities to build generative AI applications with security, privacy, and responsible AI.

Improve accuracy and efficiency of financial crime detection and investigation



In the face of growing transaction volumes and attack vectors, traditional ML solutions are being deployed to flag potentially fraudulent and illegal transactions. However, the investigation of flagged transactions (many of which are false positives) remains a highly manual, time-consuming, and expensive process.

Financial institutions want to increase investigation efficiency through automation. This, in turn, would allow financial crime and compliance teams to redirect resources to prioritize anti-money laundering (AML) typologies. These include structuring, which involves depositing cash in smaller amounts to avoid reporting requirements, and smurfing, which involves splitting large sums of money into smaller, more easily concealable amounts of illegally obtained funds to avoid detection by authorities.

With generative AI, you can expand automation that improves efficiency and empowers financial crime investigators and compliance analysts to handle growing workloads and increasingly complex investigations.

Reduce false positives and improve investigator productivity with AWS

Amazon Bedrock can help you expedite investigations into potential fraud or AML violations. Leveraging semantic search and automatic summarization of relevant sources, your investigators can rapidly ascertain whether flagged incidents constitute financial crimes or compliance breaches.

AREA #1: FINANCIAL CRIME DETECTION AND INVESTIGATION

Example use cases

Compliance and financial crime investigation

Automates research into cases that have been flagged for potential fraud or compliance breaches.

Fraud prevention

Determines how a range of payment methods are likely to be used in a particular geographic region or by a specific customer group, indicating where further investment may be required.

Genpact, a global professional services firm, integrated its cloud-based financial crime suite, riskCanvas™, with [Amazon Bedrock](#) to accelerate efficiencies and impact for clients such as Apex Fintech Solutions.

“Financial criminals are constantly innovating, which means financial services companies need to use advanced digital technologies to stay one step ahead of them. With the addition of generative AI features to Genpact’s riskCanvas™, our analysts will be able to produce Suspicious Activity Report (SAR) narratives and case summaries at the click of a button using inputs from millions of data points. We expect this will reduce time spent on case summarizations by 60%, allowing our analysts to spend more time identifying truly suspicious financial activity.”²

Justin Morgan, Head of Financial Crimes Compliance, Apex Fintech Solutions

“Data complexity and volume, false positives, and evolving sophisticated criminal tactics are accelerating the need for businesses to harness generative AI to transform financial crime operations. Genpact’s expanded relationship with AWS represents a pivotal step in redefining the operations landscape for enterprises. Together we can unlock untapped value, and fuel significant growth opportunities for our clients, solidifying our commitment to delivering valuable business impact.”²

Balkrishan “BK” Kalra, President & CEO, Genpact

Democratize access to data to boost employee productivity



Generative AI can save your workforce valuable time by accelerating and automating essential tasks, such as processing claims, searching multiple databases and systems to find information on a customer or account, and repairing records by correcting typos and filling in missing fields.

In addition, knowledge workers can use generative AI to work through lengthy or complex documents faster and with greater ease. Investment analysts, for example, can research investment strategies using large datasets to create charts and visuals. To build differentiated investment strategies, they spend significant time writing code to visualize aggregations that pull from large datasets. Similarly, insurance claims professionals analyze unstructured lawsuit texts to create coverage proposals and determine insurance coverage. This time-consuming process can delay claims processing and onboarding of new claims professionals.

Generative AI can help you democratize access to data and analytics by providing a natural language interface for analysts and business users to produce charts and tables in response to natural language queries. In addition, it can summarize unstructured documents into key points, provide answers to

queries about them within the unique contexts of your business, and surface information buried within or scattered across documents—faster and more accurately than the rules-based systems.

Achieve next-level productivity with AWS

Using Amazon Q, your workforce can reduce time spent searching for information and answers to client questions—enabling them to complete tasks faster, provide superior customer service, and put time back in the day to pursue strategic initiatives.

