

DIGITAL TRANSFORMATION CASE STUDY

WEMA Bank



Wema Bank Plc (Wema Bank) is a Nigerian commercial bank licensed by the Central Bank of Nigeria; the regulator of the nation's banking sector. Wema Bank was established in 1945 and as such, is Nigeria's longest established indigenous bank.

Wema Bank pioneered, and today operates the largest digital banking system across Nigeria – ALAT – a digital only banking service launched in 2017. Digital banking in Nigeria is on the rise and ALAT is branchless & paperless bank, with a seamless sign up process and the ability to perform banking transactions easily on-line using a mobile phone, PC or tablet.

The success of ALAT is founded on using cutting-edge technology, new developments and research-driven ideas to provide accessible solutions and solve the problems that Wema Bank's customers care about. The core focus of Wema Bank's digital banking is to digitalize every aspect of banking without the need for a physical structure.

Wema Bank state that the success of their business is all about partnership – which is why Wema Bank chose Bluechip Technologies to implement our Customer Master Data Management solution to improve the quality of data flowing into the Enterprise Data Warehouse, built by Bluechip Technologies. With accessible clean and enriched data from across the entire organisation and customer spectrum, Wema Bank was now ready to benefit from Advanced Analytical models, again, developed by Bluechip Technologies.

Customer Master Data Management

In 2019, during the initial phase of the Digital Transformation project, it was crucial to ensure that the quality of the data in the Enterprise Data Warehouse, in order to create reliable Business Intelligence from Advanced Analytics.

To improve the quality of their data and hence improve the efficacy of campaigns and customer experience across all channels, Wema Bank deployed Bluechip Technologies' 'Customer Master Data Management' product to automate and operationalize its Data Governance Policies & Procedures, ensuring clean customer data that could be used across the entire organisation with reliable Executive Dashboards accessible anytime, anywhere, on any device.

This project was regarded as one of the most successful projects for the bank during the pandemic. Wema Bank selected critical fields to focus on for their data quality index (DQI), which increased to 80% in about two years. With this success, the Bank was able to re-configure CMDM to focus on more fields.

Enterprise Data Warehouse

The next stage for Digital Transformation within Wema Bank was for Bluechip Technologies to build an Enterprise Data Warehouse, the objective being to provide a central source of customer data across the entire organisation. To ensure a 360 degree view of their customers, Wema Bank needed customer personal and demographic data, transactional data, channels and systems of engagement, customer journeys and interactions, support, complaints, issue resolutions and opportunities, all seamlessly aggregating in a single environment complete other sources of 3rd party data to enrich their view of customers.

Previously, data sets were stored in disparate systems and were difficult to aggregate, limiting the bank's ability to respond quickly from a single consolidated view. Consequently, critical decisions were based on historical trends, with little predictive analytics capabilities, and with static dashboards that could only be used by those with specialized expertise.

Bluechip Technologies built the Enterprise Data Warehouse in 2021 using Microsoft Azure – **Azure Data Factory**, **Azure Data Lake**, **Azure Synapse Analytics** and **PowerBI**. Aggregated data from multi-variate sources was transformed into a single source of the truth, providing meaningful information and insight for business use via rich Executive Dashboards on PowerBI.

Wema Bank was now ready to implement Advanced Analytical Models, developed by Bluechip Technologies.










Segmentation Analysis & Modeling

Wema Bank wanted to be able to promote the right kind of products to customers, using properly segmented customer information to deliver insights into expected customer behaviors. The objective of the Segmentation Analysis & Modeling was to identify customer value, based on their transaction and spending patterns, using a state of the art modeling framework, and thereby improve and measure the effectiveness of campaigns.

'RFM Analysis' (Recency, Frequency, Monetary) and 'K-means Clustering', applied to customer demographic and transactional data, enabled informed segmentation, improving the efficacy of marketing campaigns, enabling cross-selling initiatives, and contributing to an enhanced customer experience.

Using reliable data from the Enterprise Data Warehouse and leveraging 'Python' & 'R', Bluechip was able to seamlessly integrate and operationalize the Customer Segmentation Model into existing customer-facing applications, increasing engagement on campaigns, offers and promotions.

The benefits of the **Segmentation Analysis & Modeling** for Wema Bank included: -

-  **Enhanced customer understanding** – Customer segmentation analysis provided a deeper understanding of different customer groups and their unique characteristic
-  **Improved Target Marketing** – Segmentation enabled more focused and targeted Marketing efforts leading to improved campaign result
-  **Increased Customer Loyalty** – By understanding customer needs and behaviors, Wema Bank developed tailored strategies that enhanced Customer Loyalty
-  **Better Product Development** – Segmentation provided insights into customer needs and preferences that informed Product Development and improved the overall Customer Experience
-  **Increased Sales** – By tailoring offerings to specific customer segments, Wema Bank increased Sales and Revenue
-  **Improved resource allocation** – Segmentation helped Wema Bank allocate resources more effectively by focusing on the most profitable customer segments
-  **Increased personalization** – Wema Bank used customer segmentation to personalize their interactions with customers, leading to improved customer satisfaction

By targeting the right customers with the right messages at the right time, Wema Bank achieved an improved Return on Investment for their marketing spend.









Transaction Classification & Recommendation Model

An important Advanced Analytics deliverable from Bluechip Technologies to Wema Bank was the Transaction Classification & Recommendation Model.

