Converting Data into Goods in Banking (Saman Bank in Iran)

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INTRODUCTION

In the 20th century, oil was considered the most valuable commodity. In the 21st century, its equivalent is data. Data has always been an important commodity for many businesses. Still, as the digital revolution continues to transform the banking sector, the value of data has risen to a new level of importance. In a world where we are witnessing a move from human-driven cars to self-driving cars, a similar transformation is taking place in banking. We are transforming from banking to autonomous or cognitive banking, where artificial intelligence and machine learning are changing the customer experience of financial services.

Every day, banking customers generate an astronomical amount of data through hundreds of thousands—if not millions—of individual transactions. We generate 2.5 quintillion bytes of data every day! As a result, banks and financial services organizations always keep a large and huge amount of data in their institutions, this amount of data, along with the unlimited processing power through the cloud to manipulate, integrate and match different sources, makes data one of the become the most important resources of these organizations. But historically, they haven't been good at interpreting and monetizing the value of this data.

In the recent past, banks were the primary conduit for the majority of business financial transactions. But today this way is eroding. Their competitors, non-financial institutions, are targeting this market with innovations such as blockchain, product development, tools that replace manual processes, and the creation of unprecedented levels of cybersecurity which are critical in today's digital transactions. In this hugely competitive market, banks can optimize processes and streamline operations by using their biggest and most important asset, massive amounts of data, thus improving efficiency and competitiveness. For example, in the past, a regular customer would walk into a branch he frequents, the cashier knew his customer because he had served this customer for years. He knew where the client worked and what his financial needs were, and based on that, he knew how to serve him and what services were suitable for him.

Such a model has existed for a long time. Banks had gained and maintained the trust of their customers who had personal relationships with bank employees. But today, if our hypothetical customer has many transfers in different branches or countries for some reason, our model is completely incompatible with today's reality. No bank employee has detailed information about a customer's finances and knows how to meet their current financial needs. Data science in banking enables one to continuously analyze and store all information from traditional and digital sources, leaving an electronic trail for every customer.

In Mackenzie's article, methods for using the value of data are expressed and criticized, and a new approach that transforms data into goods is introduced. In this report, we want to answer 5 important questions in this field about the banking business.

WHAT ARE THE CHAINS OF DATA TRANSFORMATION INTO SUSTAINABLE VALUE IN BANKS AND FINANCIAL INSTITUTIONS?

To turn data into valuable data, a strategy needs to be chosen. Strategy is a road map and investment plan that solves business problems and differentiates between important and necessary things. As we said, data is one of the most important assets of banks which can create value in the two dimensions of operational efficiency and business innovation. Developing a plan with measurable goals will help the organization move along these two dimensions.

Banks can create sustainable value by using data to tailor their products and services to customers' personal needs. This can include customized pricing, matching lifestyle needs with services, insights to increase revenue streams, and maximizing revenue by identifying customers' willingness to pay. Banks can also use data analytics to gain a competitive edge in the market. Data-driven banking requires preparation to create value from data, a process that includes identifying all key data sets. Banks must develop analytics as a true business discipline to fully realize the potential of data-driven banking. A sound data strategy supports customer value and enables micro and small banks to gather additional information from private and public sources. It helps banks develop new business models that put customers at the centre of decisions and create value for them. Banks must also ensure that customer data is used carefully to create value for customers. Finally, banks must value customers to retain them. This could include offering competitive interest rates or providing excellent customer service.