With Amazon Bedrock, you can develop solutions for a wide range of productivity-boosting generative AI use cases—including text and image search and text summarization.

For example, with **Claude** in Amazon Bedrock, investment analysts and insurance claims professionals can create flexible solutions to accelerate tasks, such as systematically stress-testing hypotheses or reviewing lawsuits to determine coverage eligibility. By automating research and discovery steps, generative AI empowers users to focus on core analysis and decision making.

AREA #2: PRODUCTIVITY

Example use cases

Market research and company analysis

Extracts key information from financial documents and news—such as company outlook, key players, products and services, customers, suppliers, and relationships—for equity, fixed-income, and investment banking analysis.

Presentation draft

Enables investment analysts, bankers, and insurance professionals to quickly generate standard presentation decks and research theses—then customizes them with specific details to create final presentations much faster.

Sentiment and topic modeling

Builds quantitative strategies using textual data across news, filings, earnings, call transcripts, and social media. Uses the same signals to alert discretionary traders to new opportunities and risks.

Digital assistant for risk analysis

Automatically reviews and summarizes financials for borrower, collateral, trading, counterparty, and more. Summarizes key elements from financial docs, such as SEC filings, loan documents, and collateral valuation.

Lending and credit decisioning

Fine-tunes LLMs in [Amazon SageMaker](#) and Amazon Bedrock—then integrates them with a knowledge graph and [Amazon Kendra](#)—to support the lending and credit decisioning process.

Investment management compliance

Automates the process of checking for compliance with investment management agreements (IMAs) without delaying the change of investment mix in the clients' accounts, for example, in response to volatile market conditions.

Underwriting

Summarizes and evaluates large documents, such as medical files or accident reports, reducing the need for underwriting assistants.

Claims processing

Replaces manual review of documents with summarization of documents for claims professionals—potentially with next best action suggestions.

Agent experience

Uses natural language processing (NLP) models to transcribe and summarize customer calls more effectively than previous technologies.

Allows contact center agents to look up information faster and search past tickets that were previously unfindable. Assists quality assurance (QA) teams to understand tickets better and score tickets faster.

AREA #2: PRODUCTIVITY



Bridgewater Associates built an investment analyst assistant using Amazon Bedrock and Anthropic's Claude

Using generative AI on AWS, Bridgewater Associates:

- Created a secure LLM-powered investment analyst assistant that generates elaborate charts, computes financial indicators, and creates summaries based on minimal and complex instructions
- Accelerated manual steps of the research process
- Enabled analysts to spend more time on understanding markets and economies
- Allowed more staff members to interact directly with their data assets

“Claude is the highly capable model behind our upcoming Investment Analyst Assistant on Amazon Bedrock, which is able to take basic instructions, generate Python code, work through errors, and output charts and tables much like a first or second-year analyst would.”³

Aaron Linsky, CTO - AI/ML, Bridgewater Associates



AREA #2: PRODUCTIVITY



Trustly unleashes data-driven insights to boost decision making agility

Trustly, a global leader in open banking payments, wanted to modernize its data analytics capabilities and become more data-driven. It deployed **Amazon QuickSight** and **Amazon Q in QuickSight**, a generative business intelligence (BI) assistant, to make it simple to build and consume insights.

Results achieved include:

- Empowered users to self-serve their data and insights for faster insight and decisions
- Freed-up technical team resources for other priorities by reducing the number of query requests
- Gained the ability to update dashboards with near real-time data every 15 minutes versus 3 times a day
- Recorded 89% response accuracy for more than 15,000 questions submitted over the first 6 months

“Using Amazon QuickSight, users can access data in the appropriate format at the right time, facilitating quicker decision-making and fostering stronger merchant relationships.”⁴

Ricardo Oliveira, Director of Data Analytics, Trustly

AREA #3: HYPER-PERSONALIZED EXPERIENCES

Deliver hyper-personalized customer experiences



According to Accenture, only 23 percent of consumers rated their main bank highly for the competency of its personalized financial advice.⁵ Research also suggests that most customers would be willing to buy more from their primary bank if they were to receive personalized offers.⁶

Generative AI enables hyper-personalization at scale, which can help to improve customer satisfaction and support revenue growth. Imagine providing content and advice tailored to your customers' unique needs, goals, appetite for risk, and other factors they control. This could drive greater financial confidence for customers—and long-term loyalty and trust in your institution.

