



GenAI: How Will it Impact Risk & Compliance?

2024 Banking & Financial Outlook

GenAI How Will It Impact Banking Risk & Compliance?

E-BOOK

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INTRODUCTION

Customers and stakeholders predominantly identify banking and fiduciary organizations as custodians of their assets and finances. However, the risk-ridden climate of the global banking and financial structure frequently alters customers' trust and perception of safety. For several reasons, the banking crisis of 2023 will go down in the history book of financial and economic disasters.

The Silicon Valley Bank's (SVB) disintegration gravely affected tech and venture capital (VC) firms and is the largest banking failure since Washington Mutual in 2008. The incident is a loud wake-up call for regulatory and technological interventions to transform risk and compliance management in the banking and financial services industry.

With the SVB collapse in mind, two crucial questions arise: Can U.S. banking and financial companies avert future crises, and can implementing technologies like GenAI play a pivotal role in preventing further downfall by effectively managing risk and compliance activities?

According to conventional wisdom, modern banking and financial firms are advanced enough to notice risks that eventually lead to bankruptcy. However, an analysis of the SVB collapse reveals that the root cause is beyond the lack of diversification in its investment portfolio and a bank run.



Risk management and regulatory compliance oversights are among the several variables that led to the recent SVB exodus.

Generative AI (GenAI) tools are already making a significant impact, enhancing productivity across various banking processes and improving customer relations. The adoption of GenAI across different risk and compliance management functions is poised to be a game-changing breakthrough for the banking and financial services industry.

This e-book explores GenAI's potential impact on banking risk and compliance management. We will be uncovering critical insights on:

- State of Banking Risk & Compliance in 2024
- GenAI & Types of GenAI Models
- Typical GenAI Use Cases in Banking & Finance
- GenAI Operating Model Archetype for Banking & Finance
- GenAI Adoption across Risk & Compliance Operations

CONTENTS

Introduction	01-02
Chapter I The State of Banking Risk & Compliance: Still Waters Run Deep	04-09
Chapter II Magic of (GenAI) Models	10-16
Chapter III An Expanse of Possibilities: GenAI Use Cases in Modern Banking & Finance	17-24
Chapter IV Navigating Deep Waters: GenAI Operating Model Archetype for Banking & Finance	25-28
Chapter V GenAI in the Wonderland of Banking Risk & Compliance	29-40
Conclusion	41-42
References	43-44

STATE OF BANKING RISK & COMPLIANCE: STILL WATERS RUN DEEP



Have you ever heard the expression, ‘*Still waters run deep*’? The phrase underscores the idea that appearances can be deceiving. Underneath the calm and stable exterior, banking and financial services firms perpetually grapple with complexities that impact earnings, profitability, and customer satisfaction. These include evolving regulatory scrutiny, cybersecurity risks, inflationary pressures, geopolitical impacts, and recent sustainability demands.

Behind the scenes of shaping the economy through their principal services, credit lending, and investment operations, uncertainties and ambiguity lurk as troubled waters. American banking failures are not recent occurrences. They have roiled and ravaged the economy even a century ago while investors, the public, and analysts missed high-alert signs of instability.

During the Great Depression, over 9,000 banks, including the largest (contd)

CHAPTER I

Between 1996 and 2006, the average annual banking failure was \$4.3 billion. This decreased to \$3.6 billion between 2015 and 2022. Reflections on the past crisis expose several reasons for failure. The common denominators include bank runs, too many bad loans, depreciated asset values, and mismatched assets and liabilities.

and most stable institutions suffered a meltdown, losing more than \$1.3 billion, which equates to \$27.4 billion in today's dollars. The SLV collapse is also attributable to the loss of value of government bonds due to the Federal Reserve's sudden interest hike, increased customer withdrawals, and the sale of its entire bond portfolio at a loss.

Storm Beneath the Surface

Two days before SVB was closed by the California Department of Financial Protection and Innovation, it announced that it would raise capital of \$500 million from General Atlantic and another \$1.2 billion by selling its stock. This projected a positive sign, indicating more investments and capital into the bank's business. The news was before another leading banking firm, Silvergate, announced its shutdown. On March 9th, SVB's stocks plummeted 60%, and VCs and startups began pulling out their money, recording a historic withdrawal of \$42 billion within a day!

However, a few years ago, there were no tell-tale signs pointing to a potential collapse. SVB was a prominent source of private banking and finance for VC-backed healthcare and technology firms in the U.S. During the first quarter of the pandemic in 2020, SVB had \$60 billion in total deposits, reaching \$200 billion in 2022. With increased deposits, SVB invested in U.S. treasuries and mortgage-backed securities.

CHAPTER I

The impact had a domino effect on SVB clients, who were VC groups and entrepreneurs, mainly startups and tech companies. VCs had to hold back funding to support startups and smaller businesses, curbing innovative and fresh ideas.

State of the Banking Risk and Compliance in 2024

Banking industry experts and analysts say that the SVB failure is comparable to the Great Recession, which unleashed several storms from beneath its surface. To understand the resonance of the analogy—*still waters run deep* with the state of banking risk and compliance management—here’s a recent example.

