Data Transformation Enables Banks to Monetize Their Data

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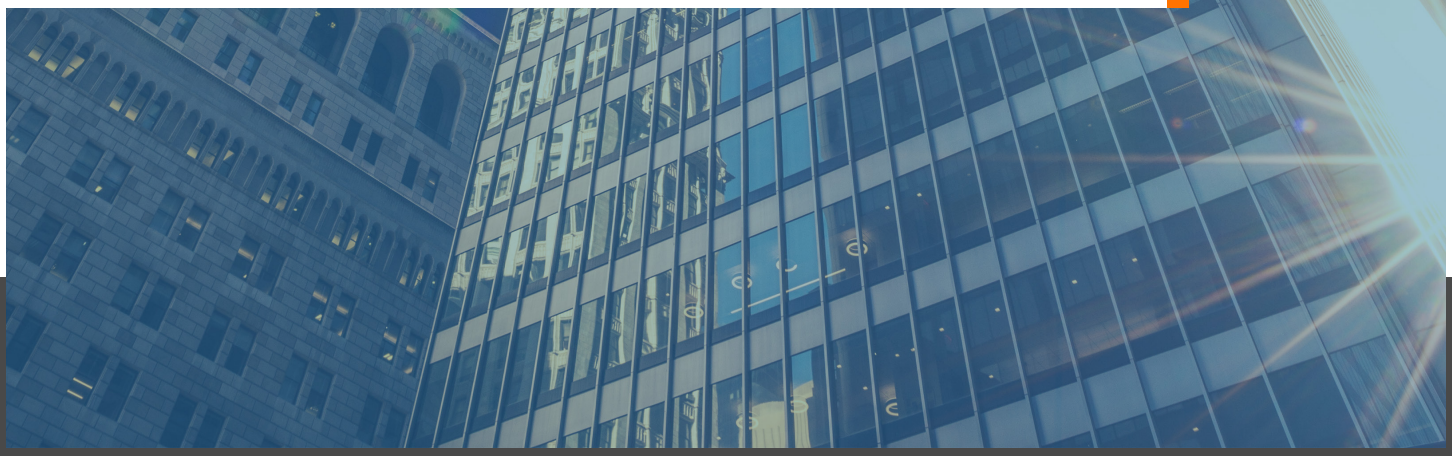

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> “It is a capital mistake to theorize before one has data.”
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> **- SHERLOCK HOLMES**

With the current global economic and social disruption, it’s difficult to assess the true long term economic fallout. For the Banking industry there are some changes that are evident in how it provides services to its customers, as it accelerates from a physical high-touch model-to digital. Digital capabilities in areas such as onboarding new customers, 360 view of the customer and credit decisions will have to be expedited to enhance customer expectations.

The banking sector has always been data-driven. Banks record millions of business transactions daily, and in real time. While digital banking is used by almost half of the world’s adult population, with astronomical amounts of data this sector is striving to adopt an all on data-driven approach for growing their business and increasing customer satisfaction, which can only be made possible with Advanced Data analytics. Although data analytics has been an integral part of the Financial Services sector for many years, the arrival of far more sophisticated computational models supported by Advanced Data analytics has provided the potential to build a comprehensive understanding of their customers behaviors and patterns. These complicated modelling techniques coupled with cloud infrastructure and complex software products are key enablers and can provide data insights previously not possible across products and services, markets, industry regulations and governance, competitors, and more importantly the voice of the customer.

According to a report by Mordor Intelligence, Data Analytics in the Banking market is expected to register a CAGR of 22.97%, during the period of 2021-2026.

Using analytics-driven strategies, complex modelling and leveraging modern tools, banks are able to unlock the potential of their data, and to great effect, especially in providing the ability to create a 360-degree view of their customers.

In the past less advanced analytical techniques enabled banks to segment their customers in neat categories by demographic, but this basic segmentation lacks the granularity required to truly understand their customers’ needs aligned to an ever changing business and social landscape.

With more advanced data analytics these institutions can take segmentation to the next level by building detailed customer profiles. These profiles should account for a variety of factors, including:

- The customer’s demographic
- Number of accounts and for which purpose
- Which services they currently use and how often
- Which offers they’ve declined in the past and potentially why with feedback
- Which products they’re likely to purchase in the future via their profile
- Major life events- Age, Marriage, Children, Re-Location, Career changes
- Their relationship to other customers
- Attitude toward their bank and the financial services industry as a whole
- Behavioral patterns

There is a growing expectation from customers that companies with which they do business will have some basic level of personal information about them; in fact, up to a third of customers who abandon a business relationship typically so do so as a result of lack of personalization in the service they received.

