USING DATA AND ANALYTICS TO ENHANCE CUSTOMER EXPERIENCE IN FINANCIAL SERVICES

Customer Case Studies

Introduction

Financial services customers expect a personalized experience in their financial interactions similar to other areas of their digital lives. A recent Accenture Global Financial Services Consumer Study[1] reveals that consumers have a strong appetite for increased personalization from banks and insurers—across persona types, **over 50%** are consistently interested in personalized financial services offers and advice.

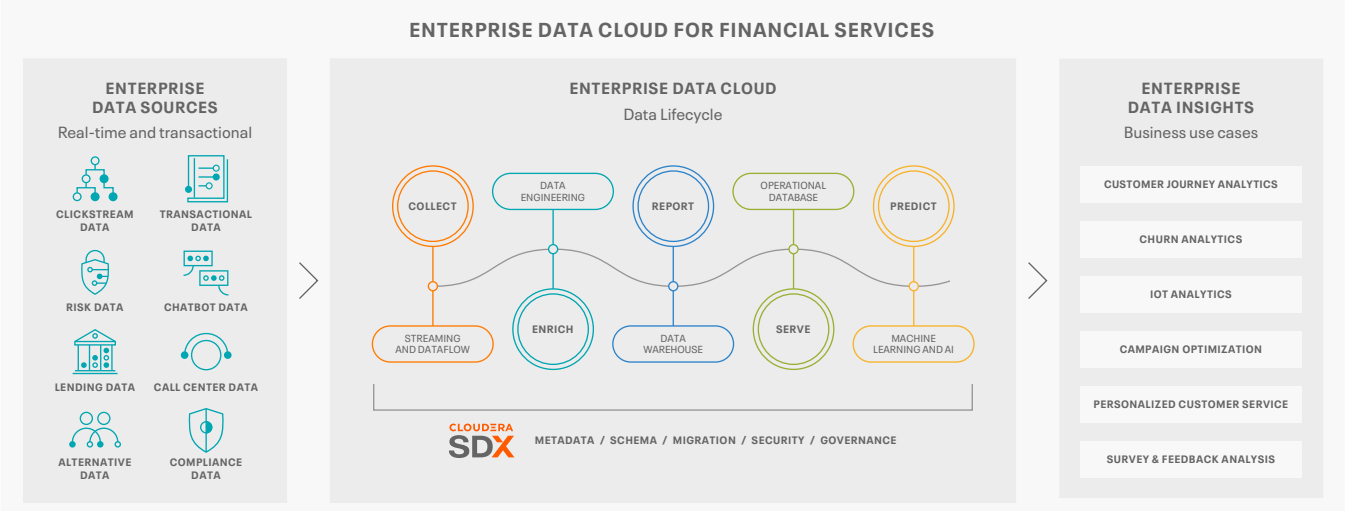
Financial services providers are responding using data and analytics to help facilitate an enhanced experience for their customers. These organizations are collecting customer data from multiple sources, combining and correlating account activity, borrowing history, core banking, investments and call center data, to form a more complete understanding of the customer and their needs.

As customer expectations continue to evolve, enhancing the customer experience requires expanding the data sources and analytics used to better predict and anticipate customer needs. To enable more timely information and advice, financial services organizations are collecting data from new and emerging sources including clickstream data, location data, social media streams, news feeds, chat bots and more. As these new sources cause data volumes to multiply, advanced analytics and machine learning are proving effective to analyzing the vast quantities of data and help realize insight. McKinsey[2] cites an example where a financial services firm reduced repeat calls by 15% using advanced analytics to examine repeat call behavior.

End to end Financial Services Data Management with Cloudera

Over 520 financial services organization globally run on Cloudera to support their data and analytics strategies. Cloudera Data Platform (CDP) is the industry's first enterprise data cloud, offering a full range of analytic capabilities from the Edge to AI. CDP enables organizations to manage the end-to-end data journey, taking in raw data at the source, to drive actionable insights and enhance the customer experience by implementing a suite of compelling use cases.

