

MAPPING A COMPREHENSIVE CUSTOMER VIEW AGAINST THE CUSTOMER JOURNEY

Key Highlights
 Becoming customer-obsessed is a major focus for many enterprises and can be greatly enhanced by utilizing existing stored and real-time data inputs

Many financial organizations have already come up with innovative and effective new ways to improve their customer experience

Alternative data supplements and enhances existing data

A current focus for all financial services providers is building a single view of the customer, including their entire customer journey, also known as customer 360 or C360. As this use case is developing, the meaning has developed: institutions are now not just looking for a single source of the truth, but to complement that with a much richer set of data. This doesn't just include structural data that the bank stores internally (eg. transactional), but also semi-structured and sometimes externally-sourced data too (eg. social media data, call center and chat bot scripts).

Using these alternative sets of data can enhance the ability of a bank to understand their customers, giving customers access to personalized incentives, cross and up-sell offers, leveraging the customer's entire experience with the brand, across multiple channels (of which there are up to 5 times more now versus the brick-and-mortar era). Ultimately this lends itself to massive competitive advantages for the financial services provider.

Another consideration in leveraging the multi-channel data available is GDPR and other data privacy regulations and adherence, which can be guaranteed using one comprehensive data platform and secure data storage.

Improving the customer experience using data and analytics tools

Within the next few years, use of C360 and journey mapping will expand to include AI-enabled chat bots - one such example already exists at a bank in the US, which has already scaled to accommodate approximately 10 million customers, with over 100 million requests already processed since its 2018 debut. In another customer-facing example, Cloudera has enabled one bank in Australia to develop a mobile application that incorporates augmented reality. Simply put your credit card within your camera frame, the app will read the number and then give you a list of all the transactions in a pseudo-3D view on your phone screen.

TD Bank future-proof digital experience

Using behavioral analytics and sentiment analysis allowed TD Bank to deliver a richer digital experience. This was completed by bringing together thousands of data sources together at a fraction of the cost for cybersecurity, fraud detection and customer marketing. Ultimately this drove 90% productivity improvements for analytics projects and delivered a 60% reduction in data management costs, alongside a 98% reduction in storage costs per terabyte.

Assessing mortgage risk using deep learning models at global management and consultancy services provider

Using deep learning neural networks, Cloudera trained four flavors of classification model to analyze the credit risk of a particular mortgage, or set of mortgages. The main database stored data for 15 million fully amortising fixed-rate mortgages (15, 20 and 30 years) between 2000 and 2016, with origination and performance/monthly data updates. In addition, house price index data, unemployment rates and interest rates were incorporated as alternative data sets. In testing, adding in alternative data sets increased performance updates 0.4%.

New revenue streams through enhanced customer experience with in Brazil

With a large part of Brazil's payment cards market share, this company's data lake combined transactional data with application information, card holders, merchants, social media, maps, weather and traffic to offer real-time, personalized offers for their customers. New insights provided to merchants and the bank ultimately opened up new revenue streams.

Enhancing information flow

Over the next period of development in the customer-facing areas of banking, new sources of data feeds are going to become more available, including those that may not have been traditionally available for the banking sector. These feeds could provide a vast amount of behavioral information, which could ultimately be used to complement and enhance existing CRM (customer relationship management). Using this enhanced data, CRM could inform how to interface with the customer and how to identify and deliver the products and services that they want. This enhanced data comes from outside the business and typically includes many types of alternative data.

Mapping, measuring and optimizing the customer journey

The customer journey is an extensively reviewed aspect of all customer-facing enterprises, with particular relevance for staff with customer-facing roles. Mapping the journey involves pinpointing, measuring and optimizing all the touchpoints a customer might have with a company - but this could involve anything from a digital ad to a sales meeting, most of which are measured in different systems. Including and analyzing all the different channels and systems the customer touches can then help to identify bottlenecks in conversion rates, allowing the company to optimize their interaction at that one specific point.

After identifying inefficiencies, looking again at where the customer journey could be rapidly optimized, using intelligent decisions and UI/UX optimization from everything from BI to ML/AI, would further accelerate the sales cycle and CRM development.

Measuring your C360 maturity

There are four main stages of financial services customer 360 maturity, detailed as follows:

Phase 1 Using internal data - basic models and analysis

Phase 2 Look at external and maybe non-text data - more sophisticated algorithm

Phase 3 Incorporate all kinds of data sources and analytics (voice, text)

Phase 4 Includes simulation modelling

Across all phases, thought analysis is imperative - what data is required, what analytics you need, what are the skills needed, where you are currently on the maturity scale versus your competitors and what your roadmap is. You may compare differently across use cases or departments. It is critical to identify your goals and align a strategy accordingly.

37 years of analyst time saved with adaptive machine learning models at major bank in APAC

Breaking down data silos, enhancing data management and quality and improving customer experience were imperative to this bank in the implementation of their data transformational efforts with Cloudera. By implementing their data and analytics strategy on the Cloudera enterprise data cloud and incorporating machine learning and AI, millions of new card and consumer loan revenues were generated from learning and modelling over 600 million customer interactions.

Royal Bank of Scotland delivers next-best action recommendations in real-time

With the inability to analyze clickstream data to understand the customer journey, Cloudera and Streamsets provided an ingestion solution that synchronized with ML models to power real-time 'next best action' recommendations for customers. 50 million raw events are processed, analyzed and filtered every day, to detect relevant customer journey points.

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

Alternative data

Alternative data is generally accepted as a non-traditional data source that adds additional insights into existing analysis and complements more traditional data-sourced analytics. Data such as alternative payment behavior, ecommerce data and wearable devices, amongst others, can all contribute to enhancing your customer view and relevant data... And all count as alternative data. Ranging from structured to unstructured data types, including text, sensor data and others, the alternative data industry is projected by Forbes to reach \$1.7 billion in 2020.

This is critically dependent upon the use of ML and AI capabilities. Extracting value from these new data sources can be a challenge for many organizations, which may previously only have used alternative data sources in hedge funding and trading areas of banking. However, alternative data is rapidly moving to be more applicable and widely applied across mainstream and core functions.

The IBM and Cloudera approach

Cloudera Data Platform (CDP) is an integrated data platform that is easy to deploy, manage, and use. By simplifying operations, CDP reduces the time to onboard new use cases across the organization. It uses machine learning to intelligently autoscale workloads up and down for more cost-effective use of cloud infrastructure. CDP manages data in any environment, including multiple public clouds, bare metal, private cloud, and hybrid cloud.

Cloudera DataFlow (CDF), formerly Hortonworks DataFlow (HDF), is a scalable, real-time streaming analytics platform that ingests, curates, and analyzes data for key insights and immediate actionable intelligence.

Leveraging the breadth of IBM and Cloudera's offerings means you can really make the most out of your internal data sources, using CDP and IBM DB2 Big SQL, and external or alternative data sources. A combination of IBM Power and IBM Spectrum Scale storage and compute power means that you can analyze and adapt to differing data inputs in a predictive, modelled way, using CDF to ensure real-time insights. CDP also allows you to view any data, anywhere on one platform with consistent security and data compliance.

Working in a global partnership, IBM and Cloudera also provide:

- **Freedom of choice** for data environments, including hardware and IBM Cloud
- **Speed to innovation** using the power of the open source community
- **Security and governance** from the Edge to AI
- **One-stop support**, including multi-vendor support services through IBM
- **Faster ROI** with end-to-end capabilities offered
- **Industry-expertise** with vertical specialists on hand

Learn more at cloudera.com/IBM