Against all odds, U.S. bank profits increased by 79.5% to \$64.2 billion from non-interest earnings as large banks agreed to pay provisional fees to recover banking failures from last year. Despite a promising quarter, Chairman Martin Gruenberg of the Federal Deposit Insurance Corporation (FDIC) warned in a statement that the ‘reduction of loan portfolios continues to warrant monitoring.’ That’s not all; for the rest of the year, banking and financial services companies must endure these risk and compliance challenges:

1 Dipping Trust in the Banking and Financial Structure:

A recent study on the public evaluations of the economy and state of the nation signals lowering consumer confidence in U.S. monetary systems. Nearly 36% of Americans are concerned about the banking and financial industry’s stability, and over 56% believe that banking and financial institutions are negatively influencing the country.

Depletion of the public's trust is a negative sign for banks and financial services firms, which may result in revenue losses and damage to the brand's reputation.

2 Increasing Regulatory Pressures:

After the SVB collapse, regulators revised standards and announced proposals like the Basel III endgame to tighten credit lending, increase reserves, and maintain high-quality assets for large banking companies. The proposals also apply to small and medium-sized firms having high operational costs. It aims to build risk resilience and attract investor funding.

Additionally, Federal Agencies will exercise regulations, scrutinize banking mergers, and conduct stress testing to evaluate financial stability and preparedness for market fluctuations and several risk scenarios. More regulations will go into effect next year. However, banks and financial institutions must reflect and plan to act on the proposals to prevent non-compliance risks.

3 Increasing Compliance Obligations:

Climate disclosure is the latest addition to banking's ever-growing compliance checklist. The U.S. Securities Exchange Commission's (SEC) final rule on climate disclosure, California's law to include Scope 3 emissions, and the confounding introduction of anti-ESG bills in a few states will add to compliance obligations.

4

Balancing Innovations & Consumer Protection:

The banking and financial industry also await comprehensive regulatory guidance to monitor and optimize technology innovations such as AI, GenAI, and distributed ledger technology (DLT). Concurrently, regulatory agencies like the Consumer Financial Protection Bureau (CFPB) enforce laws to safeguard consumers' interests with increased supervision to limit threats from biased, discriminatory, and unfair AI models.

Banks are left to balance innovation and consumer protection amid the commercialization of AI and GenAI tools.

5

Advancing Threats & Cybercriminal Activities:

Dependencies on third-party vendors and service providers to meet digital and online banking service demands increase banking systems' vulnerability to cyberattacks. Also, banks' interconnected architecture and volume of sensitive data and financial transactions make them an attractive target for cybersecurity threats.

Cybersecurity attacks have increased twofold since the pandemic, leading to heavy financial losses and legal penalties. Banking and financial authorities must prepare for unexpected risks across their systems and networks. As threats advance with novel technologies like machine learning, firms are tasked with exhaustive assessments, adaptations, and investments to protect their assets, value, and brand reputation.

6

Fourth-party Risks:

Beyond the intricate web of vendors, service providers, and contractors in the banking industry is a high concentration of fourth-party risks. Fourth parties can invite a slew of operational, compliance, financial, and cybersecurity risks. Regulators have also made it compulsory for banks to follow up on their vendor management programs to include fourth parties and associated risks.



1. Dipping Trust in The Banking & Financial Structure



2. Increasing Regulatory Pressures



3. Increasing Compliance Obligations



4. Balancing Innovation & Consumer Protection



5. Advancing Threats & Cyber Criminal Activities



6. Fourth-party Risks

MAGIC OF (GENAI) MODELS

Generative Artificial Intelligence (GenAI) has become an intrinsic part of digital banking and financial services. Within a year of its introduction, GenAI spawned the most ambitious productivity-led agenda across the operational and financial value chain. In the banking sector, GenAI's total potential added value ranges between \$200 and [\\$340 billion](#), which is nearly 3% to 5% of its total market revenue.

In 2024, as GenAI advances by training more datasets to predict outcomes the same way a human would, banks must leverage it in areas they struggle to account for—risk and compliance. This also means that risk and compliance teams must ensure that GenAI adoption fulfills its objectives rather than becoming a detractor with faulty models ridden with errors and biases.

Navigating the troubled waters of banking risk and compliance management necessitates thoroughly exploring GenAI's cognitive task automation, decision-making processes, and customer interaction capabilities.

Models dictate the transformative potential of GenAI adoption. Therefore, understanding AI models and governing associated risks precedes GenAI deployment in any industry.

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TYPES OF GENAI MODELS

GenAI models are foundational models that use neural networks to detect patterns in existing data to generate text, image, code, video, audio, and chat outputs. GenAI models are tailored to address domain-specific tasks by tweaking the machine learning algorithms and model structures underneath them. Let's uncover the magic of the models powering GenAI:

1. **Generative Adversarial Networks (GANs):**

GANs have two essential components which are a generator network and a discriminator network. The generator network generates data that is close to realistic data samples, and the discriminator network differentiates synthetic data from authentic data. GANs are typically applied in areas that require high-quality synthetic data for research and development analysis.

2. **Variational Autoencoders (VAEs):**

This model combines probabilistic modeling and autoencoders to derive a compressed data representation. It uses encoder-decoder architecture to map data into latent spaces and build it back into the source. VAEs train data to reduce errors in data reconstruction and standardize its distribution in the latent space. It is applied across realistic image generation, data compression, and anomaly detection use cases.

3. **Diffusion Models:**

Diffusion models help create fresh data using trained data and teach how to reverse the process. They are trained with the help of clear image sets to which noise is applied to blur the image to introduce variation.

The learning pattern of this model allows it to reverse the blur or remove the noise to recreate a clear image output. Diffusion models are applied in areas where there is a requirement to generate state-of-the-art images.