For all the talk of relationship banking, the financial services industry hasn't traditionally been known for its high level of personalized service. But in today's climate financial services institutions that hope to not just survive, but thrive, a data analytics-oriented shift in perspective and a move to focusing on building tailor-made customer experiences are absolute necessities.

Almost all data in banking is generated by customers, and whether through interactions with customer and service representatives, or through digital transactions this data has tremendous value, especially data generated through transactions. This provides banks with a panoramic view into spending habits, income levels, and spending propensities which all enable the bank's ability to offer customers higher levels of services commensurate with their personal profile.

Data that tracks and stores banking habits can be extremely helpful in combating identity fraud, which is one of the fastest-growing forms of fraud. Monitoring customer spending patterns and identifying unusual banking behavior, and looking at demographics around geography and spending trends are key ways banks leverage big data to prevent fraud and make customers feel more secure.

Drivers of data analytics in Financial Services

Due to changing customer expectations and increased competition, the financial services sector cannot afford to neglect this opportunity to better service their customers. They need to leverage this personal customer information to maximize customer preferences and offer them secure and competitive personalized services.

The significance of Data Analytics is driven by several factors...

Shift in customer behavior and expectations

- Customers are interacting digitally with their banks and other financial services, thus reducing personal interaction, however it has allowed the possibility to collect customer data (e.g., browsing history, geo-location data, exact timing of the transactions).
- Today customers are using social media more and more in their day-to-day life, not just to connect with friends but also to interact with companies. This means banks need to be active on these social media channels to offer services and to gain insights about their customers.
- Customers expect a high-quality, around-the-clock, customer-centric omnichannel experience. Therefore, Financial Services organizations need to deliver a customized portfolio of services based on in-depth holistic knowledge about the customers behavioral patterns and experiences. This can only be achieved by leveraging all available customer data through Data Analytics techniques.

Technological advancements resulting in large data input and capture

Technological advancements like IoT (Internet of Things) have driven data growth in to hyperscale, resulting in new, continuous streams of data. Similarly, advanced authentication techniques, such as biometric authentication and continuous authentication will also considerably increase the amount of data processed in real-time.

Pressure to reduce operational costs

Due to increased competition and low interest rates, profit margins in the financial services industry are under increasing pressure. Financial institutions are forced to gain greater efficiency by reduce operational costs. As part of the overall strategy for efficiency gains, data driven insights will drive these fueled by modern data Analytics frameworks

Technological progression that supports large complex data processing in real-time

Traditional tools are not capable of processing such enormous amounts data in the required timeframes.

Current Cloud solutions offer flexible, scalable and cost-effective infrastructure and services to support these Data technologies, creating tremendous opportunities for Financial Services institutions to capitalize and provide a more diversified portfolio of services to their clients. With advanced data visualization tools, the combination of these major advances provides capabilities which were just a pipe dream only a few years ago.

Data challenges for Financial Services institutions

Even with all these technological advances propelling business further and further in to the digital age, and providing tremendous opportunities, there are still challenges that have to be overcome.

Sheer Volume of Data

An estimated 2.5 quintillion bytes of data is generated every day, not all of it can fit within a single category.

- **Structured:** This type of data is highly organized and exists in a fixed format, such as a CSV file.
- **Unstructured:** This data has no clear format. An example could be emails, since they are difficult to process.
- **Semi-structured:** Data that is semi-structured might initially appear unstructured but contains keywords that can be used for processing.

The incredible volume of data available at our fingertips requires advanced processing techniques in order to be translated into valuable, actionable information. Using the proper business tools is the most efficient way to filter through all types of data.

Data Silos

Current Legacy on premise data management architectures in Financial Organizations have a tendency to create multiple data silos from a myriad of sources, usually as a result of company culture, organization structures and different technologies used accross the company. This creates scenarios where different parts of the organization get views of data which are very focused on their department as opposed to having a view across multiple departments such as visibility in to current Sales and Marketing campaigns. It also wastes valuable time and resources and provides inconsistent data.