CDP delivers powerful self-service analytics across hybrid and multi-cloud environments, along with sophisticated and granular security and governance policies that IT and data leaders demand. It's built 100% on open source to more easily enable integration with existing system investments.



Proven Data Leadership in Financial Services

Over 520 Financial Services firms globally run on Cloudera to support their data and analytics strategies including

- **82 of the top 100** Global Banks
- 4 Largest Credit Card Networks
- **27 of the 30** Global Systemically Important Banks (G-SIB)
- 12 out of 15 Top Insurance Firms
- **80%** of the Largest Stock Exchanges

With CDP, financial services organizations can collect data from multiple sources, including both traditional and new data sources such as market data, transaction data, risk data, mobile banking, chatbots, enterprise data sources (core banking, origination platforms, ATMs, investment, loan or call center systems), etc.

This varied data is enriched and cleansed to make it easier to create and execute end-to-end data pipelines. Depending on the business needs, organizations can report against and analyze data in a variety of ways including interactive SQL, text search, integration with leading BI and visualization tools, or perform advanced analytics and machine learning.

CDP supports traditional structured data alongside new unstructured data ensuring the latest data and analysis can be injected into decision making. To close the loop on the data lifecycle, machine learning is used to predict and drive key business insights that can be actioned.

This is done while maintaining strict enterprise data security, governance, and audit trails across on-premise and cloud hybrid environments. CDP facilitates PCI and sensitive data compliance, mandatory for regulated organizations.

CDP provides a spectrum of specialized capabilities to address scaling your data analytics needs. CDP manages streaming data with support for massive volumes to serve the real-time data needs related to timely customer experiences. CDP offers deployment options to support businesses expanding to new experiences leveraging its foundation for containerized compute applications such as Cloudera Data Warehouse and Cloudera Machine Learning.

Cloudera Shared Data Experience (SDX) provides enterprise-grade security and governance on all data including metadata, with dedicated, integrated interfaces to manage it. Data security, governance and control policies can be set once and consistently enforced everywhere, reducing operational costs and business risks while also enabling complete infrastructure choice and flexibility.

Customer Case Studies

The stories that follow show how premier organizations like Rabobank, DBS, YES Bank and Novantas are using data and analytics to improve customer interactions.

Impact

- Preventing financial dilemmas before they happen through machine learning and financial modeling
- Real-time data analytics to provide immediate customer insight and shorten time to market
- Scalable data infrastructure to innovate at the speed of life

"Cloudera helped our organization get to the next level by providing us with a streaming data platform, which provides us with real-time data. Rabobank is aiming for a self-service environment for our data, and we want our customers to be able to access the data at a click of the button in a secure and controlled manner. Within a financial institution it's very important to be in control of your data, and Cloudera is helping us to support that."

Martijn Groen, IT lead of the Data Lake, Rabobank

Background

Rabobank is one of the largest financial services institutions in the Netherlands, with over 8.3 million customers worldwide. Rabobank offers a broad range of products and services tailored to the Dutch market and aims to help its customers become more self-reliant in their finances.

Challenge

In order to help its customers—including small businesses and farmers—become more self-sufficient and improve their financial situation such as debt settlement, Rabobank needed access to a varied mix of high quality, accurate and timely customer data. The challenge to providing this insight, however, was the ability to execute sophisticated and timely data analytics at scale. Though Rabobank could conduct batch processing and analyze large amounts of historical data daily, it lacked the ability to stream and analyze data in real time. Armed with new ideas on how to help and support its customers, but lacking the capacity to develop them quickly, it needed easier access to customers' datasets to ensure they were using and receiving the right financial support at the right time.

Solution

Rabobank selected Cloudera's HDP and CDF due to its ability to cope with heavy pressures on data processing and its capability of ingesting large quantities of streaming data.

Implementation

Using the Cloudera platform, Rabobank was able to create a new data lake that would allow its employees to run faster queries across a single SQL interface including both historical and real-time data. From customers' loan repayment patterns to up-to-the-minute transaction records, Rabobank and its customers could now immediately access the valuable data needed to help them understand the status of their financial situation.

