



SUCCESS STORY FINANCIAL SERVICES

DATA MODERNIZATION, CONTROLS & QA FRAMEWORK ASSURES COMPLIANCE FOR LEADING BANK

Apexon helps a financial firm tune
its governance structures

This company is a century-old diversified financial services firm offering banking, investments, insurance, and retirement services to the US Armed forces and their families. It has over 10 million members and is ranked in the top 100 US corporations by total revenue. The company is managed by 36,000 employees across the United States. The company has an award-winning mobile app that provides customers with an end-to-end banking and insurance experience.

The company had regulatory compliance and consent order pressure, outgrown its existing data infrastructure, and engaged with Apexon in 2020 to provide data and quality strategy. This extended to end-to-end data migration to snowflake, Data quality framework build, and controls framework. The Apexon team assisted with creating technology frameworks and accelerators and mobilizing expert resources required for modernization.



Rank in top 100 US
corporations by revenues



\$40B+ net worth of the company



Award-winning mobile
app – PRNewswire



36,000 employees across the US



Apexon worked closely with the bank to build a closely governed data platform to implement its data strategy roadmap focusing on data modernization and regulatory compliance. The data migration was accelerated by redefining the bank's semantic data layer, formulating data strategy, and establishing Information governance. Analytic data assets were designed, built, and a controlled platform was developed.

THE CUSTOMER JOURNEY

A three-year development roadmap was created to modernize the Bank's data platform to address the needs of various personas, accelerate regulatory and compliance requirements, and scale to meet future demand.

2020

Build frameworks, roadmap, and data strategy for data quality management, migration, and IT control

2021

Data modernization and migration, IT data controls, and data quality framework

2022

Legacy data and process migration to cloudbase stack, IT controls and governance on-premises data assets and users migrated to the snowflake cloud on AWS

THE CHALLENGE

GETTING READY FOR INTERNAL & EXTERNAL AUDITS

The bank must maintain the highest levels of transparency in regulation and compliance. This requires establishing the highest standards and controls to support proactive compliance. The bank needed to maintain data lineage, quality, and readiness for internal and external audits.

The data assets that are governed well play a key role in providing periodic updates to the regulators. Bank had Legacy data assets and platforms that needed to be remediated along with modernization of data platforms and capabilities.

The bank needed a robust 3-year roadmap that addresses all data needs with the correct dependencies and priorities. There is a need for democratization and clear ownership of data assets; concepts like data mesh go a long way in this regard. Banks need to invest in the right data architecture to support multiple personas within and outside the bank. All data sourced from the system of records, certify critical data elements, and quality measured end to end is vital for building the trust and accuracy of the analytical models. Platform health and total cost of ownership are critical for managing all data assets; banks need to define a clear strategy.

APEXON RECOMMENDATIONS

The Apexon consulting team recommended that the bank integrate a cloud-based data warehouse and data analytics solution built on AWS and Snowflake to ease the development of cloud applications needed for diversification along with a domain-based information consumption layer. Apexon collaborated with the internal engineering teams of the bank and developed its team PODs to deliver on this vision.

The IT organization planned to develop a fully functional data platform and build data assets in the Snowflake data cloud environment. However, this required the company to migrate its legacy data to Snowflake with the least possible interruption to existing services. Quality resources with migration experience were needed to build data assets. However, the company did not have the resources experienced in Snowflake data migration.

The bank was looking for a solution to ensure they met the audit and regulatory compliance requirements desired by the consent order. Apexon identified three areas of development that could provide the bank's compliance.



The bank needed a data quality framework that took care of flagging and reporting suspicious activities



It needed to establish stringent IT controls to address compliance needs



Due to the legacy system-imposed limitations, the organization wanted to move to the Snowflake cloud data platform to support its growth. However, it did not have the resources sufficiently trained in managing migrations

To support the organization's data strategy, Apexon worked closely with the bank to build common services and standards, configure, and mature a new tech stack, and complete operational metadata logging and evidence of controls. The project scope included migration of legacy assets to the cloud, data quality engine, development of control, operational metadata logging, and other data governance processes.

THE SOLUTION

SUPPORTING GOVERNANCE REQUIREMENTS

The Apexon team began working with the bank in 2020. It supported three areas of improvement – Data Quality Framework, IT Control Framework, and Snowflake Data Migration – to support the governance requirements of the bank.

DATA QUALITY FRAMEWORK

Industry-standard data model, the user interface to define rules and process rules on batch and real-time data.