The process of converting data into sustainable value in the banking sector consists of several steps. First, banks need to consider and manage data as a strategic asset or commodity and access it in real-time using technological advances such as data orchestration and cloud adoption. Second, with this wealth of data, banks can develop a deeper understanding of their customers, consumers, small businesses, and corporations. Third, banks can monetize these insights by learning lessons from other industries, such as digital entertainment platforms. In addition, banks can create green financing prod-

ucts that accelerate the sustainable transformation of their customers while generating new revenue streams for themselves. Ultimately, banks can leverage ESG (environmental, social and governance) concerns to create value through superior growth, cost reduction, reduced regulatory and regulatory interference, and employee productivity. In addition, a cross-regional joint system that integrates spatial data with economic and market data can be used to represent the value chain of a product or process. They can use accelerated data science, artificial intelligence, and GeoAI to leverage sustainable finance by leveraging transaction, supply chain, and geospatial data insights. Create a competition for themselves. In general, it can be said that there is an 8-step process to create a data product:

- Identifying the opportunity

- Building the product

- Evaluate and iterate

- Start with consumers

- Identify the market

- Release a prototype

- Open feedback loops

- Release the event stream as a product of data.

Pros: Banks are beginning to offer sustainable exchange banking products, such as green bonds and standby letters of credit, that guarantee an underlying project with a specific environmental or social goal. Sustainable trade finance can help companies drive change in their downstream and upstream supply chains. Sustainable supply chain financing can provide suppliers with access to working capital, stronger relationships with their customers, and the ability to quantify ESG performance.

IN THE FORM OF WHAT KIND OF STRATEGY, DATA IS THE MOST VALUABLE ASSET OF BANKS?

In today's data-driven world, banks have a huge opportunity to turn their data into a valuable commodity to win in constant competition with other firms. However, it's not just about collecting and storing data, it's about using it in meaningful ways that drive growth and success, as well as innovation to dominate the market. There are several strategies that banks can use to turn data into their most valuable commodity, including data-driven decision-making, data monetization, data privacy and security, data-driven customer experience, and data analytics.

Data-driven decision making is about optimal use of data to inform and guide key business decisions. From product development and customer acquisition to risk management and fraud detection, this strategy is optimized. By making data-driven decisions, banks can ensure that they are making decisions based on the most accurate and up-to-date information available, and face the least amount of trouble in a competitive market. Making money from data is one of the most important strategies for banks. This includes selling access to their data or using it to develop new products and services. For example, banks can sell access to their customer's transaction data to other organizations that need it for their data analysis and decision-making processes.

Data privacy and security are important considerations for banks, as they must ensure their customer's data is secure. This includes implementing strong security measures, such as encryption and multi-factor authentication, as well as having transparent data privacy policies. Banks can use the data to recommend financial products and services which are tailored to each customer's specific financial situation and goals. By providing a more personalized and relevant customer experience, banks can increase customer engagement and loyalty.

Data analytics is another critical component of data strategy for banks. Using data analytics, banks can gain valuable insights into customer behaviour, transaction patterns, and market trends. This allows them to make informed decisions, identify new opportunities and optimize their operations. In addition to these strategies, banks can develop high-quality data products designed to meet the specific needs of different business systems or "consumption patterns." Some of these consumption patterns include: 360-degree view (which provides a comprehensive view of an important entity such as customers, employees or branches). This type of data product is essential for understanding the target entity and making informed decisions.

A digital twin that provides a digital representation of real-world assets, such as machinery or facilities. It allows simulation of real-world operations and can be used for planning and optimization purposes. Digital programs that offer data products to their customers at any time. Reporting systems that incorporate data products into reporting systems to provide insight and decision support. For example, a bank might use data products to inform risk management strategies or identify inefficient areas in its operations. Data warehouses that store data for later use and analysis. For example, a bank may store customer transaction data in a data warehouse for later analysis, to identify trends and make informed decisions.

By developing data products designed for these consumption patterns, banks can ensure that their data is easily accessible and can be applied to a wide range of business challenges. Consequently, turning data into a valuable commodity requires a combination of effective data strategies, including data-driven decision-making, data monetization, data privacy and security, data-driven customer experience, and data analytics, as well as development The quality is high. Data Products By effectively using these strategies, banks can turn their data into a valuable asset that delivers lasting value and supports their long-term growth and success.

