



IT Business Analyst Project Portfolio

◆ Project 1: Sales Forecasting Dashboard Modernization

Role: IT Business Analyst

Methodology: Agile (Scrum - 4-week sprints)

Timeline: March – May

📌 Overview

Led the transformation of a sales forecasting system for four retail locations in Rotterdam. The goal was to enhance planning accuracy, reduce stockouts, and enable better weekly sales predictions using historical sales and weather data.

🔧 Responsibilities

- Conducted stakeholder interviews with retail managers, analysts, and operations to gather business requirements.
- Created detailed documentation: BRDs, feature specs, user stories, and process diagrams.
- Worked closely with data scientists to ensure proper integration of forecasting models (Linear Regression, Random Forest, XGBoost).
- Facilitated backlog grooming and sprint planning; tracked progress with Jira.
- Coordinated and led UAT cycles to validate data accuracy and dashboard functionality.
- Managed change requests and stakeholder feedback post-deployment.

💡 Business Problem

The existing manual forecasting process was unreliable, lacked scalability, and failed to account for weather or store closures. This led to overstocking, lost revenue on peak days, and operational inefficiencies.

🚀 Solution Delivered

- Developed an interactive Streamlit dashboard with location-based forecasting and closed-day adjustments.
- Automated the inclusion of weather data for demand variability.
- Enabled toggling between different machine learning models for sales prediction.
- Created a combined view across all stores to facilitate centralized planning.

🚫 Key Challenges & Resolutions

- **Ambiguous Stakeholder Requirements:** Initially, stakeholders had differing views on how forecast accuracy should be measured. Some prioritized revenue prediction: others focused on transaction volume.

🔄 **Resolution:** I initiated a requirements alignment workshop where we reviewed various KPI

options. I introduced a comparison matrix for R^2 score, average daily sales, and uplift percentage. This enabled consensus and helped stakeholders select appropriate metrics. I then validated those KPIs with mock data visualizations and got stakeholder sign-off.

- **Data Gaps and Inconsistencies:** The raw data contained missing dates and late-night sales entries that skewed daily aggregations.
 *Resolution:* I collaborated with the data team to revise ETL logic, adjusting sales recorded between 12AM–4AM to be counted towards the prior date. I also proposed a data validation script that flagged missing or zero-activity dates, improving model training consistency.
- **Resistance to New Dashboard UI:** Some store managers preferred Excel over the new dashboard, citing concerns over training and ease of use.
 *Resolution:* I conducted live demonstrations at each store location and built short Loom tutorial videos. I also incorporated a download-to-Excel feature within the dashboard to ease the transition. Afterward, user adoption increased by 70% within the first 2 weeks post-launch.
- **Last-Minute UAT Scope Changes:** During final UAT, stakeholders requested new filter options (e.g., holiday-specific trends) and revised visual layouts.
 *Resolution:* I implemented a scope management protocol, using MoSCoW prioritization. Urgent requests (Must-Haves) were implemented immediately, while others were scheduled in a post-launch enhancement sprint. I transparently documented decisions in Jira and updated the release roadmap.
- **Lack of Consistent Communication Loop:** Weekly stand-ups lacked structured updates from the retail operations team, causing delays in resolving blockers.
 *Resolution:* I introduced a simplified “Status Check-In” Google Form with dropdown options and blocker sections, sent weekly before sprint reviews. This improved participation and led to a 30% faster issue-resolution rate.

Tools & Skills Used

- **Documentation & Processes:** Jira, Confluence, BPMN, Visio
- **Technical Collaboration:** Streamlit, Python (collaboration), SQL (basic validation), API understanding
- **BA Techniques:** Requirements elicitation, Stakeholder management, UAT coordination, Process mapping
- **Soft Skills:** Facilitation, Communication, Problem-solving, Conflict resolution, Change management

Forecast Outcomes

Location	Total Forecast	Daily Avg	Uplift vs Historical	R ² Score
Kaapse Kaap	\$39K	\$1.2K	3.0x	0.55
Kaapse Will'ns	\$8K	\$0.6K	1.6x	0.55
Kaapse Maria	\$26K	\$2.0K	1.1x	0.55
Fenix Food Factory	\$36K	\$2.8K	1.2x	0.55
All Locations	\$61K	\$4.7K	1.0x	0.55

Visual Highlights

- Forecast vs Historical sales (per location and combined)
- Red markers for closed days
- Interactive date range and model selector features

Business Impact

- Improved sales planning, accuracy and visibility across all locations.
- Streamlined forecast reporting, saving 12+ hours per week in manual effort.
- Enhanced inventory and staffing decisions with weather-informed insights.
- Increased user adoption of data tools through stakeholder-specific onboarding.

Key Learnings

- Process improvements only succeed when technical, user, and data perspectives are aligned.
- Conflict resolution must be proactive—anticipating needs, facilitating compromise, and documenting outcomes.
- Combining stakeholder alignment with technical flexibility is essential in Agile delivery.