Wema Bank needed a solution that would enhance insight into customer product propensity and channel adoption, using customer demographics & transacting behaviors. The objective was ultimately to use the model to recommend products to customers, based on their behaviors and lifestyle, that they were most likely opt for, thereby reducing the cost of marketing by targeting specific products to specific customers.

The approach taken was to classify 'customer clusters' based on demographics and behaviors. Advanced Machine Learning techniques, and analytical tools such as 'Python' and 'Knime', enabled Collaborative Filtering of customers and Cosine Similarity analysis. Using these predictive analyses, Wema Bank was able to recommend products popular with each of the clusters and to effectively market the right products, through the right channel, to the right customers at the right time.

A few of the benefits of the **Transaction Classification & Recommendation Model** for Wema Bank included: -

-  **Understanding Customer Behaviour** – Classify customers based on transactions enabled further analytical insight into customer behavioral patterns
-  **Drive Transaction Frequency via Partners** – Increased the transaction frequency via Wema Bank partners
-  **Cross-selling to Transaction Categories** – Enabled Cross-selling of similar transaction classification categories to other customers with similar segmentation
-  **Up-Selling Customers** – Increased customer spend by recommending higher value transaction types
-  **Channel & Product Adoption** – Drove the adoption of particular products and particular channels
-  **Improved Customer Experience** – Improved customer experience with 'Right customer, right product, right time'

The overall impact of the Transaction Classification & Recommendation Model was to improve overall business performance, driven by advanced analytical capabilities implemented by Bluechip Technologies.








Delinquency Default Model

One of the key Advanced Analytics deliverables to Wema Bank, designed and developed by Bluechip Technologies, was the Delinquency Default Model, the aim of which was to provide an 'early warning system' to help Wema Bank identify likely loan defaulters. Once identified, the aim was to proactively engage with them to try to ensure that they met their agreed payment obligations, the end objective being to reduce the overall level of Loan Delinquency.

Conceptually, the model leverages Machine Learning and Advanced Analytical Tools such as 'Python' & 'R' to analyze customer transaction history and predict which customers, based on their transactional history, display a higher propensity to fall into Loan Delinquency.

The outcomes are that an enriched, analytical approach leads to better decision making and in so doing, reduces the probability of individual delinquent loans and overall risk within the lending portfolio.

For Wema Bank, a few of the benefits of the **Delinquency Default Model** included: -

-  **Early Identification of Potential Defaults** – Detection of potential loan defaulters at an early stage, enabling Wema Bank to take decisive corrective measures
-  **Improved Risk Assessment** – Analyzing vast amounts of data provided a more accurate assessment of the Risk associated with a loan
-  **Increased Accuracy of Predictions** – Utilization of Machine Learning algorithms, resulted in more accurate predictions of loan defaults
-  **Streamlined Loan Management Processes** – Automation of Loan Risk assessments freed up staff to focus on other areas and more accurate predictions increased the overall efficiency of the loan management process
-  **Reduced Financial Losses** – Identifying potential defaulters early and taking preventive measures, reduced financial losses

Having put in place the enablers of an Enterprise Data Warehouse with Quality Assured data, Advanced Analytics Technologies and Bluechip Technologies 'smarts', Wema Bank can be assured that their Digital Transformation journey, already bringing measurable benefits to the business, follows a future proof route.

The motto of Wema Bank is "With You, All The Way" and that is exactly how the relationship between Wema Bank and Bluechip Technologies operates. Bluechip Technologies has partnered with Wema Bank on their exciting Digital Transformation journey for over three years and are proud to have played a part in the success of that transformation.



Remarking on the achievements of Wema Bank, **Babatunde Mumuni**, **Chief Transformation Officer** at Wema Bank commented:-

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At Wema Bank, we have an unparalleled focus on empowering lives through innovation. Hence, we are always looking at ways to innovate and deliver a world class, digital customer experience leveraging on Data and Analytics amongst others.

We needed to urgently improve our Data Quality for both the old and new data in order to be able to achieve the desired customer experience across all channels – whether it was services or campaigns.

Bluechip's CMDM enabled us to operationalize our Data Governance efforts. It helped us monitor our Data Quality compute our Data Quality Index bank-wide, and even at the customer-level. It also provided key stakeholders with insights through rich and mobile-responsive dashboards.

In the first year of implementation, **we pushed our Data Quality Index up to 80%**. With this success, we re-configured the CMDM to monitor new fields of interest to the Bank.

CMDM remains a foundational application within our Data Management ecosystem.

- BABATUNDE MUMUNI

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About Bluechip Technologies

Bluechip Technologies Ltd is an award winning Data Management, Business Intelligence and Analytics software development, implementation, consultancy and services company established in 2008 and headquartered in Lagos, Nigeria with operations across Africa and in Europe.

For the past 15 years, Bluechip Technologies has been implementing leading edge solutions in an ever-changing environment and has built up an impressive client base, including many of the leading Banks and Telcos of Africa. Our customer base extends into the Public Sector, Manufacturing, Industrial and other sectors.

In support of our pan-African development and to deliver localized services to our customers, Bluechip established new operations in the Democratic Republic of Congo and Kenya and more recently in Zambia, Ghana and South Africa. Furthering the development of our corporate global footprint, in 2022, Bluechip established an operation in the Republic of Ireland to service our customers in Europe.

We have long established track record and expertise in designing and implementing On-Premise, Cloud and hybrid Data Warehousing and Analytics solutions, Enterprise Resource Planning, Enterprise Performance Management, Enterprise Risk Management, Customer Experience and Human Capital Management.

**Find out more about
Bluechip Technologies at:**

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