Results

Rabobank is now able to run sophisticated machine learning algorithms and financial models to help customers manage their financial obligations, including loan repayments. By implementing the platform and gaining the ability to stream real-time data, Rabobank can now detect warning signals in extremely early stages of where clients may go into default. Through their new, governed data lake, Rabobank's account managers are also able to access an in-depth overview of customer data, enabling them to generate liquidity overviews and advise customers on how to avoid defaulting. With HDP and CDF's rapid data processing, Rabobank could create better models and more accurately predict warning.

80%

80 percent reduction in operating costs and a much shorter build time through a wide range of customer service and operational improvements

Impact

- Improved customer experience
- Decrease in cost to service customers while increasing revenue through better service

"The real big benefit lift though is the benefit it provides to the business. If you look at our digitally engaged customers, we see material lift in how much revenue a digital customer brings to the bank."

David Gledhill, Head, Group Technology and Operations, DBS

Background

DBS is a leading financial services group in Asia with headquarters in Singapore.

Challenge

The drive to deliver a superior customer experience led DBS to become more data driven and better predict customer needs across channels. However, the company's traditional technology stack for supporting advanced analytics was expensive to scale and not flexible enough to support this work.

Solution

DBS built a central data team and enterprise data hub that enables staff to experiment more and be on the forefront of innovation when it comes to understanding the customer experience and applying human-centered design to its services.

Results

With the ability to more easily store and analyze billions of events in a modern data platform, DBS can answer questions before they're asked to more effectively engage customers and deliver better service.

Additionally, the transformation to a data-driven organization has significantly improved operations across the organization. For example, HR staff can understand and predict why an employee might leave so they can take action early to retain employees. Audit can staff predict which branch might have the next audit issue. Risk management staff can better detect fraudulent transactions. And operational staff can understand and predict customer flows, ATM load and call center volumes.

100s

100s of TB of data analyzed daily

Impact

- More customer insights lead to proactive customer service
- Data is reliable and compliant

"We aim to completely personalize the customer's experience using data services. Our goal is not to create customer segments—but to treat every customer as a segment."

Anup Purohit, Group President and CIO, YES BANK

Background

YES BANK is India's fourth largest private sector bank with over 1,100 branches serving over 2 million customers in India.

Challenge

YES BANK has many systems generating structured and unstructured data, from hundreds of applications, click streams, logs, emails, text messages, push notifications and other sources. The bank's federated data marts gave each business only enough data to substantiate its own business, without a 360 degree customer view. With the bank's focus on delivering customized services across its entire value chain it was imperative to get a unified view and maximize its "data banks".

YES BANK needed a solution framework to provide speed, agility, flexibility and storage capacity to process unstructured data and run real-time analytics while heightening data security. Essential to this work was implementing a platform that could meet the high governance standards and stringent data security regulations of the financial services industry.

Solution

YES BANK partnered with Cloudera to build a "unified on-premise data management platform". The Cloudera Shared Data Experience (SDX) technologies built into the platform mitigate any anxieties over compliance and ensuring secure data access across many users.

YES BANK leverages the benefits of machine learning through programming languages like Python and R to consolidate all customer data, personalize services thereby transferring the benefits of analytics directly to customers. The bank built a neural-network-based transaction purpose model, which looks at roughly 1,000 features and classifies the true purpose of every single customer transaction. The results have been a game-changing digital experience with proactive customer service.

Results

YES BANK is continually exploring ways to use data as a key driver to improve customer acquisition and overall customer experience. "Data is vital not just to 'target' customers but also to add value to the experience we give them," says Anup Purohit, Group President and CIO at YES BANK. For example, the bank is building intelligent and proactive chatbots that will know not only what clients need, but when they need it. "Reaching out to the customer at the right time is of critical importance and we have a lot of emphasis on running this in real time."

With a unified data platform built on Cloudera, YES BANK now develops bespoke and inventive solutions with quicker turn-around times for product launches and updates. Empowered by the accessibility and agency over its data, YES BANK has brought a previously out-sourced customer loyalty program in-house, which has saved them a quarter of a million dollars every year.