4. Flow-based Models:

These models have been popular for their ability to create high-quality, tractable, and invertible output. They are trained to learn what's underneath the dataset by understanding the probability distribution of dataset values and events. Once the model understands the probability distribution, it can create output with similar statistical properties and other features of the original dataset.

5. Transformer-based Models:

Transformer based models are based on deep-learning architecture and applied mostly in natural language processing (NLP) activities.

A transformer-based language model called Generative Pre-trained Transformer (GPT) can generate contextually accurate text outputs when provided with input prompts. Transformed-based models are applied in NLP tasks that involve answering a question prompt, translating a language, and summarizing.

6. Large Language Models:

Large language models (LLMs) are deep learning foundation models that use transformer models and have at least one billion parameters. LLMs are closely related to GenAI as their model architecture helps understand and generate text-based content. LLMs are applied in tasks that require NLP like content translation, classification, summarization, and sentiment analysis. WWW.ITECHGRC.COM

Efforts beneath the (GenAI) Model Magic

The most popular GenAI applications include language translation, text generation like codes and essays, custom music and video footage creation, 3d image and illustration generation, synthetic data creation, and more. Here's what makes GenAI models effective in understanding patterns and information within large datasets:



- 1. Choosing the Right Datasets:** Datasets determine the type and quality of output. So, while training a specific GenAI model, the developers must accurately define what type of data, such as images, audio, text, or video, must be generated based on the datasets the model is trained on.
- 2. Cleaning Datasets:** Since models train on large and diverse datasets, it is important to feed only the clean and relevant data, which is free of errors and inaccuracies.
- 3. Selecting the Right Model Architecture:** While users can testify to the benefits of various GenAI model architectures, such as GANs,



transformers, and VAEs, each has specific benefits and shortcomings. They cannot be applied interchangeably; therefore, the right model architecture impacts the datasets and output.

4. Simplifying Model

Implementation: It involves creating neural networks, layers, and codes to implement the chosen model architecture, frameworks, and libraries with in-built components.

5. Model Training: Successful models depend on how well they are trained on datasets and on setting the right parameters for GenAI outputs. Model training is time-consuming and resource-consuming. It is dependent on the quality, complexity, and size of the datasets. It requires continuous monitoring of the model's progress and frequent adjustments to match end objectives.

6. Changes and Iterations: To ensure model accuracy, frequent changes and iterations based on user feedback and model enhancements with better quality datasets and training methods are necessary.

BYOM: The New Wave of Custom-built GenAI Models

Industry-leading initiatives like IBM's watsonx.ai™ are pioneering the Bring Your Own Model (BYOM) capability, allowing organizations to develop custom GenAI models tailored to specific risk and compliance needs. This approach enhances control, transparency, and governance over AI implementations, crucial for maintaining regulatory compliance and operational integrity.

BYOM is a step up from third-party model implementation, built on IBM's core principles of an open, trusted, targeted, and empowering approach to AI.

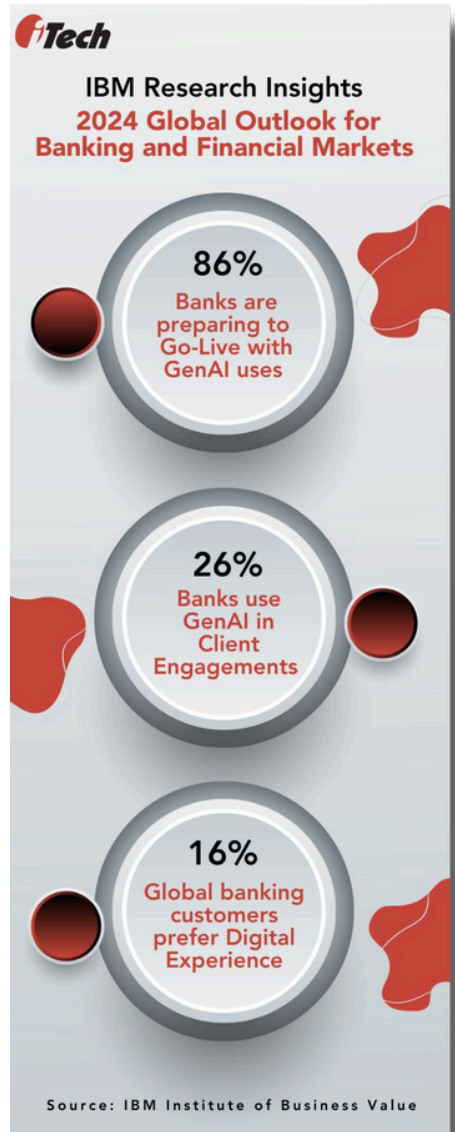
Watsonx's in-built AI and data platform helps developers tweak and train foundational models with end-to-end governance and integrate them into cloud-based enterprise apps or data platforms. The watsonx.ai 1.1.4 release will accelerate the development and deployment of custom foundation models to accomplish unique and domain-specific GenAI tasks.

AN EXPANSE OF POSSIBILITIES: GENAI USE CASES IN MODERN BANKING & FINANCE

Despite several fears looming on GenAI misuse and risky models, banking and financial leadership prefer to 'bank' on its unprecedented opportunities to *replace legacy banking with nimble solutions, re-imagine customer experience, and boost employee productivity.*

The banking sector alone constitutes 54% of the industry with the highest automation potential. Early adopters of GenAI explored and scaled promising use cases across sales, marketing, and customer services functions.