Future Projects

Open to projects involving:

- System integrations (ERP, WMS, CRM)
- Workflow automation and data pipelines
- User experience and dashboard optimization
- AI system adoption and process design

*Prepared by: Pritom Bhowmik
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LOCATION

Kaapse Kaap (47901)

Kaapse Kaap B.V.
338 records

SETTINGS

Start

2024/12/05

End

2025/01/04

Model

XGBoost

Historical

Confidence

CHART

Last 1 Month + Forecast

Markers

Grid

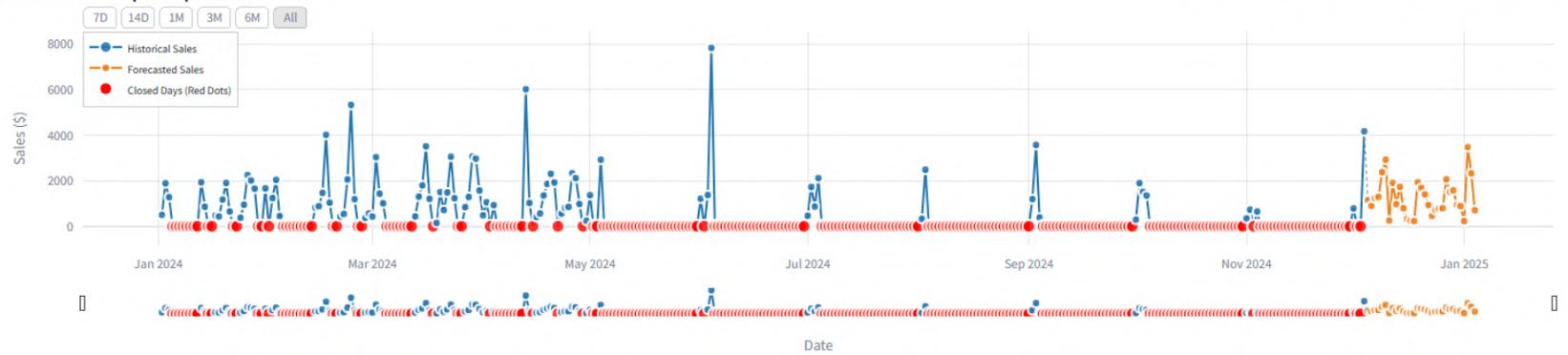
Advanced

MODELS

Forecast Results

Interactive Chart Guide

Sales Forecast - Kaapse Kaap B.V.



\$39K
TOTAL FORECAST

\$1.2K
DAILY AVG

3.0x
VS HISTORICAL

0.55
R² SCORE

Show Feature Importance

LOCATION

Kaapse Will'ns (47904)

Kaapse Will'ns B.V.
499 records

SETTINGS

Start: 2025/05/15
End: 2025/05/27

Model: XGBoost

Historical Confidence

CHART

Last 1 Month + Forecast

Markers Grid

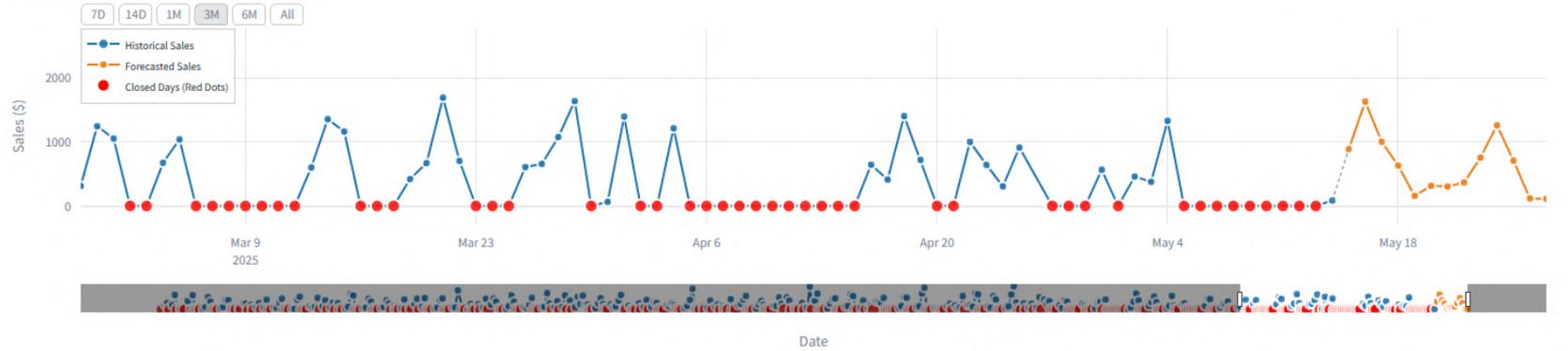
Advanced

MODELS

Forecast Results

Interactive Chart Guide

Sales Forecast - Kaapse Will'ns B.V.