Transform financial services experiences with AWS

With solutions like Amazon Bedrock and Amazon SageMaker, you can build robust generative AI capabilities that deliver revolutionary hyper-personalized experiences for customers.

Your workforce can leverage generative AI as a creative assistant that helps them explore new ideas and create hyper-personalized content—such as financial plans, marketing materials, and smartphone alerts. By using generative AI, these materials can offer a deeper level of personalization and be created far faster than is possible with rule-based AI tools. Customers can then use that content to make smarter financial decisions—while further enjoying new experiences through the generative AI capabilities you add to customer-facing applications.

With Amazon Bedrock, financial services professionals can access leading FMs and LLMs to help them engage with customers at the right time with the right content. Additionally, they can learn from feedback and data so they can optimize call center scripts over time and incorporate customer feedback into business operations.

AREA #3: HYPER-PERSONALIZED EXPERIENCES

Example use cases

Contact center

Helps agents engage with customers at the right time with the right content and learns from feedback and data to optimize contact center scripts over time and incorporate it into business operations.

Digital assistant

Empowers customers with digital assistants that generate real-time financial advice based on the data, goals, and parameters that they define.

Financial planning

Delivers insights on key financial parameters—such as retirement age, savings, spending, investment behaviors, and future financial goals. Uses these insights to create customized financial plans that enable your advisors to engage more effectively and efficiently with customers and deliver hyper-personalized advice.

Lead generation and client acquisition

Targets customers with personalized messaging and mines structured data to surface qualified leads.

Financial planning and recommendations

Delivers insights on key financial parameters—such as retirement age, savings, spending, investment behaviors, and future financial goals. Uses these insights to create customized financial plans that enable your advisors to engage more effectively and efficiently with customers and deliver hyper-personalized advice. Produces next best actions that are tailored to the goals of the client, enabling your advisors and agents to better serve customers.

Claims intake

Deploys human-like conversational chatbots for property and casualty (P&C) or life claims submissions and initial evaluations. Triggers an automated claims process and requests additional data and documents as needed.

Payment integration visibility

Quickly understands how customers' previous payment methods have been integrated—and how they can integrate new methods more rapidly.