The recent study by IBM Institute for Business Value's 2024 Global Outlook for Banking and Financial Market also shed light on current banking scenarios employing GenAI approaches. The research surveyed 600 banking executives



and conducted an in-depth investigation of GenAI's impacts on banking and other success strategies. The insights revealed that LLM-based GenAI is not a fleeting trend.



GenAI models enable it to produce prolific content and streamline creative, engineering, research, and analysis workflows for use cases across industries and functions.

Chatbots & Virtual Agents

Use Case 1

Conversation, Behavior & Feedback Analytics

Use Case 2

In-bound Customer & Employee Assistance

Use Case 3

Customer Service Personalization

Use Case 4

Code Generation & Suggestion

Use Case 4

Workflow Automation

Use Case 5

Banking and financial services companies can witness GenAI's potential for (39%) automation and (34%) augmentation!

SOURCE:
ACCENTURE

Impact of GenAI on Banking Customer Services

GenAI innovations in customer-facing applications have revolutionized traditional banking services by:

- **Transforming client relationships.**
- Introducing **non-traditional banking alternatives** for fully digital services.
- Reducing **customer attrition rates** with frictionless banking solutions.
- **Replacing human interfaces** with responsive and 'conversational' AI assistants to resolve inbound queries.
- Initiating **meaningful, personalized banking** at a large scale.
- **Hyper-personalizing investment guidance** aligned with their risk appetites and financial goals.
- **Uncovering and fixing customer pain points** across digital and mobile interactions.

Impact of GenAI on Banking Productivity & Innovation

Digitization in the post-pandemic era catapulted automation initiatives across the banking value chain. Amid the ongoing GenAI era, the technology is a great productivity enhancer with a 30% potential that can drive revenue growth by 600 basis points and increase return on equity by 300 basis points.

Banking and financial services companies can witness GenAI's potential for (39%) automation and (34%) augmentation right from the C-suite level to the front lines of services. Let's explore GenAI-led productivity gains across banking operational areas.

1 Routine Task Automation: For starters, 41% of U.S. banking employees are engaged in roles with the highest scope for automation. Routine banking operations that are low-value and repetitive, such as teller services, data entry, customer onboarding operations, and other tasks that require engaging with customer data. They have the highest scope for human errors and are resource-intensive. GenAI algorithms that enable cognitive abilities can automate routine tasks, improving operational efficiency in banking.

2 Augmenting Decision Makers' Efforts: A chunk of banking operations involves working with an investment portfolio and financial participants to analyze financial opportunities, present and future market predictions, credit decisions based on customer profiles, and more. GenAI, utilizing machine learning that is trained to learn patterns and provide nuanced insights on customers' creditworthiness and loan repayment capabilities, helps leaders and decision-makers deliver to their roles and augment their efforts with accurate analytics and predictions.

3 Improving Sales and Cross-selling Efforts: Sales and customer service executives spend significant time interacting with customers, introducing new products and services, responding to their queries, and preparing documentation. GenAI automation with conversational agents and chatbots can handle most customer interactions without human assistance. GenAI-led automation and customer analytics capabilities double up as sales and cross-selling tools.

4 Fraud detection: GenAI tools can monitor financial operations closely and probe the details to spot anomalies, errors, discrepancies in reporting, manual oversights, and unusual patterns and uncover and combat fraud.

5 Regulatory Compliance: Banks and financial institutions can use GenAI to verify and fulfill their firm's overall compliance with relevant laws. GenAI can also automate compliance management processes, workflows, and documentation performed by human resources and replace them with live agents to prevent penalties.

6 Emerging Risk Management: Banking systems can run simulation checks across systems using GenAI to test risk management practices and optimize tasks. GenAI-led capabilities help sift through massive banking databases and systems, interact with stakeholders, and hold important business and financial data to conduct risk assessments.



1. **Routine Task Automation**



2. **Improved Decision Making**



3. **Enabling Sales & Cross-selling Tasks**



4. **Fraud Detection**



5. **Regulatory Compliance**



6. **Proactive Risk Management**

**How
GenAI Accelerates
Lending
Tasks?**

Over the next three years, early adopters of GenAI will witness a 30% productivity improvement. GenAI will also drive the revenue growth up by 600bps. **SOURCE: ACCENTURE**

Use Case 1

**Customer
Verification &
KYC**

Use Case 2

**Loan
Underwriting**

Use Case 3

**Credit
Scoring &
Risk
Evaluation**

Use Case 4

**Loan
Application
Automation**

Use Case 5

**Customer
Service
Personalization**

6 Ways GenAI Bolsters Customer Service Personalization

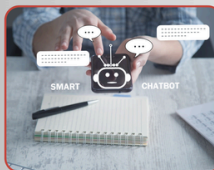


**Personalized
Interactions**



**Personalized
Onboarding**

**Chatbots,
Self-service &
24/7 Support**



**Personalized
Financial Advice**

**Investment
Recommendation**



**Automated
Updates**

How is GenAI Increasing Value Innovation in Banking

Opportunities for innovations across back-office operations, digital banking services, loan processing, documentation, and investment recommendations are endless because GenAI is packed with promises. Key technologies and model's framework of GenAI accelerates value innovation in banking and financial services with:

- **Quick Product Development:** GenAI scale banking software development through code generation, documentation, testing, and deployment. It makes it easier to build innovative products and services and time-to-market.
- **Product Modernization:** Preliminary codes in GenAI tools help modify and add new product enhancements without depending on technical and development teams. Moreover, GenAI tools' ability to analyze codes helps detect and fix bugs, reducing testing efforts.
- **Hyper-personalization:** Large language models (LLMs) can understand patterns and structures from complex and large datasets, including those in unstructured formats. They power personalization across customer and employee communication channels.
- **Human-like Interactions:** GenAI built on deep neural networks helps independently generate coherent and contextually relevant outputs.

