SAP® Cloud Platform Big Data Services for Financial Services
Use Cases for Big Data in Financial Services
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How Financial Services Firms Can Leverage Big Data to Achieve Their Business Goals

Information is at the heart of the financial enterprise. To gain competitive advantage, financial services firms must discover special insights upon which they can capitalize. With the massive flow of data about customers, companies, economies, and trends, there is ample opportunity for firms to extract valuable analytical insights that inform rapid decisions or serve as the basis for products and services for end customers.

Retail banks serve millions of customers – insurance companies access decades of claims, credit card companies process billions of transactions a week, and capital markets firms store years of tick-level market data. Analytics can be used against this data not only to increase revenue and maximize profit but also to minimize risk. This includes managing exposure to credit and investment risk as well as identifying and mitigating various kinds of fraud.

In order to take full advantage of available data assets, financial services firms require Big Data solutions capable of handling significant data volumes, unstructured data, and a multiplicity of data types. A modern data infrastructure, based on the Apache Hadoop ecosystem, can help banks achieve insights across vast amounts of information, in a cost-effective and scalable manner.
RISK MANAGEMENT

In the wake of the global financial crisis, demands for institutional risk management have intensified. Banks face increasingly stringent requirements for compliance reporting and stress testing, which include enterprise-wide assessments of risk exposure.

The use of Hadoop allows banks to:
- **Centralize reporting and analytics and meet compliance requirements** by pulling previously siloed data from across divisions and geographies into a central repository
- **Rapidly run through many variations of complex, bank-wide stress tests**, covering multiple combinations of market and credit risk
- **Score credit risk more accurately** by incorporating more relevant sources of data into the analysis

FRAUD DETECTION

Fraud in the financial sector can take multiple forms, such as unauthorized transactions, identity theft, mortgage fraud, or money laundering, costing firms billions annually. Big Data solutions are well suited for fraud detection because they can analyze a broad array of signals to identify patterns of potential fraud.

Big Data analytics can help fight fraud in the following ways:
- **Train more robust fraud models** that are based on entire data sets rather than smaller samples
- **Increase fraud detection accuracy** by combining multi-structured data from many aspects of a transaction to find correlations that indicate likely fraud
TARGETED CUSTOMER INSIGHTS

Many financial enterprises – retail banks, credit card issuers, and insurance companies – market directly to consumers. Using a combination of conventional and newer sources of data, these firms seek to better understand their customers in order to tailor promotions and capture market share.

With Big Data analytics, firms can:
• **Build a 360-degree view of customers** by aggregating heterogeneous data from multiple product lines, transactions, call centers, online and mobile, and social media
• **Achieve effective customer segmentation** based on a greater number of variables
• **Personalize offerings** to increase the likelihood of acceptance
• **Increase profitability** by increasing cross-sell and up-sell opportunities
• **Improve customer loyalty** by anticipating customer needs and providing relevant, timely offers

Analytics can be used not only to increase revenue and maximize profit but also to minimize risk.
Big Data is driving innovation by expanding the universe of data available to insurance analysts and actuaries.

TRADING ANALYTICS

Financial markets produce ongoing, high-volume data streams. Real-time tick data can reach millions of messages a second, while stored tick data can measure in the petabytes. Hadoop is ideal for storing and analyzing this market data. The performance of many capital markets firms is predicated on the success of their trading strategies, so a Big Data solution can assist in the following ways:

- **Store large volumes of market data** from multiple sources cost-effectively
- **Develop trading algorithms and perform rapid backtesting** on a greater number of historical time periods
- **Identify event triggers and sentiment trends** by considering unstructured data from sources such as news and social media

INSURANCE ANALYTICS

Insurance companies have always relied upon statistical sophistication. Big Data is driving innovation by expanding the universe of data available to insurance analysts and actuaries. With greater insight into customers and claims, companies aim to increase profitability by optimizing products, pricing, and claims payouts. Big Data solutions enable insurance companies to:

- **Accelerate claims processing and increase processing accuracy** by employing text analytics on unstructured claims data
- **Improve insurance fraud detection** by utilizing more sources of structured and unstructured information in predictive models
- **Set personalized insurance rates** by leveraging new data sources, such as vehicle sensor or activity tracker data
Why SAP® Cloud Platform Big Data Services for Financial Services

SAP® Cloud Platform Big Data Services make it easier for financial services firms to capitalize on data quickly.

A COMPLETE SOLUTION, RUN BY EXPERTS

SAP Cloud Platform Big Data Services are fully managed cloud services, including everything required to run production-grade Big Data – infrastructure, a comprehensive Hadoop- and Spark-based platform, and operations. With SAP Cloud Platform Big Data Services, enterprises can rapidly achieve business value from their data.

PERFORMANCE AND RELIABILITY

SAP offers a solution fully optimized for Big Data, resulting in up to 10x better performance than alternatives. Our operations experts help ensure that operational and performance objectives are met as well as provide expert advisory services and proactive support.
SAP Cloud Platform Big Data Services are fully managed cloud services, including everything required to run production-grade Big Data.

ENTERPRISE-CLASS SECURITY

SAP Cloud Platform Big Data Services are designed from the ground up with security at their core. They are Service Organization Control 2 (SOC 2) certified and compliant with Payment Card Industry (PCI) security standards and the Health Insurance Portability and Accountability Act (HIPAA). Strong, enterprise-class Kerberos authentication is automatically available on the platform.

FOR MORE INFORMATION

To find out how SAP Cloud Platform Big Data Services can help your financial services firm, contact your local SAP representative or visit us online at www.sap.com/BigDataService.