Lack of adequate infrastructure to support Data Analytics

Legacy systems do not have sufficient infrastructure to accommodate advanced data analytics. The sheer volume of big data puts a tremendous amount of burden on legacy systems, and many legacy architectures do not support the advanced analytics engine to operate. Therefore, the first step towards implementing any data analytics initiative is to look at potentially upgrading the existing systems, or to consider leveraging a cloud based model for a longer-term strategy.

Data quality management needs to be a top priority.

Data that is inaccurate, inconsistent, incomplete, duplicate, or outdated — can have a major impact on decision making. Even in today's digital age, a lot of data is still entered manually, thereby introducing the risk of human error. Financial institutions should carefully review and look to consolidate their existing data as part of the longer- term digital strategy with a view to ultimately leveraging a single data warehouse solution such as Snowflake.

Meeting regulatory compliance

Financial organizations must meet a myriad of industry regulation standards and audits that govern access to critical data and demand accelerated reporting. These guidelines will need to be adhered to by deploying a data driven strategy which aligns to all data protection legislation.

Data privacy

Data privacy is another major concern tied to the implementation of any digital strategy. Customers are concerned about how and who uses their data and with security breaches making the news —Financial institutions are on high alert over the security of their sensitive data. These institutions need to implement robust security measures, such as two-factor customer authentication, data encryption, real-time and permanent masking, and biometrics to minimize customers concerns.

Customer data protection

Customer data is an invaluable but highly vulnerable asset. It is important for stakeholders to understand that the first step towards protecting data is to understand the key challenges of managing data. Data breaches across various organizations result in valuable information lost, business disrupted and reputation of the enterprise damaged. The Financial Services Industry needs to consider the additional costs of detecting and recovering the data. Preventing cyber-attacks is extremely difficult and when breaches happen, Financial Services organizations will be required to do everything possible and have mitigation procedures in place to minimize the potential damage.

Data Management, Data Sharing and Analytics for the Customer

Improving 360-degree Customer Experience Through Big Data Analytics

A 360-degree customer view empowers banks to improve customer service, protect the business with risk mitigation, and create better and more personalized products for its customers. When there is a clear understanding of customers' information, then the data can be analyzed to create the right products for each individual.

Regardless of the size of the bank's available resources, attempts to harmonize and analyze huge volumes of data can be extremely difficult. When all of the customer data is centralized in one place, it creates a 360-degree view, and the right products and services can be created for the customer based on individual preference. The more data that can be captured for each customer, the more accurately banks can tailor products and experiences to their wants and needs.

Financial Services have all kinds of customers with different financial behaviors and requirements. Banks can segregate customers based on their demographic profiles, behavior, including buying or investment patterns using data management tools. This helps Financial Services institutions refine specific requirements to target the right customer profiles for promotional campaigns, and to help build better customer relationships.

Digital data growth is expected to increase substantially, and in turn, the need to meet the rising demands of customers. The current digital revolution is creating new opportunities to improve the overall customer experience. Through collecting and interpreting these huge amounts of data, it provides the ability to extract meaningful, valuable and insightful data that provides value to the customers through better products and customer service. Ingesting, integrating, and enriching all of customer data into a Data Lake or Data Warehouse makes customer data easily available to the entire organization. These technologies support the creation and maintenance of an organization-wide single-version-of-truth for each of the organization's customers.

Data drives customer loyalty effectiveness

The goal of loyalty initiatives is to engage with customers, and by instituting a solid and robust loyalty program this can improve customer satisfaction and increase the chances that existing clients will share their positive experiences within their professional and social circles. A loyalty rewards program can provide a vast array of customer data and loyalty analytics. Loyalty programs provide great value over time through increased visibility and deeper understanding of individual customer behavior.

Data analytics plays a crucial role in impacting customer loyalty, its critical for organization to harness the power of consumer data. By analyzing it effectively and creating insights and patterns this enables them to create highly successful personalized services and products for customers. The primary focus is to capture and scrutinize consumer data such as demographics, lifestyle, products purchased by category and type, frequency of purchase, and purchase value.

The challenge is how to best harness this data to improve loyalty programs and offer customers a better experience. A well-orchestrated loyalty rewards program should enable Financial Institutions to capture a unified 360- degree view of their customers across various channels and segments. A data driven design built to create insights in a loyalty program is essential. The key is not to draw concrete conclusions from just one view of data but run loyalty campaigns within various test groups and make adjustments based on the results.