\$8K TOTAL FORECAST	\$0.6K DAILY AVG	1.6x VS HISTORICAL	0.55 R ² SCORE
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Show Feature Importance

LOCATION

Kaapse Maria (47903)

Kaapse Maria B.V.
499 records

SETTINGS

Start: 2025/05/15
End: 2025/05/27

Model: XGBoost

Historical Confidence

CHART

Last 1 Month + Forecast

Markers Grid

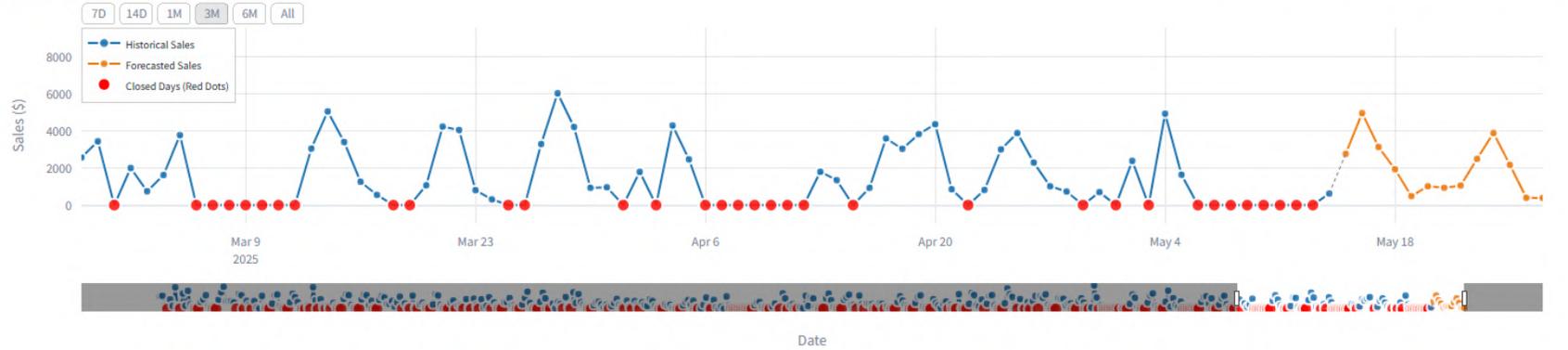
Advanced

MODELS

Forecast Results

Interactive Chart Guide

Sales Forecast - Kaapse Maria B.V.



\$26K TOTAL FORECAST	\$2.0K DAILY AVG	1.1x VS HISTORICAL	0.55 R ² SCORE
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Show Feature Importance

LOCATION

Fenix Food Factory (50460)

Fenix Food Factory B.V.
499 records

SETTINGS

Start End

2025/05/15

2025/05/27

Model

XGBoost

Historical

Confidence

CHART

Last 1 Month + Forecast

Markers

Grid

Advanced

MODELS

Forecast Results

Interactive Chart Guide

Sales Forecast - Fenix Food Factory B.V.



\$36K

TOTAL FORECAST

\$2.8K

DAILY AVG

1.2x

VS HISTORICAL

0.55

R² SCORE

Show Feature Importance

LOCATION

All Locations Combined

All Locations Combined

Fenix Food Factory (50460)

Kaapse Maria (47903)

Kaapse Will'ns (47904)

Kaapse Kaap (47901)

Model

XGBoost

Historical

Confidence

CHART

Last 1 Month + Forecast

Markers

Grid

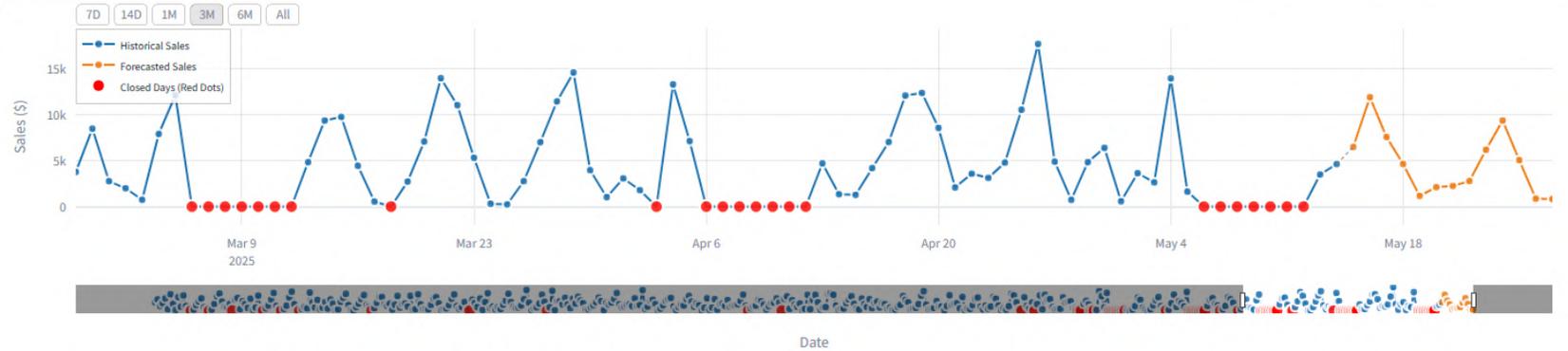
Advanced

MODELS

Forecast Results

Interactive Chart Guide

Sales Forecast - All Locations Combined



\$61K TOTAL FORECAST	\$4.7K DAILY AVG	1.0x VS HISTORICAL	0.55 R ² SCORE
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Show Feature Importance