snowflake®

8 WAYS FINANCIAL SERVICES ORGANIZATIONS DELIVER INNOVATION AND SECURITY WITH THE DATA CLOUD

From Portfolio Construction to Personalized Banking and More

FINANCIAL SERVICES
SUCCESS GUIDE

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FACING THE HEADWINDS OF CHANGE

Ever since the disruption caused by the 2007-2008 global financial crisis, the pace of change within the financial services industry has only accelerated. Tighter regulation has altered the structural landscape of financial markets. Access to new technologies and the emergence of disruptive players have shifted business models. And digital-first strategies and evolving customer expectations have modified how organizations go to market.

On top of these changes, the financial services industry continues to face headwinds. The tough macroeconomic environment characterized by geopolitical tensions, inflationary pressures, and market volatility has created profitability challenges. Competition from emerging financial technology (fintech) companies continues to grow and squeeze the margins of traditional banks. New and evolving regulatory demands are introducing new reforms, reporting obligations, and capital adequacy requirements. And there is a heightened focus on sustainability and ethical investing that is at the forefront of public and political attention.

Simply put, the landscape, the competition, and the customers are all transforming. Under this backdrop, most financial services organizations must evaluate how to modernize their technology, leverage their data, and organizationally adapt to ensure long-term growth.

FINANCIAL SERVICES, IT'S TIME TO BECOME TRULY DATA-DRIVEN

Financial services is one of the most data-intensive industries. Every day, market data, transaction data, customer data, and reference data inform critical investing, trading, and risk decisions. However, for many organizations, siloed and duplicate records and technology architectures, competing data models, and different entitlement and authentication controls limit the full potential of that data.

At Snowflake, we're leading the way in helping the asset management, banking, and insurance sectors fully mobilize data to enable data-driven decision-making and achieve successful business outcomes. This means breaking down data silos, streamlining data ingest, shortening data pipelines, and leveraging data science capabilities to better build and share data outputs. By creating a single instance of query-ready data in the cloud, coupled with near-unlimited, on-demand scalability, security and governance controls, and unparalleled data-sharing capabilities, financial services organizations can transform how they approach and leverage data.

Snowflake's Financial Services Data Cloud provides data access and data insights needed for financial services organizations to rapidly innovate. The Data Cloud delivers core platform capabilities, industry-tailored solutions from Snowflake and Snowflake partners, and critical industry data sets.

- **A single data platform**
  Scale multiple workloads across different lines of business—from quantitative research and Environmental, Social, and Governance (ESGO) investing to regulatory reporting and fraud detection—with a single copy of data.
- **Data access and collaboration**
  Access 1,000-plus data sets from industry-leading data providers on Snowflake Marketplace to power business workflows across the front, middle, and back offices—with minimal to no ETL.
- **Security and governance capabilities**
  Protect, store, and access all portfolio, reference, market, and risk data with strict governance controls, built-in classification, and anonymization of sensitive data.
- **Interconnected global ecosystem**
  Mobilize your data by connecting with the broader financial services ecosystem, from workflow-critical portfolio management, research, and market data applications to technology partners.

This ebook explores some of the innovative and exciting ways our financial services customers are already unlocking the value of data and Snowflake's Financial Services Data Cloud to enable their business-critical workflows.

#1 LEVERAGE CUSTOMER 360 IN BANKING

THE CHALLENGE

As consumers become more diverse demographically, more savvy financially, and expect faster and more personalized services, banks need to rethink how they leverage their data and technology to enable a differentiated customer experience.

However, many banks are hampered by siloed and duplicative technology architectures, different and competing content stores and data models, and differing levels of governance, authentication, and data access controls. These conditions create challenges with data access, velocity, and entitlement. This results in an inconsistent customer experience due to siloed customer views across business lines, missed opportunities with delayed customer analytics, and compliance risk with lack of data governance and security controls for customer data.

SNOWFLAKE'S SOLUTION

To help companies combat fragmented data and employ Customer 360, the Snowflake Financial Services Cloud centralizes data from various sources and in various formats in one secure repository. Snowflake Marketplace enables data enrichment with data from third-party sources, including demographics, identity, macroeconomic, and alternative data.

Snowflake's data security and governance controls enable financial services organizations to protect, store, and access customer, account, and risk data. Apart from features such as dynamic data masking and end-to-end encryption for data in transit and at rest, Snowflake also offers Data Clean Room capabilities. Data Clean Rooms allow banks to collaborate with other banks and ecosystem partners without exposing their underlying customer data.