Data is an ongoing continuous process which provides key insights to dive into customer behaviors, likes and dislikes, preferences and trends in spending. It's essential to gather multiple data points in order to make intelligent recommendations.

Leave behind the Siloed systems

Data silos will pose a barrier to success, they limit visibility across departments and business units, bring in to question the validity and accuracy of the data, waste valuable resources and time and can inhibit collaboration as they can instill myopic ways of looking at the business. With advanced Cloud technology and tools, data analysis has matured at warp speed. Data gathering, formatting, harmonization and visualization can now be achieved in days and hours compared to weeks and months not long ago. For many financial services enterprises, a single data universe is still an aspiration.

One solution is to move away from siloed environments and centralize data in a single Data Warehouse or Data Lake, thus providing multiple departments and business units access to one central location. This also enables real-time data analysis, and a more immediate understanding of the issues faced by the customer and behavior patterns.

Another approach is to build integrations across the various silos using a mix of scripting, and leverage On-Premise and Cloud-based ETL tools. These tools are extremely powerful and automate the process of extraction and transforming the data into a common format which can then be analyzed, and centrally located in a data warehouse.

Real Business Outcomes

Data analytics holds the key to helping organizations better connect to their data and uncover the valuable insights they need to improve business operations, develop new products and services and, crucially, enhance their customer experience. Data analytics also allows financial institutions to actively identify clients at risk of attrition by using behavioral analytics to generate individual customer action plans — which they can then choose to implement and shape to customer specific needs.

Analytics is a business outcome enabler. Leveraging analytics in a prescriptive manner provides the right balance of products and services for customers and provides financial advice leveraging these insights.

How Data Analytics Benefits the Banking Industry

Enhanced Fraud Detection: With advanced data techniques, organizations can develop customer profiles that enable you to keep track of transactional behaviors on an personalized level.

Enhancing risk assessment: Data analytics can be used to assess the risk profiles of credit applicants in depth thereby improving credit assessments. These advanced analytics features enable banks to detect fraud and money laundering activities at an early stage and detect any unusual transaction or activity within an account

Manage risk and regulatory: Big data analytics can also be very helpful for banks to comply with legal and regulatory requirements in the integrity and credit risk domains. Thus, the impact of big data analytics in the banking sector is huge, especially in terms of risk management.

Better customer alignment and satisfaction: Banks can use analytics to understand customer's transactions and trading activities and offer services and support for future needs. Delivering the best services for what their customers need, resulting in higher levels of retention.

Personalized Services: Banks can provide and deliver meaningful personalized services by leveraging existing data and everyday customer touchpoints. There are endless possibilities to tailor services in Banking going beyond traditional offers and create more customized, and relevant end- to -end experiences for customers.

Customer Feedback: Staying current with real - time data on customer questions, comments, and concerns by using advanced analytical modelling.

Key Recommendations

Analytics Readiness Assessment

The first step towards Analytical driven business efficiency is assessing your organization's readiness for analytics. During this exercise you are typically asking questions and searching for information to ascertain the truth about the state of your organization in various areas related to analytics.

Making Analytics A Reality

Many banking institutions are hesitant to move from a traditional data warehouse model to the cloud. This reluctance manifests itself in a number of various forms: complexity and cost, alignment with overall company objectives and desired outcomes. A typical analytics project begins like any big initiative — identifying a clear business problem in need of solving, establishing a vision of an end state, and confirming that a proposed approach fits in with the broader organizational strategy.

Efficient Data Management Capabilities

A comprehensive, scalable data model provides a single version of the truth for an enterprise data warehouse covering all key banking areas. Historical data is stored at a granular level to support all reporting and analytical requirements. An enterprise data management environment lets you access data from virtually any system in any form (e.g., bureau, application, billing-payment and transaction data), transform and cleanse data, and handle data migration projects all through an environment that is easily deployable.

The different cloud providers also provide several offerings for Big Data analysis:

- **Amazon (AWS):** Amazon EMR, Amazon Redshift, Amazon Kinesis
- **Google (GCP):** Cloud Pub/Sub, Cloud Data Transfer, Cloud Dataflow, Cloud Dataproc, BigQuery
- **Microsoft (Azure):** HDInsight, APS (Analytics Platform System)
- **Snowflake:** The Data Cloud – Data Warehouse built to run on all Major Cloud platforms

Conclusion - Data Transformation in the Banking Industry needs to be Ubiquitous

Adopting a digital strategy is a key step towards becoming an analytics and insights driven organization which can capitalize on the enormous potential to enhance the entire customer experience. While data analytics can be a complex series of initiatives, a well-defined strategy and a clear roadmap which, when executed well, can provide considerable benefits to an organization.