The data quality framework was platform-agnostic and supported data quality governance across both on-premises and cloud platforms. The Data Quality Framework enabled the bank to meet data quality standards across dimensions as required by the governing bodies. For this:



A platform agnostic data quality framework was developed to guide the automation of data quality rule execution based on the Information governance catalogue



The framework provided the flexibility to run rules on all critical data elements and attributes to generate ownership reports



The framework supported end to end data quality management across on-premises and cloud platforms to establish information governance and perform anomaly detection



Apexon created drill-down dashboards for executives and data stalwarts to provide a comprehensive view of data health and deep dive into data quality issues



A data quality core engine build with 48 data quality checks library, data quality jinja rule parser and evidence centralization

IT CONTROL FRAMEWORK

Operational control on routine tasks established and reusable components developed for the customized data model.

To establish internal controls that could meet the minimum requirements of the Bank Secrecy Act, an IT control framework was implemented. Apexon developed an IT Control Framework for tracking and reporting to meet the regulatory need for internal controls. This included



Analytical Data Assets

Building a custom operational data model with reusable components



Controlled Platform Development

Built a flexible, self-service platform for its customers integrated with a metadata repository and data quality engine
cloud application development
- addressing new and increasing customer requirements



Cloud Application Development

Addressing new and increasing customer requirements



Reporting Through Dashboards

Notifications, heatmaps, and their drill-downs are reported to senior executives, application owners, risk and compliance teams



Compliance Monitoring

Compliance monitoring engine reads from datastore to flag evidence from a centralized database as PASS or FAIL based on thresholds set by control owners and sends proactive alerts to users for possible failures



The team executed DQ controls on 1600+ Delimited, Fixed Length & JSON files



Data quality engine on Snowflake applied 326 critical data elements



Migration of applications with OpenShift



User Interface was developed for rule configuration

SNOWFLAKE MIGRATION

Legacy data migrated to Snowflake cloud with Lift, Improve, and Shift approach that improved data pipeline through restructuring.

As the transformation partner of the Bank, Apexon also worked with the data engineering teams to lead data migration to Snowflakes. To support the transition of the bank from its legacy system to a modern data platform, Apexon managed the end-to-end migration to Snowflakes which included:



Commitment to industry-standard information governance and regulatory compliance requirements



Resource development and mobilization to support migration and new demands of the business



Deployment of resources on Snowflake for legacy asset migration and SAS user migration



Rapid transition from legacy-based systems using Hadoop, Netezza, DataStage, Mainframe, custom-built framework, control-m, DB2, Oracle, and external sources to the cloud.



Data Quality Engine and controls framework was installed on Streaming Data and ADS, and it provided data quality engine rule authoring ui, control evidencing, self service reporting, case management integration, and integration with reference data

The aggregated impact of these developments helped the bank meet the regulatory needs of the consent order by addressing the issues of data quality and establishing proper IT controls. To help the company meet the compliance and regulatory requirement of the bank, a controlled data platform was built on Snowflake's data cloud that allowed for easy scaling and real-time access to data.

For these deliveries, 400 engineers from the bank were supported by 90 Engineers mobilized from Apexon resources in creating data models, establishing data governance, performing the migration, and developing applications for business growth. Fungible resource PODs were formed from the delivery team to meet the quality regulatory requirements and develop the Tech Stack of Snowflake, DBT, Kubernetes cluster, Kafka, and Control-m.

Apexon developed ten teams to manage 12 projects in 24 months with 90+ resources deployed for designing and executing strategic programs for the bank's transformation.

SUMMARY

SAVING TIME & COST

The bank needed to meet the requirements of the OCC consent order that sought improvements in data governance. The same was achieved through developing frameworks for data quality management and IT control. Customized dashboards enabled the organization to review data health and quality issues. The organization also needed to resolve prevailing issues with legacy systems that were addressed by migrating data, applications, and bank users to the Snowflake cloud. The bank was able to meet the regulatory requirements and streamline its IT control and data quality operations, saving the bank time and cost.

THE RESULTS

KEY OUTCOMES



REGULATORY REQUIREMENTS MET

80+ re-usable components



RESOURCES DEVELOPED

300+ internal data engineer and 80+ partner resources trained on DBT/Snowflake and development standards



INCREASED SPEED OF DATA MIGRATION

Multiple applications across mortgage, home equity, deposit, and credit card lines of business



GOVERNANCE SIMPLIFIED

Data quality strategy and quality management framework developed and implemented



TRAINED RESOURCES

A healthy pipeline of trained resources ready to start



STRENGTHENED IT CONTROL

State-of-the-art IT control framework for execution and evaluation



ESTABLISHED SELF-SERVICE REPORTING

Patch and vulnerability self-service reporting to meet CIO controls agenda



IMPROVED ROI

Experience with domain data models and self-service helped improve returns from investments on data assets



BUSINESS EXPANSION

A new platform and common services enabled other lines of business to adopt and implement the data strategy. Platform and common frameworks enabled quicker migration of other process and data assets within the bank



TCO REDUCTION

BI and platform optimization for on-premise and online data assets reduced total cost of operations



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FEELING SOCIAL?

