WHY FINANCE & BANKING SECTOR NEED BIG DATA?

Abstract. Have you ever thought of the amount of data you create each day? Every message you send, every credit card transaction, even every web page you open... They all collect a total of 2.5 quintillion bytes of data produced daily by the global population. This offers endless opportunities to leverage this data for the most forward-thinking businesses in many areas, and the banking industry is no exception. While digital banking is used by almost half of the world's adult population, financial institutions have enough data at their disposal to rethink the way they work, becoming more efficient, more customer-focused, and ultimately more profitable.

Keywords: Big data, Finance, Banking

The global financial services industry generates large amounts of structured and unstructured data every day by processing hundreds of billions of financial transactions and engaging interactions such as email, audio and video communications, call logs, blogs and social media mentions.

One of the main drivers of this data boom is the increase in global payment volumes triggered by e-commerce and mobile payments. No one knows yet how the global COVID-19 pandemic and the resulting economic downturn will affect the global payments market. However, it was previously predicted to reach $2 trillion by the end of 2025 and reach an average annual growth rate of 7.83%. E-commerce
also continues to grow dramatically, especially at a time when consumers are warned to shop in person as little as possible. The use of ATMs, the paperless processing and settlement of mortgages, peer-to-peer payments through applications such as Venmo and Cash, as well as other mobile and remote digital banking services are becoming increasingly popular.

The use cases of big data in banking are the same when they first realized that banks could use huge data warehouses to generate actionable insights: to detect fraud, to simplify and optimize transaction processing, to improve customer insight, to optimize business execution, and ultimately to crowd to compete in the market. However, as you collect more data, the resulting insights and customer experiences become more accurate and meaningful. Here are a few examples:

– Western Union offers a multi-channel approach that adapts and personalizes the customer experience by processing more than 29 transactions per second and integrating all this data into a single platform for statistical modeling and predictive analysis.

– An Eastern European bank in the late 2000s without a physical location and offering full credit cards and other banking services, using big data analytics to evaluate and analyze Nearly React Real stays ahead of the online offerings of its old and more established competitors -time loan applications. a consumer-friendly feature that increases conversion rates tenfold for certain up-sell campaigns.

How banks are dealing with new big data challenges

While the use cases for big data in banking have remained the same, the challenges have changed as data engineering technology has evolved.

Speed is very important. The transition from the traditional data warehouse with ready-made hardware with a largely parallel engine to Hadoop has allowed banks to reduce their time spent gaining insight from their data from three months to a day or less. . The introduction of cloud-based data processing has shortened this time frame even more. However, banks still tend to process data in monthly batches, which means they won't see a trend for 30 days or longer.

Apache Spark is a possible solution to this problem. Like Hadoop, it's an open
source big data analysis engine, but it's faster, more scalable, and easier to use. It can also be used locally in cloud environments to capture and analyze streaming data in real time and get faster and more accurate answers to business questions.

**Big Data Needs to be Managed and Governed**

Hadoop and Spark can move large amounts and diverse data to a data lake so that it can be moved to an on-premises or cloud data warehouse accessible to business users. However, you cannot guarantee that the data is suitable for use. Neither Hadoop nor Spark do data management or data management natively, so they cannot help business users understand what they own, what it means, or how they are used. They also don't provide data origins, so users can see all the transformations their data takes on the path from source systems across the organization to analytics tools.

**Technology is Modular and Commoditized**

Banks addressed the costs of big data analytics, skill gaps, and infrastructure management issues by moving data processing from on-premises hardware to the cloud or hosted colocation facilities. However, when a local credit union and a multinational bank have the same access to AWS, Microsoft Azure, or a managed service provider, the ability to handle large amounts of data is no longer a competitive advantage.

Banks need to be able to turn their data into smarter insights faster, then turn those insights into action to improve customer service, connect customers with information and products when and where they need it most, and with sensitive data, and protect customer accounts from threats.

Today, analytics is becoming a important game-changer in the banking sectors. The financial services, banking, and insurance sectors are putting their full potential to develop the services that they supply their customers and expand their business opportunities.

**Why Finance & Banking Sector need Big Data?**

Big Data can help the Finance industry not only organize its data, but also improve the customer experience. These are the reasons why the Finance and Banking Sector needs Big Data.

1. Employee Engagement
The benefits of big data in banking are as follows:

1. **Big data gives you a complete perspective on your business**: This means you can make knowledgeable, data-driven resolution and, later, get business results.

2. It allows you to optimize and modernize your internal processes with the help of machine learning and artificial intelligence. As a result, you get a significant performance increase and lower operating costs.

3. In banking, big data analytics can be used to increase your cyber security and decrease risks. You can detect fraud and prevent potentially malicious acts using smart algorithms.

On the other hand, there are some obstacles to implementing big data in banking. So, some of the big data challenges in banking include the following:

**Old systems struggle to keep up**

The banking sector has always been comparatively leisurely to innovate.

But when it comes to big data, things get worse: most legacy systems can't cope with the increased workload. Testing to agglomerate, store and analyze the required amount of data using an old infrastructure can compromise the stability of your entire system.

As a result, organizations face the challenge of increasing their processing capabilities or completely rebuilding their systems to meet this challenge.

**The bigger the data, the higher the risk**

Secondly, where there’s data there’s risk (especially taking into account the legacy problem we’ve mentioned above). It is clear that banking providers need to make sure the user data they accumulate and process remains safe at all times.

**Big data is getting too big**

With so many different types of data and their total volume, it's no wonder businesses have a hard time dealing with them. This becomes even more apparent when trying to separate valuable data from useless data.
While the share of potentially useful data is increasing, there is a lot of irrelevant data to resolve. This means businesses need to prepare themselves and support their methods to analyze more data and, if possible, find a new application for data considered to be irrelevant.

Despite the mentioned difficulties, the advantages of big data in banking easily justify any risk. The insights it gives you, the resources it frees, the money it saves - the data is a universal fuel that can drive your business to the top. The question is how to use big data to its full potential in banking.

**Result**

Financial companies now have access to big data for use cases, such as creating new revenue streams through data-driven offerings, giving individual recommendations to customers, creating more productivity to increase competitive advantage, and providing better security and better customer service. Many financial companies already handle big data correctly and get immediate results. Many companies have been able to implement Big Data solutions to develop analytics platforms that predict customer payment behavior. A company that has an idea of its customers' behavior can shorten payment delays and earn more money while increasing customer satisfaction.

**References:**