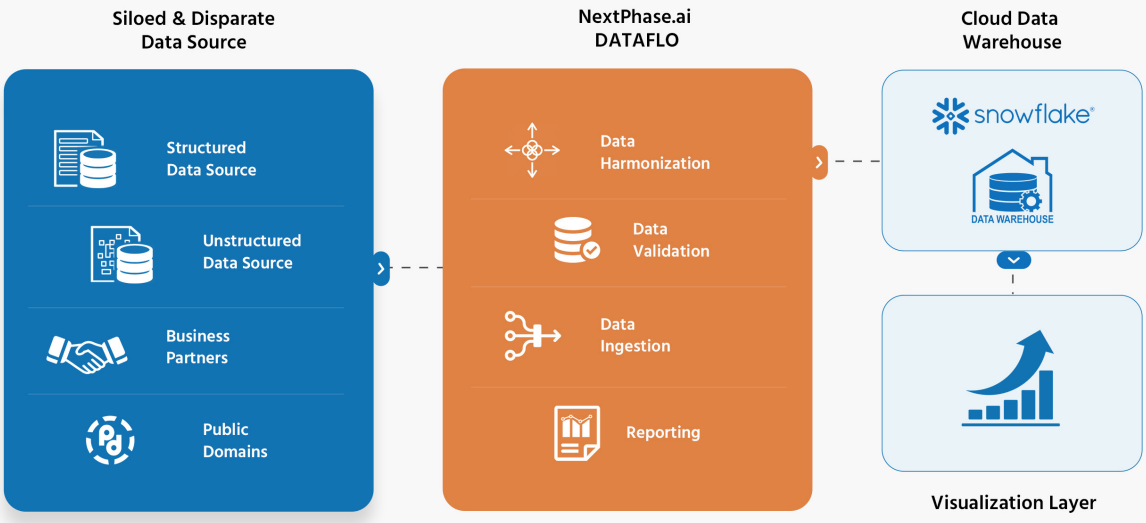
As the customer experience pivots from a traditional high touch in person model to a hands-off digital portfolio of services, this provides a tremendous opportunity to create and segment offers on a personalized level not possible just a few years ago. With the combination of Cloud Technology, Analytical tools and Complex computational models based on advanced mathematical algorithms, it's now possible to go beyond just capturing huge volumes of customer driven data.

With this new paradigm of data insights, organizations can create services that are personalized and build a 360 view of the customer. By defining specific buying and spending patterns, it's now possible to forge detailed profiles which not only provide what customers want today but also a view into what products and services they will want and need in the future leveraging predictive analytics and machine learning. For example, enterprises are looking to use transactional and social media information to identify customers most likely to switch banks as well as those who may be preparing for important life events, such as a relocation, new job, marriage, or baby. In the age of the data-driven business, the secret to ongoing profitability are three little words "love your customer".

Technology has brought about a change in the way customers interact across all industries with customer activities leaving a significant digital footprint. Financial institutions are adopting and promoting digitalization to combat regulatory pressures, complex operations, intense competition from outside the traditional banking industry, and a rising demand for innovative and personalized customer service. There is also an intense focus on reducing costs, increasing profits, and maximizing return on equity. In order to be successful at driving all of these levers, financial institutions must understand the volumes of data captured and execute on well-analyzed data. Data analytics will be a strong differentiator in the future competitiveness of financial institutions.

About NextPhase.ai

Nextphase.ai is a data cloud services provider specializing in Snowflake, cloud data management and analytics technologies. We accelerate enterprise digital transformation initiatives by leveraging our innovative cloud data management technology, "NextPhase.ai DATAFLO" to optimize and rationalize disparate enterprise data into relevant insights. "NextPhase.ai DATAFLO" is designed to automate the lifecycle of data management transformation using AI and ML along with expeditious on-ramps to the Snowflake data cloud infrastructure. Nextphase.ai provides a range of technology consulting services for the Financial Services, Biotech and Technology industry sectors combining our platform-based services, seasoned talent, and industry proven methodology so our customers can harness more from their data. We are a Silicon Valley based company with global presence having delivered high value service engagements for numerous Global 2000 enterprises. Visit nextphase.ai



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