From there, banks can:

- **Streamline their customer acquisition and onboarding processes**
- **Build customer-centric digital experiences**
- **Find new cross-sell and up-sell opportunities with Next Best Action or product suitability insights**
- **Enable more personalized financial planning and portfolio construction**

CUSTOMER SPOTLIGHT:

WesternUnion\\WU

HEADQUARTERS Denver, Colorado
INDUSTRY Financial Services

Western Union's leaders turned to Snowflake to gain a more comprehensive view of its customers by consolidating data and eliminating resource contention. The company's legacy architecture not only made developing visualizations, provisioning users, and ensuring 24x7 uptime operationally burdensome, but it also diverted resources from enabling more analytics.

Architecting on Snowflake provided a single source of truth that aligns with Western Union's multi-cloud strategy and reduced the company's data warehousing costs by more than 50%. This also enabled business leaders to better monitor their digital payment transaction volumes and build more actionable insights for their sales and marketing teams around their customers. With Snowflake, Western Union is able to ensure an ever-improving experience for more than 150 million customers across its retail and digital channels globally.

Learn More

#2 MANAGE ESG OPPORTUNITIES AND RISKS

THE CHALLENGE

Now more than ever, issues such as climate change, business ethics, and corporate governance are at the forefront of public and political attention. ESG is playing a central role in financial professionals' efforts to identify long-term opportunities and risks. However, financial services organizations face several data and technology challenges in incorporating ESG. These include sourcing, ingesting, normalizing, and linking off-the-shelf ESG data sets with in-house company identifiers, as well as integrating ESG data into existing workflows like portfolio construction, financial planning, and regulatory reporting.

SNOWFLAKE'S SOLUTION

Snowflake enables financial services organizations to more seamlessly incorporate ESG into their workflows and business strategies by allowing users to access ESG data, build proprietary ESG analytics, and integrate ESG workloads into workflow applications and tools.

Financial services organizations can accelerate data pipeline development by seamlessly accessing ESG data and other data sets via Snowflake Marketplace to power portfolio construction, investment research, financial planning, and regulatory reporting workloads. Business leaders can ensure full oversight and transparency into their ESG impact by calculating proprietary ESG scores based on an aggregation of third-party ESG scores, news, and other public sources. Finally, users can outsource the entire data pipeline, research, construction, and risk tools to managed platforms, including BlackRock Aladdin and State Street Alpha.

CUSTOMER SPOTLIGHT:

NEUBERGER | BERMAN

HEADQUARTERS New York, New York
INDUSTRY Investment Management

Neuberger Berman partnered with Snowflake to accelerate its ESG adoption across its investment management workflows and integration into a range of solutions that meet its clients' objectives. With Snowflake, Neuberger Berman has shortened its data pipelines and accelerated data velocity by ingesting and bringing together ESG data via Snowflake Marketplace without traditional API and SFTP delivery mechanisms. Business-critical portfolio management applications that are powered by Snowflake have also facilitated ESG data collaboration.

#3 OPTIMIZE QUANTITATIVE RESEARCH AND TRADING

THE CHALLENGE

Faced with a market-driven need for faster research and alpha generation, coupled with continued economic headwinds from rising margin pressures, traditional asset managers and hedge funds need to drive greater efficiencies in portfolio construction, trade implementation, and risk mitigation.

However, today's quantitative investment strategies leverage more diverse data sources than ever before. Quantitative Analysis (Quant) teams are spending more time and resources to acquire, ingest, store, and join large disparate data sets, as opposed to value-added analyses and complex backtests. Data copying and movement lead to high costs of ETL and rising data management TCO. Inability to access and onboard new data, such as ESG or cryptocurrency data, elongates data pipelines and time to market. Teams are also struggling to implement new approaches to research, including using AI and machine learning (ML) capabilities. All of this translates to significant investment requirements into an organization's technology, compute, and data science capabilities.

SNOWFLAKE'S SOLUTION

As a single data platform, Snowflake allows buy-side organizations to seamlessly bring together internal data, portfolio warehouse data, and external vendor data into a single cloud data platform. Data access via Snowflake Marketplace or private share enables business teams, quants, and data scientists to take advantage of new and differentiated data, including market, identity, geospatial, ESG, and cryptocurrency data.