WHAT SUSTAINABLE VALUES CAN BE CREATED FROM DATA IN BANKS?

Banks can use big data and analytics to create sustainable value by personalizing their services, improving risk management, increasing fraud detection, increasing efficiency and improving customer experience. By collecting and analyzing customer behaviour and transaction data, banks can offer customized financial products and services, assess the creditworthiness of various funds, detect and prevent fraud, streamline operations, and provide better customer support. Finally, make informed and data-based decisions. This leads to increased customer satisfaction, reduced risk and costs, and improved efficiency, all of which contribute to the bank's long-term success and growth.

An Iranian bank, like Saman Bank, can identify different patterns with the help of data and make better decisions by considering the target population and the profitability of each sector. For a group of users, the value is ease-of-use. Another group, transparency and control over financial information and transactions is important. Secure users care about maintaining transaction information and privacy, and a large group of users care about maximizing monetary returns. Data for each user group clearly defines the needs of each model. For example, an Iranian bank like Saman Bank can develop faster software and better access to information and transactions to attract more customers from the first group, for the second group, by implementing control algorithms, it can find suspicious behaviours and find more ways to Control expenses to the user.

For a user with a secure model, greater financial transparency of the bank and greater investment in defence against hacker attacks, as well as assurance to maintain information security, can be the most important reason for choosing a bank, finally, for the last group, bank analysis as well as Tracking investment performance and monitoring market trends and strategic decisions will attract the maximum of this group, all of which require regular data and analytical algorithms that can expand the bank market forever; Help and attract more customers.

In most of the above cases, the presence of more data can lead to more profitable decisions involving investment. So ultimately, data analytics is critical to empowering banks to make informed decisions and create sustainable value. The sustainable values created can be in the form of better applications, functional analysis systems, user reporting systems, and external sharing systems.

WHAT ARE THE COMMERCIAL REQUIREMENTS FOR CONSIDERING DATA AS A COMMERCIAL PRODUCT IN BANKS?

If we want to treat data as a product, we need to create a data team led by the data product owner. This team should consist of analysts, data (or analytics) engineers, user experience designers, and architects who develop data products to meet the features required by the bank to enter the chain. Among these features, the following can be mentioned:

(1) Quality: The data product collects data from different parts and adds value. As the value of the data product increases, the value of its quality also increases. Loss of trust in the accuracy and correctness of information makes data instantly worthless. The data team should invest in modern data quality approaches to identify and fix anomalies before producing data products. Because of its importance, data quality should be considered as a business initiative with its primary focus on subjectivity, rather than technical dimensions. The five attributes of data quality are accuracy, completeness, reliability, relevance, and timeliness.

(2) Security: Data products control access security and allow different consumers to see different results from the same data product because they apply specific security policies to protect sensitive data and comply with data governance laws.

(3) Reusability: One of the goals of data products should be reusability. For example, if an organization has invested in the development of a customer data product, it should be able to be used by different departments. To make this happen, products must be stored in a registry with enough metadata space for users to search easily.

(4) Observability at the same time: There may be anomalies during data transfer, which may be related to changes in the schema, late and out-of-order data reception, or data entry errors. Additionally, there may be failures in pipelines and infrastructure that may cause some tasks to fail and go undetected for a long time. As a result, investing in data visualization tools can be beneficial. Their capabilities can include automatic and proactive anomaly detection, root cause analysis, monitoring, notifications, and recommendations to fix anomalies. The result is higher reliability of data products and faster correction of errors.

(5) Addressability: Data products must be addressable to ensure that users can access them easily and in a planned manner. Addressability is achieved by assigning each data product a unique address following a global convention. This makes it easier for users to find and use the data product and also provides an additional layer of security. In addition, having addressable data sets makes teams more productive because data analysts and data scientists can independently find and use the data they need. Treating data as an addressable product is very useful for banks, as it allows them to optimize processing to improve performance. Discover new markets, products or services; Better balance of risk versus reward. And reduce wasted marketing costs.