NOVANTAS

1000+

More than 1,000 business metrics per customer analyzed with sub-second response time

Impact

- Improved customer targeting for profitable revenue growth
- 50 percent reduction in marketing cost execution for a large US bank
- Up to $30 million in savings identified for a large US bank by identifying target customers for specific promotional rates
- More than $15 million in new opportunities identified for every $1 billion in deposits at several large financial institutions

"Often broad campaigns can result in banks paying incentives when they are either not required or where they will not result in long-term value, as in the case of promotion hoppers. By helping our clients target a select group of customers for an offer, banks can significantly change their cost structure."

Kaushik Deka, Director and CTO, Novantas

Background

Novantas is a leader in analytic advisory services and technology solutions for financial institutions, working with 80 percent of the largest global banks, payment networks and wealth managers.

Challenge

Novantas helps their clients solve pragmatic business problems, such as identifying pricing and prospecting opportunities that can improve customer acquisition.

To take its analytics to the next level, Novantas had to modernize its data platform. Staff needed a platform capable of analyzing massive data sets—magnitudes larger than before—and a greater variety of data, including unstructured data such as audio from call center recordings and unstructured text in payments transactions data. For example, by using natural language processing (NLP) to analyze call center recordings, Novantas can gain insight into customer sentiment on products and promotions.

Solution

Novantas built a self-service customer journey analytics solution using Cloudera's modern data platform. The platform integrates customer accounts and transactions data from more than 30 institutions with third party data, and applies machine learning models to operationalize customer scores, such as customer potential value (CPV), for a variety of use cases, including offer optimization, customer retention targeting, and cross-sell and upsell activities.

Novantas deployed Cloudera both on AWS and on-premise, helping it cost-effectively manage variable workloads as needed. The organization was able to monetize its new solution in only six months, 18 months earlier than originally projected, thanks to Cloudera's ease of administration and maintenance, and speed of provisioning. Data scientists use Cloudera Data Science Workbench as their core development environment, using whatever language they want to develop metrics and models and plug in their own libraries into this secure environment.

Results

Powered by Cloudera, Novantas has helped its clients more precisely and profitably deploy pricing, marketing, sales and retention initiatives. For example, with the ability to more precisely target which customers to offer rate incentives, one large US bank reduced its promotional marketing spend by 50 percent to increase its profitability.

About Cloudera

At Cloudera, we believe that data can make what is impossible today, possible tomorrow. We empower people to transform complex data into clear and actionable insights. Cloudera delivers an enterprise data cloud for any data, anywhere, from the Edge to AI. Powered by the relentless innovation of the open source community, Cloudera advances digital transformation for the world's largest enterprises.

Learn more at cloudera.com

Conclusion

A data-driven approach empowers financial services to better understand their customers and provide timely advice.

The Cloudera Data Platform facilitates quickly and effectively building business applications around the emerging, more fully realized customer profile. By combining data from across the organization with unstructured and alternative data sources, new use cases can be developed to better engage with customers and prospects.

Financial organizations that embrace a customer-centric approach achieve critical goals:

- Acquire new customers— Leveraging techniques such as segmentation and targeting to fine-tune outreach.
- Expand existing business—Discovering new avenues by which to cross-sell, up-sell and extend the next best offer.
- Drive customer loyalty and long-term retention—Using analytics-driven customer engagement tools including digital assistants, customer surveys and feedback analysis.

Why Cloudera

Cloudera Data Platform enables financial services providers to effectively execute their data and analytics strategy to address current and evolving customer expectations.

Edge to AI Analytics

All the functions needed to ingest, transform, query, optimize and make predictions from data are integrated, eliminating the need for costly point products.

Data Security & Compliance

Maintains strict enterprise data security, governance and control across all environments

Hybrid and Multi-Cloud

Delivers the same data management capabilities across data centers, private and public clouds.

100% Open Source

Open compute and open storage ensures zero vendor lock-in and maximum interoperability.

Sources

[1] Accenture Financial Services Consumer Study, 2019

[2] McKinsey & Company article, 2019

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