Data co-location enables quant teams to access, join, query and analyze internal and external vendor data with minimal to no ETL. This means that quant researchers are spending less time managing data and more time gathering insight from data, further lowering overall TCO. Finally, teams can leverage scalable, on-demand compute when required to construct portfolios, run multi-factor models, backtest, and perform attribution and optimization processes—all without contention.

CUSTOMER SPOTLIGHT:

PIMCO

HEADQUARTERS Newport Beach, California
INDUSTRY Investment Management

At PIMCO, multiple decisions and teams are responsible for the planning, construction, and performance of the company's portfolios. PIMCO develops proprietary, quant-based performance attribution models to bring greater clarity and flexibility around the sources of risk and return. These models are compute- and data-intensive as they analyze multiple factors across decades of historical data.

With Snowflake, PIMCO was able to scale and speed up its quant-based attribution model by leveraging the Data Cloud to meet its data storage and compute requirements. Snowflake's architecture separates data from compute, allowing PIMCO to ingest 70 terabytes of input data required for its analyses. Snowflake's elastic performance engine enables different teams across PIMCO to run isolated and independent workloads without database contention. By architecting on Snowflake, PIMCO was able to speed up time to insight by 3x and scale the number of reports and scenarios.

#4 DRIVE EFFICIENT UNDERWRITING

THE CHALLENGE

The underwriting process is becoming more complex and more competitive. Traditional insurance providers are finding their underwriting workflows inefficient and costly. At the same time, everyone from agents and brokers to policyholders are expecting faster, more accurate, and more personalized pricing.

While underwriters can gain access to more data and information than ever before, most do not have the resources or technologies to manage and translate these data sources into actionable insights that inform how they quote, evaluate risk, and service accounts. Furthermore, legacy data and technology silos create elongated data pipelines and data management challenges that make underwriters less efficient, drive up costs, delay insight, and create room for error.

SNOWFLAKE'S SOLUTION

Snowflake enables a more efficient underwriting workflow by transforming an organization's data and technology architecture. With Snowflake, insurance providers can store all of their data in a single globally available, strongly governed data platform and share data across different lines of business, teams, and data partners. This means that underwriters can quickly ingest, access, and leverage first-party or third-party data more seamlessly.

And as underwriting teams look to adopt ML and robotics process automation (RPA) capabilities to drive further efficiencies, Snowflake's scalability and performance mean that teams can develop advanced ML / AI models that leverage more data.

CUSTOMER SPOTLIGHT:

CapSpecialty

HEADQUARTERS Hartford, Connecticut
INDUSTRY Insurance

CapSpecialty helps small and mid-sized businesses manage risk. To support underwriting and enable data-driven decision-making, CapSpecialty partnered with Snowflake to streamline how they ingest and analyze large amounts of premium, policy, and customer data.

Prior to Snowflake, CapSpecialty's underwriting team spent time and resources performing manual tasks and managing data in spreadsheets that created operational inefficiencies. Re-architecting on Snowflake provided a single source of truth to power CapSpecialty's data analytics and underwriting workflows. Connecting to Power BI minimized data wrangling and democratized data analytics. Insurance premium visualizations delivered fresh insights to users within six minutes of the data becoming available—a 20x improvement over its legacy environment.

Learn More

#5 MODERNIZE ASSET SERVICING

THE CHALLENGE

Today, the asset servicing industry is constrained by highly manual resource- and time-intensive processes from legacy technology platforms and data silos that are poorly integrated. But with rising assets under management (AUM) and changing customer expectations, asset managers and institutional investors are demanding greater line of sight with timely reporting and analytics. Regulatory scrutiny further hampers change and innovation.

Faced with these challenges, asset servicers have acquired numerous technologies over a long period of time to meet their order management, risk management, fund analytics, and settlement and cash management workflows. However, this has resulted in dated systems that cause workflow inefficiencies, and data and technology silos that add to cost and complexity. Data management becomes increasingly manual, creating elongated data pipelines, delayed analytics, and greater potential for error.

SNOWFLAKE'S SOLUTION

Snowflake transforms the asset servicing workflow with its modernizing technology and data management capabilities, streamlining data ingestion and data sharing. Snowflake helps asset servicers join internal proprietary data with third-party market data, as well as data that sits across partner applications and data warehouses. By storing all their data in a single, globally available, governed data platform, asset servicers can build a strategic security master database and also support their core corporate actions workflows.