- **Market Segmentation:** Collating insights from interactions with customers and other stakeholders across platforms becomes easier when banks have standard data practices and defined clusters to target customers based on several factors. GenAI tools help marketing and customer success teams scale their engagement and outreach strategies with automation and content generation.
- **Tailored Advice & Recommendations:** GenAI technology helps extract and interpret data insights from customer interactions, behavior trends, and transaction history to deliver customized suggestions and investment recommendations. The same capacity suggests new directions in sales, business, and investment strategies.
- **Accurate Predictions:** GenAI bolsters analytics-based predictions and forecasts, making it useful in fraud detection, risk predictions, cybersecurity assessments, threat detection, and much more.
- **Unlocking New Opportunities:** GenAI-led quick developments and profound market assessments help banks test new disruptive strategies and business opportunities for competitive differentiation.

NAVIGATING DEEP WATERS: GENAI OPERATING MODEL ARCHETYPE FOR BANKING & FINANCE

Banking and financial firms will continue to embed GenAI advancements as it trains on more datasets to drive value innovation across risk management and compliance with strategic advantages. Many users are testing and running proofs-of-concept to ensure ethical, unbiased, and transparent GenAI applications to ensure higher success rates in these areas.

Since banking ecosystems operate in a highly centralized architecture, they benefit by adopting a centrally led GenAI operating model archetype to test and implement GenAI for risk and compliance. It empowers teams, stakeholders, and organizational structures to stay current with updates on GenAI approaches, changes, and decisions. A recent McKinsey [research](#) discovered that 50% of well-known financial institutions with a net worth of more than \$26 trillion (U.S. and Europe region) have a centrally led GenAI model. The model is applied throughout data and analytics.

The [research](#) also explored common organizational archetypes: highly centralized, centrally led and business unit executed, business unit-led and centrally supported, and highly decentralized. It investigated these model archetypes to understand GenAI's inherent benefits and challenges. Its findings revealed that more than 70% of banks with highly centralized GenAI operating models were able to scale GenAI use cases into production.

ROLE OF OPERATING MODELS IN SCALING GENAI USE CASES

Operating models are blueprints of an organization's structure, people, and processes. There is no standard rule for defining a GenAI operating model. It is unique to every use case and can evolve with the business objectives. Any operating model without the right experts and data will not serve any purpose. Therefore, for scaling GenAI applications, only the right operating model that aligns with the existing organizational structure can maximize value.

Selecting the wrong operating model can impact GenAI models and their reliability, transparency, accuracy, and fairness, leading to error-ridden information and output generation. In summary, only the right operating model archetype can ensure that the banking firms adopt the suitable GenAI models specifically trained to meet contextually accurate and task-specific use cases.



C-suite leaders and decision-makers at banking and financial companies must consider the benefits and implications of operating models and their firm's preparedness to adopt GenAI initiatives. It requires an elaborate checklist to tick off these priorities:

- **Establishing a Concrete GenAI Vision:** It involves deciding whether the GenAI strategy must be implemented org-wide or at the individual business unit level and what areas and workflows will be impacted.
- **Defining Domains & Use Cases:** Banking and financial firms assess the core enterprise areas and use cases requiring GenAI boost.
- **Deployment Strategy:** Besides deciding whether the banking and financial enterprise must build its own custom models or develop on top of open-source GenAI models, development teams must decide implementation roadmap, timelines, and resource allocation.
- **Cost of GenAI Investments:** Returns in productivity and efficiencies must justify the cost of GenAI investments. Adequate testing and benchmarking may be required to confirm the benefits of the chosen GenAI models tailored to the banking and business use case.
- **Skill & Resource Availability:** Whether a banking firm must invest in upskilling, hiring, or augmenting their teams to roll out GenAI adoption successfully. It requires having the right talent to decipher data architecture, enterprise technology selection,

software development, data engineering, MLOps engineering, and cybersecurity needs.

- **Associated Risks:** The typical risks of budget overruns, data privacy, intellectual property rights, and other associated risks of GenAI must be considered. Moreover, the risks related to GenAI must be accounted for to understand the scope of governance needs.



A Decision-maker’s Checklist for GenAI Model Selection



GENAI IN THE WONDERLAND OF BANKING RISK & COMPLIANCE



Risk and compliance management in banks and financial institutions are inherently challenging operations that take time to resolve on a scale. Risks are uncertain, multivariate, and rapidly evolving. Compliance processes are lengthy, complex, and heavily dependent on human expertise. Digitizing traditional banking and legacy financial services also exacerbates regulatory compliance challenges, causing reputational damage, legal complications, and financial losses. In summary, banking risk and compliance management are like underwater pressures that increase with depth.

Banking and financial firms with a track record of success with traditional AI and machine learning (ML) have an added advantage to warming up to GenAI-driven risk and compliance management. As for the leaders and decision-makers like CISOs, CROs, and Chief Compliance Officers (CCOs), it means three things:

As for the leaders and decision-makers like CISOs, CROs, and Chief Compliance Officers (CCOs), it means three things:

- Understanding GenAI beyond its role as a productivity-enhancing tool.
- Building GenAI astuteness over technology blindness by objectively knowing its safety, explainability, fairness, accountability, and transparency.
- Adopting a risk-based mindset to identify and mitigate GenAI's potential impact on the banking and financial ecosystem.