AREA #3: HYPER-PERSONALIZED EXPERIENCES



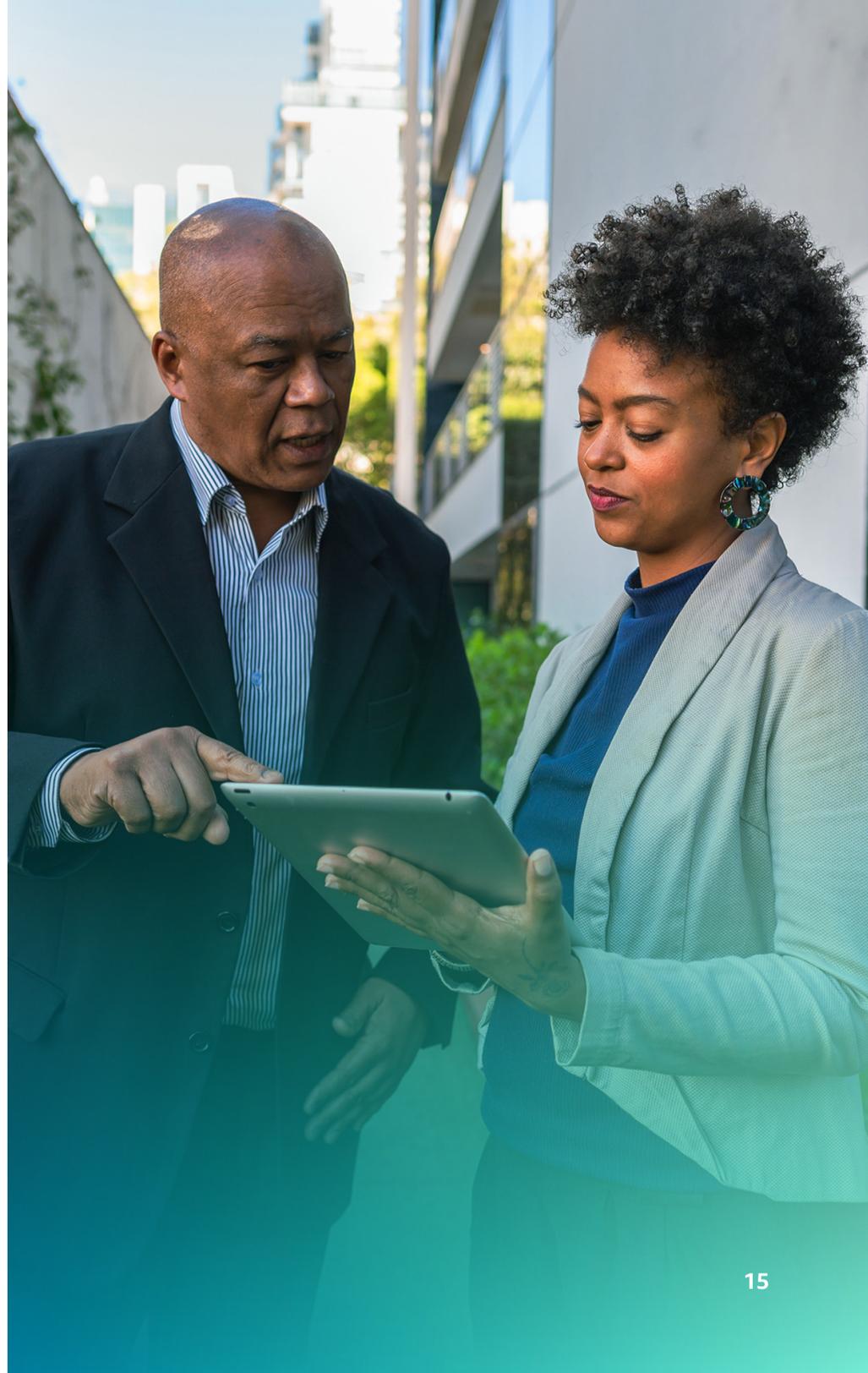
NatWest hyper-personalizes customer experiences

Using generative AI on AWS, financial services leader NatWest:

- Hyper-personalizes its marketing messages
- Achieved a four times increase in click-through rate on messages generated by LLMs
- Yielded a **900 percent increase** in high-interest-rate account applications

“We’re doing prompt engineering in the background to generate our content and create the content specifically for our customer sets.”⁷

Zachery Anderson, Chief Data & Analytics Officer, NatWest



CONCLUSION

Maximize the business value of generative AI for your institution

Leveraging generative AI can unlock transformative results for your organization, workforce, and customers.

Your financial institution can lay the foundation for generative AI success by starting with a robust data strategy. From there, you can use generative AI to uncover valuable insights, enhance productivity and revenue, and craft new, engaging experiences for both employees and customers.

Solutions like Amazon Q and Amazon Bedrock can help you progress along this journey—and optimize the benefits of generative AI as you explore new applications.

By embracing the capabilities of generative AI today, your institution will be better positioned to meet the ever-growing expectations of modern consumers. As the financial services sector forges ahead into the generative AI era, AWS stands ready to help you leverage this game-changing technology to transform your services and business in ways never before possible.

[Get started with AWS for Financial Services ›](#)

[Learn more about AWS generative AI for financial services ›](#)