With industry-leading portfolio management and order management systems, including founding Powered by Snowflake partner Aladdin by BlackRock, BNY Mellon Vault, and State Street Alpha, on the Snowflake Data Cloud, asset servicers can easily perform Net Asset Value (NAV) calculations, portfolio performance analysis, and reporting. And with multi-cluster concurrency, asset servicers can power all their workloads with an architecture that separates data from compute.

CUSTOMER SPOTLIGHT:

citi

HEADQUARTERS New York, New York
INDUSTRY Global Investment Bank & Financial Services

Citi Securities Services supports the world's leading asset managers, institutional investors, and financial institutions with custody and fund services. Citi partnered with Snowflake to reimagine how data flows across financial services transactions to provide a frictionless solution for post-trade processes across the industry.

This partnership brings together Snowflake's secure data sharing and multi-party permissioning capabilities across Citi's proprietary custody network that spans across 60 markets. Citi's long-term vision is to power its Velocity℠ Clarity data platform with Snowflake to deliver faster, more complete client data and enable real-time data insights and visualizations.

Learn More

#6 IMPROVE REGULATORY REPORTING

THE CHALLENGE

Regulatory reporting obligations continue to rise. One of the major challenges for financial services organizations is the increasingly multi-jurisdictional and regional nature of these requirements. For a large multi-segment global bank, this means a fragmented and manual approach will no longer work.

Multiple applications that are on-premises or cloud-based, coupled with disparate data sources, result in:

- Old and inconsistent data across different reporting obligations
- Inability to integrate critical data, including pricing or reference data, as well as ESG data for the Sustainable Finance Disclosure Regulation
- Slower analytics and calculations that prolong the reporting process
- Higher chances of reporting errors as data is copied and moved across different data silos

SNOWFLAKE'S SOLUTION

As a single data platform, the Financial Services Data Cloud enables risk and compliance teams to power all reporting obligations—whether it's Dodd-Frank, FRTB, or Basel III—with a single copy of data. Data access and collaboration capabilities allow teams to access industry-leading market data via Snowflake Marketplace or private share and integrate it with their portfolio, transactions, risk, and finance data. Security and governance capabilities allow banks to protect, store, and access their data with controls that enable them to meet risk needs and compliance requirements.

Multi-cluster concurrency allows teams to run different workloads, whether it is:

- Trade activity reporting for the Consolidated Audit Trail
- Risk and performance analytics for FRTB
- Stress testing and capital requirement analytics for CCAR
- ESG factor incorporation for SFDR

... or all at the same time, without contention.

CUSTOMER SPOTLIGHT:

ICE

HEADQUARTERS Atlanta, Georgia
INDUSTRY Financial Services

ICE connects global markets by operating exchanges and clearing houses that help people invest, raise capital, and manage risk. Because of this global footprint, ICE turned to Snowflake to streamline its regulatory reporting capabilities. By architecting on Snowflake, ICE increased its capacity to run bigger clusters with bigger data sets, while still meeting SLAs with timely delivery of regulatory reporting for different asset classes and geographies. And as a fully managed platform, Snowflake helped remove the need for manual intervention allowing ICE's risk and compliance team to refocus their resources on other value-added activities.

#7: MITIGATE FINANCIAL CRIME INCIDENTS

THE CHALLENGE

Financial services organizations are facing greater reputational, financial, and regulatory risks for failing to detect fraud or meet Know Your Customer (KYC) and Anti-Money Laundering (AML) compliance. On top of severe penalties for non-compliance, organizations are also dealing with rising operational costs associated with data and technology challenges. For many, this is due to a fragmented ecosystem of data silos that cut across different lines of business, geographies, and transaction and lending systems, as well as workflow applications.

As a result, financial services organizations face the prospect of a number of challenges, including:

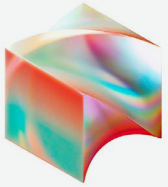
- **Incomplete customer due diligence**
- **Manual or delayed customer analytics that result in high false positives**
- **Non-real-time fraud and anomaly detection**
- **An inability to access or mobilize their customer data**

SNOWFLAKE'S SOLUTION

To address financial crime, risk and compliance teams are leveraging Snowflake's multi-cluster shared data architecture with near-infinite scalability to ingest, store, and analyze massive volumes of data. This allows financial services organizations to consolidate their data and technology silos onto a single platform to perform enhanced due diligence and build real-time fraud and anomaly detection.