Additionally, somewhere along the GenAI adoption cycle and unlocking innovation opportunities, risk, and compliance leaders must be open to the possibility of converging these two functions.

How is GenAI Increasing Value Innovation in Risk Management

Risks are multivariate in the banking and financial domain, and GenAI's intensive data training helps model the most complex risk scenarios to test and adopt nuanced risk mitigation tactics. Let's break down common risk management areas that banks and financial institutions are testing the initial adoption of GenAI for transformation and value innovation:

- 1. Risk Monitoring across Data-Intense Landscape:** Traditional AI and GenAI are known for data readiness. Banking and financial institutions' diverse and centralized data-rich ecosystem can easily leverage GenAI models' capability to ingest and digest data at a granular transactional level. GenAI models' predictive analytics and insight generation in plain language elevate enterprise-wide risk prediction and monitoring.

2. Credit Risk Scoring: Traditional methods of assessing customers' creditworthiness provide limited access and understanding of the borrowers' financial health and carry risks of errors and inaccuracies. LLMs help dissect deep insights, providing insights for a comprehensive understanding of customers' creditworthiness. Also, GenAI-led automation elevates credit scoring functions by analyzing point-by-point financial datasets, generating credit risk reports, extracting insights from bank statements, and more. It uncovers hidden patterns and a 360-degree overview to prevent misjudgments in lending and credit scoring.

3. Fraud Detection: GenAI's appetite for data analysis and identifying subtle patterns enables it to detect anomalies and generate NLP-based suspicious activity reports by comparing volumes of transactional data in real time with historical records. It alerts banking departments of deviations and potential fraud patterns.

4. Market Risk Forecasting: Banks and financial institutions can use simulated scenarios to monitor external risks like market crashes, inflation, impact from supply chain disruptions, and more. GenAI using Generative Adversarial Networks (GANs) can model and clone realistic market and economic situations to adopt more inclusive and robust banking practices.

5. Cybersecurity Risks: Banking firms can test LLM-based GenAI tools to enhance their defenses against malicious cybersecurity attacks. LLMs can be trained on cybersecurity intelligence datasets that include patterns of attacks, potential risks, and vulnerabilities to analyze

network traffic, historical patterns, system logs, and real-time events. With adequate simulation and training, GenAI can also help cybersecurity teams research malware behaviors, phishing attempts, and other threats. Biometric verification, automated security patch generations, and adaptive threat detection are other possible use cases of GenAI in banking cybersecurity.

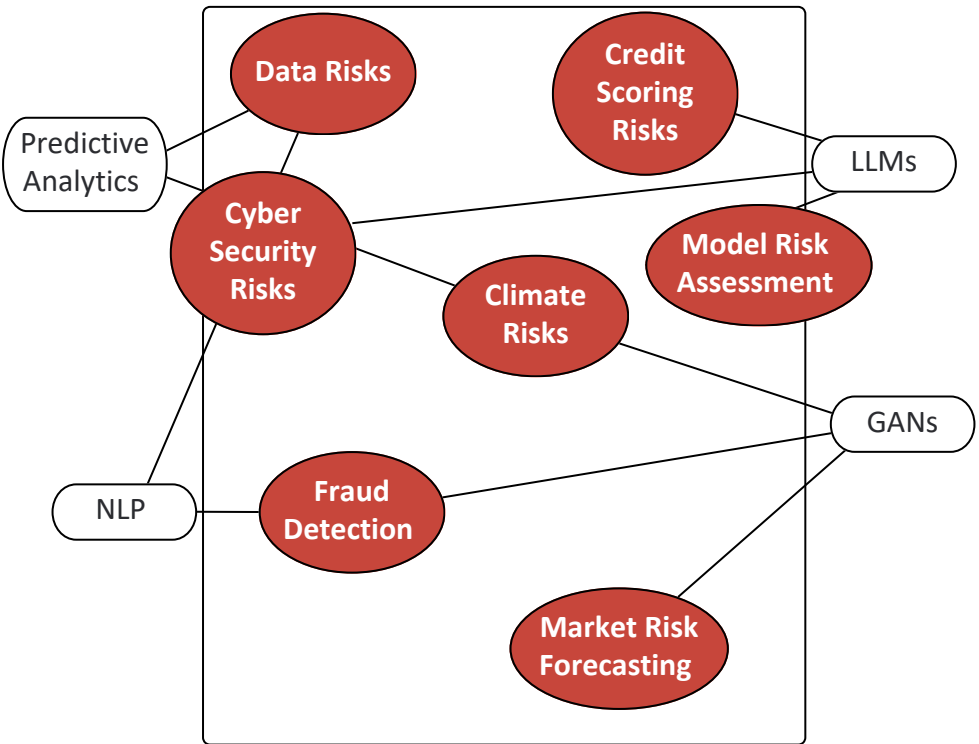
6. Managing Model Risks: Model risk management processes are integral to banking decision-making and lending operations. Regulators constantly push banks and financial companies to test model effectiveness, accuracy, and reliability. Risk managers can own and combat model risks using GenAI by examining the crevices of models, model context, model risk types, and classification.

GenAI can be trained to identify duplicate models, generate model descriptions, and compare models' inputs that deliver different decisions to model accountability, fairness, and transparency.