(6) Algorithm validation and user feedback: Data products require algorithm validation and user feedback to ensure that the product is effective and meets user needs. Algorithm validation involves testing the accuracy of data product predictions or estimates. User feedback validation involves collecting user feedback, such as usage tracking tools, artificial intelligence tools, and surveys, to measure the value of various features and identify ways to guide users to value.

This data helps product managers understand how users inter-

act with their products and make improvements accordingly. Additionally, it is important to prioritize data product ideas based on the value of the information they provide to ensure that only those products that solve a significant customer problem are developed.

IN WHAT CASES CAN THE MACKENZIE REPORT APPROACH BE USED TO IMPROVE THE CREATION MODEL OF BANKS? AND IN WHAT CASES IS IT NOT? WHY?

This text talks about a framework for managing data as a product in an organization. Key elements necessary to ensure data products are effective, valuable, and well-received by users include the following sections. The first element is dedicated management and financing. This means that each data product should have a designated product manager and a team of data professionals (such as data engineers, architects, modellers, platform engineers, and site reliability engineers) who are funded to build and continuously improve the product.

This team should be part of a data tools group within the business unit, giving them access to subject matter experts and user feedback. The second element is standards and best practices. To ensure that data products are built consistently and effectively, the organization must establish standards and best practices for data product development. This is usually managed by a data centre of excellence that defines how data quality is documented, audited and measured.

The third element is performance tracking. To verify that data products meet end-user needs and are continuously improving, data product teams must estimate the value of their work. This can be done through metrics such as number of monthly users, satisfaction scores and ROI. The fourth element is quality assurance. To ensure that data products are reliable, data product teams must closely manage data definitions, availability, and access controls.

They must also work closely with the data stewards who own the source systems to verify data integrity. This helps ensure that end-user trust and retention are not lost due to quality issues. If a company has the above conditions, it can easily use the provided model.

CONCLUSION

As argued, managing data as a product is a critical strategy for businesses to stay ahead in today's rapidly evolving digital landscape. The proposed program for the selected bank considers data as a valuable asset that can cause sustainable growth and success, and the existence of an operational model for its maximum use is also necessary and should be on the agenda.

To achieve this goal, this bank must have a management structure and a dedicated budget. The management team should consist of experts in various fields, including data engineers, architects, modellers, platform engineers, and site reliability engineers; and should be funded to build and continuously improve their data products. Establishing standards and best practices for constructing data products across the organization is essential to ensure success.

This should be managed by a great data centre and should include defining how teams document the origin of data, audit data usage, measure data quality, and design the necessary technologies to match each consumption pattern so that they can be Re-used in all cases. To track performance, data product teams need to measure the value of their work, and relevant metrics may include monthly users, satisfaction scores from data user surveys, return on investment in active use cases, and the number of times a product is used. It is reused throughout the business.

In addition, quality assurance is critical, as quality problems can destroy end-user trust and retention. Data product teams must closely manage data definitions, availability, and access controls, and work closely with data stewards to validate data integrity. Having a well-designed data management model is not just about technology or processes. It's about creating a culture of data literacy and data-driven decision-making in the organization. To this end, businesses must encourage data literacy and create an environment where everyone feels empowered to use data to make informed decisions.

This includes providing employees with training and resources to understand how to access and use data, as well as providing the right tools and technologies to enable data-driven decision-making. Finally, it's important to understand that data management is an ongoing journey, not a one-time event. Businesses must be prepared to evolve their data management model as new technologies, regulations and use cases emerge; and continuously monitor and improve their data products to ensure they deliver value to the organization.

In short, data management as a product is an important strategy for businesses to thrive in the digital age. With a well-designed data management model, banks can turn their data into a valuable asset that delivers sustainable value and supports long-term growth and success.

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