Snowflake's data security and governance controls enable financial services organizations to protect, store, and access customer, account, and risk data. Apart from features such as dynamic data masking and end-to-end encryption for data in transit and at rest, Snowflake also offers Data Clean Room capabilities. Data Clean Rooms enable data sharing, double-blind joins, and restricted queries that result in different organizations sharing and matching customer data without having to expose any underlying data.

CUSTOMER SPOTLIGHT:



BLOCK

HEADQUARTERS	San Francisco, California
INDUSTRY	Financial Technology

Block, formerly Square, partnered with Snowflake to build fraud detection capabilities that helped its customers avoid risk. Block designs and builds tools that empower sellers to start, run, and grow their businesses. To help promote merchant success and reduce risk, Square ingests and analyzes large amounts of structured and unstructured data.

Snowflake's multi-cluster shared data architecture scaled to virtually eliminate resource contention at Block, allowing teams to perform correlation analyses and identify difficult to find fraud that may be occurring. Snowflake's affordable cloud rates also made it possible for Block to store more than one petabyte of data. And finally, Block was able to ensure security and governance compliance by leveraging Snowflake's object tagging, dynamic data masking, and row access capabilities.

Learn More

#8: STRENGTHEN RISK MANAGEMENT AND CYBERSECURITY

THE CHALLENGE

The financial services industry is facing an unprecedented threat from the proliferation and evolving sophistication of cybersecurity attacks. Many organizations risk increasing breach and remediation costs, as well as potential loss of business. However, legacy architectures create significant challenges that limit how banks can mobilize security data at scale and build robust analytics capabilities.

In some instances, IT and risk management teams often rely on static presentations and spreadsheets to track security metrics on a monthly or quarterly basis. This, coupled with evolving business models, new digital channels, and changing industry frameworks, creates challenges for financial services organizations to efficiently manage their risks.

SNOWFLAKE'S SOLUTION

Snowflake helps security teams consolidate their risk data and perform risk analytics to combat cybersecurity threats. Snowflake's security data lake eliminates data silos and brings together data onto a single platform, thus enabling teams to create customized dynamic dashboards to measure risk and prioritize which alerts teams need to investigate.

With Snowflake's cloud-built, multi-clustered shared data architecture, financial services organizations can efficiently store years of semi-structured log data, and scale compute resources up or down, automatically or on the fly, to meet the needs of security teams.

CUSTOMER SPOTLIGHT:

CSAA Insurance Group, a AAA Insurer

HEADQUARTERS Glendale, Arizona
INDUSTRY Insurance

CSAA Insurance Group turned to Snowflake to implement a security program that was underpinned by real data driving strategic prioritization and focus. Snowflake helped CSAA's IT and risk management team build out a scalable, flexible, and cost-effective single source of truth for security risks. Time-intensive tasks such as gathering evidence for audits and reviews have been replaced by streaming data pipelines that constantly record activity and configuration events. Reports and metrics now provide an up-to-date picture of the environment, and asset details and user records are centralized for a complete 360-degree view.

Learn More

UNLOCK THE POWER OF FINANCIAL SERVICES DATA

Data underpins every financial services use case, from the buy-side to the sell-side. By breaking down data and technology silos, Snowflake enables financial services organizations to build end-to-end agility and make data-driven decisions across their businesses. With the Financial Services Data Cloud, any organization can accelerate and scale its innovation and transformation initiatives by integrating into a broader ecosystem. At the same time, financial organizations can use unified data governance and security to help safeguard their customers' data and meet regulatory requirements. The Financial Services Data Cloud reimagines how organizations can build and collaborate with their data while optimizing mission-critical processes and business areas.

For more information on how Snowflake can help your financial services organization unlock a new era of innovation and collaboration, visit **Snowflake for Financial Services** and start your free trial today.

ABOUT SNOWFLAKE

Snowflake delivers the Data Cloud—a global network where thousands of organizations mobilize data with near-unlimited scale, concurrency, and performance. Inside the Data Cloud, organizations unite their siloed data, easily discover and securely share governed data, and execute diverse analytic workloads. Wherever data or users live, Snowflake delivers a single and seamless experience across multiple public clouds. Join Snowflake customers, partners, and data providers already taking their businesses to new frontiers in the Data Cloud.

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