zensar

Enabling a retailer to become a data-driven enterprise

Case Study

An RPG Company

Overview

**Managing inventory,
boosting sales with MLOps**

Our client is a South Africa-based leading retail chain with over 400 stores nationwide. The company is known for its high-quality, environmentally and socially responsible products and commitment to local communities. The client faced challenges in sales and decision-making due to unreliable sales forecasts, changing consumer behavior, missing data, and processing limitations. We helped the client overcome these challenges by creating a demand data pipeline, building an MDM solution, and enabling markdown optimization with MLOps. The result significantly improved forecast accuracy, cost savings, and stock optimization.

Challenges

**Chaotic data systems affecting sales
and decision-making**

- Unreliable, late sales forecasts due to siloed data
  Changing consumer behavior due to COVID,
  adding to the complexity of understanding the customer
- Inability to come up with optimal promotions
  and markdown pricing, affecting stocks and sales
- Missing data in the existing system
- Significant knowledge gap, as the older system
  was like a black box for the client
- Performance issues due to scalability and processing
  limitations in existing tools
- Manual efforts required to create and run data pipelines
- Data analytics, integrity, completeness, and accuracy
  needed for various teams and executive decision-making

Our Solution

Markdown forecasting with MLOps and MDM

Step 1: Creating a demand data pipeline

- Launched new day analytics engine (NDAE) to get customer data into the cloud.
- Created data pipelines from inventory data, Oracle Informix, sales, and omnichannel data to gather data into Amazon S3-based data lake.

Step 2: Building an MDM solution

- Engaged with the client by deploying agile squads comprising data and solution architects, data engineers, Quicksight developers, and DevOps engineers.
- Provided a future-state MDM system presentation and addressed high-priority performance, scalability, and security issues.
- Laid foundation for MLOps.
- Leveraged data-as-a-service (DaaS) to create end-user experiences and make data-driven decisions.
- Created a single view of truth to support data-driven decision-making.

Goal: Enabling markdown optimization

- Used MLOps to reduce data collection and data preparationtime and automated model building for markdown forecasting.
- Monitored and experimented with real-time data to train and retrain the model for optimal forecasting.
- Integrated AWS cloud with on-premises data to ensure data flow from the source system for data ingestion and flow for forecasting.

Impact

Accurate forecasts, healthy bottom-line

Improved forecast accuracy by more than

20%

Estimated cost savings of more than

60%

Improved stock optimization by more than

10%

Enabled forecasting on

99%

of the streaming data for timely, accurate prediction

zensar

An RPG Company

We conceptualize, build, and manage digital products through experience design, data engineering, and advanced analytics for over 145 leading companies. Our solutions leverage industry-leading platforms to help our clients be competitive, agile, and disruptive while moving with velocity through change and opportunity.

With headquarters in Pune, India, our 11,500+ associates work across 30+ locations, including Milpitas, Seattle, Princeton, Cape Town, London, Singapore, and Mexico City.

For more information please contact:

velocity@zensar.com | www.zensar.com