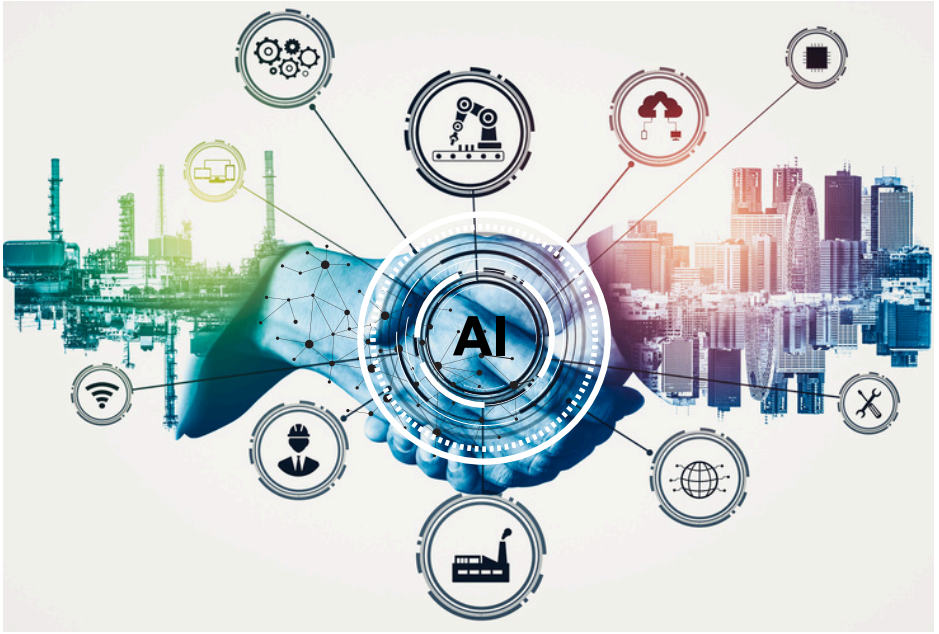
7. Climate & Environmental Risk Analysis: Mounting evidence of climate change and environmental damage has made it mandatory for banking and financial institutions to include climate risks to safeguard investments and financial assets. GenAI helps banks incorporate climate risks into their credit rating and loan underwriting processes. GenAI allows for building customer-specific climate risk scores and proactively conducting climate risk modeling and assessments at the beginning of banking relationships by parsing and analyzing datasets.

Further, with GenAI-driven automation, banks can streamline data collection, verification, and analysis to ensure accuracy and consistency in climate risk reporting. GenAI's adaptive predictions also help banks keep up with the latest regulatory frameworks and update reporting protocols for compliance.

Illustration of GenAI Models & Their Role in Risk Management Activities



REVOLUTIONIZING COMPLIANCE WITH GENAI-LED EFFICIENCIES



Recent global economic, political, and technological events intensified regulatory compliance, requiring banking and financial institutions to stay current. Recently, non-compliance fines have become common in several U.S. banking corporations. Small banks and large financial institutions still struggle with compliance oversights due to the sheer volume and complexity of statutory compliance requirements.

Notable eye-grabbing compliance tragedies include Binance's \$4.3 billion penalty for lacking anti-money laundering (AML) and customer due diligence. Deutsche Bank and Danske Bank also defaulted due to poor or incomplete AML strategies. Wells Fargo also joins the list with \$97 million in fines for violating sanctions.

Between May and June 2023, the combined total of financial crime compliance costs for U.S. and Canadian financial institutions hit a whopping \$6.1 billion. Nasdaq Verafin's 2024 Global Financial Crime Report also uncovered \$3.1 trillion in illicit funds flowing through the global financial systems in 2023. Money laundering activities were attributable to funding of trillions of dollars on criminal activities such as terrorist funding, human trafficking, consumer scams, and drug trafficking. The numbers reveal the size of liability upon banks and financial services firms for poor gatekeeping of their monetary functions.

Despite having a well-planned and purposeful compliance framework and cutting-edge IT investments, banks and financial institutions fall behind regulators' compliance expectations for these reasons:

1. Escalating Regulatory Expectations:

Regulations are ever-expanding and unending in the banking and financial ecosystem. In 2024, new proposals, amendments, and new banking laws will be introduced, such as the Federal Deposit Insurance Corporation (FDIC) 's evaluation ratings for Community Reinvestment Act (CRA) compliance, the Basel III end game proposal, the Federal Trade Commission on banning robocalls, and the National Institute of Technology's Cybersecurity Framework (CSF).

**During 2023,
a whopping total
of \$3.1 trillion worth of
illicit funds were a part
of the global financial
system!**

2. Compliance Technology Gaps: Banks typically use core banking systems, such as enterprise resource planning or CRM platforms. Managing transactions and end-to-end data across enterprise-wide platforms with diverse compliance modules makes compliance monitoring difficult. Legacy banking solutions and technology gaps increase the scope for criminal activities like financial fraud and money laundering. Banks need a break from legacy AML and fraud detection systems that lack automation and lead to false positives in threat detection.

3. Staffing and Skill Shortfall: Great resignation resulted in a severe skill gap and demand for compliance professionals and subject-matter experts at bank and staff management levels. The lack of sufficient resources increases banks' compliance risks due to the absence of compliance and regulatory insights, training, testing, and management programs.

4. Digital and Open Banking Pressures: The developments in digital and open banking offer both opportunities and impediments to the industry. This expands access to data systems across third-party vendor ecosystems. Without sufficient vendor due diligence and risk management, banks flout regulations, resulting in non-compliance.

5. Surge in Cybersecurity Attacks: Cybersecurity events evolve in sophistication, and the latest innovations like AI and GenAI increase attack risks. Banks are expected to upgrade their security infrastructure and meet an ever-changing list of cybersecurity compliance expectations.

CHAPTER IV

To avert the dangers of non-compliance, banks and financial firms must frequently upgrade and deploy strategies to bolster cyber defense, such as penetration testing, vulnerability scanning, encryption, and multi-factor authentication.

6. Climate-related Financial Risks: Damage from climate-related financial risks impacts banking systems' financial stability. Supervisory expectations and developing climate-related financial risk management strategies are in the early stages. Large banks still integrate climate risks into their risk and compliance management practices. Only firms comprehend the soundness of compliance management frameworks from testing scenarios and validating consistency with banking frameworks; there is a risk of non-compliance with standards like ESG and SEC's climate-related disclosure.



1. Regulatory Pressures



2. Compliance Technology Gaps



3. Staffing & Skill Shortage



4. Digital & Open-Banking Pressures



5. Rising Cybersecurity Attacks



6. Climate-related Financial Risks

HOW GENAI SUPPORTS BANKING AND FINANCIAL INSTITUTIONS' REGULATORY COMPLIANCE?



Banking regulations and an endless web of compliance expectations can be eased with GenAI's data readiness and ability to automate, analyze, enhance, and classify compliance content to drive a clearer path to regulatory compliance.

1. **Compliance Check Automation:** Automation can benefit the most labor-intensive and time-sensitive aspects of compliance workflows. GenAI improves tasks such as conducting routine checks, updating new regulations as they emerge, reporting, and documentation without errors and inaccuracies by sifting through data to identify compliance needs instantly.
2. **Suspicious Activity Report Generation:** Compliance teams can use GenAI to streamline the generation of Suspicious Activity Reports

(SAR), empowering anti-money laundering (AML) teams and fraud prevention through anomaly tracking and detailed report analysis.

3. Develop Winning Compliance Strategies: Banking compliance teams must proactively investigate their enterprise's operational needs and state of the regulatory requirements and identify high-risk areas to define robust compliance strategies. GenAI's actionable insights will help banks meet their present and future compliance goals by assisting in the development of strategies that build compliance as a competitive advantage.

4. Build Governance Model: Successful regulatory compliance requires transparency and effective governance models. GenAI's data integration capability across resources helps provide a singular view of the compliance models and governance activities in real-time, which is essential for effective governance.

5. Compliance Monitoring: GenAI helps automate compliance monitoring with the help of advanced algorithms that can identify even the slightest deviations and changes from the prevailing regulatory standards. Real-time compliance monitoring enables swift adjustments to the ongoing compliance process to prevent the risk of regulatory breaches.

6. Scaling Compliance Reporting & Documentation: Compliance management teams can leverage GenAI's automation to generate compliance documents and reports with minimal intervention by human staff, enabling consistency and standardization.

7. End-to-end Compliance Visibility: GenAI's advanced analytics and reporting capabilities allow compliance teams and stakeholders to improve transparency and real-time visibility across compliance workflows. It helps compliance officers track every aspect of regulatory adherence, simplifying the overall compliance demonstration process for regulators, stakeholders, and third parties.

To ensure successful adoption across compliance functions, GenAI integration requires strict adherence to regulations such as GDPR, Basel III, and AML laws.

8 Ways GenAI Enhances Regulatory Compliance for Banks



GenAI-led Compliance Task Automation



Automated Review of Regulations & Documents



Compliance Document Generation & Reporting



Automated Compliance Risk Assessment



GenAI-led Responses for Compliance Queries

GenAI-led Data-driven Efficiencies



Analysis & Classification of Regulatory Data



Mapping Regulatory Data to Key Risks, Policies, etc.



Flagging Risks for Compliance Checks



Adding Insights to Compliance Training

END NOTES

Several examples of risk and compliance-related disruptions in the banking and financial services domain aptly capture the essence of the analogy, "*still waters run deep.*" The recent breakdown of Silicon Valley Bank exemplified this reality. Banks and financial firms' perpetual susceptibility to surprises and underlying complexities will remain masked under their superficial calm. Factors like the industry's highly regulated nature, massive workloads, resource constraints, and endless drive to innovate make GenAI adoption an imperative for risk and compliance management in 2024.

In the days to come, we foresee that GenAI will become the much-needed cultural shift beyond automation. That means there's enough planning and brainstorming ahead before testing opportunities.



END NOTES

There's much ground to cover, from optimizing human-GenAI collaboration to building a GenAI workforce, integrating GenAI-led practices across workflows, and establishing toolkits for responsible uses and escalation paths to risk and compliance. CISOs, compliance officers, CIOs, and other banking professionals must overcome short-term barriers to adoption and migrations from legacy practices. Governance models and controls will go up a notch to include what's relevant to risk management, such as data privacy, regulatory shifts, and unsupervised models.

Above all, GenAI's successful implementation is decided by banking enterprises' appetite for change and confidence in their tech infrastructure and capabilities. Unfortunately, 37% of bankers have discouraging opinions about their aging, customization-heavy architectures, poor dataflows, and insufficient expertise. Looking back at other innovation agendas from the past, banks need sufficient use case developments. It can borrow examples from enterprises that have successfully developed frameworks and a balanced set of governance controls.

In the meantime, technology companies and governments work in tandem to have a strong hold on GenAI to prevent large-scale implications of unfair, discriminatory, and faulty decisions.

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