

# **WhatNext Vision Motors: Shaping the Future of Mobility with Innovation and Excellence**

## **Project Overview**

WhatNext Vision Motors, a pioneering force in the automotive industry, is dedicated to transforming the mobility sector with innovative technology and customer-centric solutions. The company initiated a Salesforce CRM project designed to enhance customer experience and streamline operational processes. At the core of this project is an automated system that improves the customer ordering process by suggesting the nearest dealer based on location and preventing out-of-stock vehicle orders. This CRM aims to create a seamless, efficient, and transparent ordering experience that ensures higher customer satisfaction and operational accuracy.

## **Objectives**

The primary goal of developing this Salesforce CRM is to enhance the efficiency of the customer order management process while improving user experience and business productivity. By automating dealer assignments, validating stock availability, and updating order statuses, the system minimizes manual errors and ensures accurate, real-time data tracking. These objectives support business value by fostering stronger customer relationships, improving operational efficiency, and optimizing dealer network performance.

## **Phase 1: Requirement Analysis & Planning**

### **Understanding Business Requirements**

WhatNext Vision Motors identified the growing need to modernize its customer management and vehicle ordering system to enhance both customer experience and operational efficiency.

Customers were facing challenges in locating nearby dealers, checking real-time stock availability, and tracking order status. On the company side, manual processes caused delays, inaccurate records, and reduced productivity.

To solve these issues, a Salesforce CRM solution was proposed to automate order management, dealer assignments, and stock validation — ensuring accuracy, transparency, and customer convenience.

## **Defining Project Scope and Objectives**

The Salesforce CRM implementation focuses on transforming customer and dealer interactions while optimizing internal processes.

Project Scope:

- Develop integrated CRM to store and manage vehicles, dealer, and customer information.
- Enable automated assignment of orders to the nearest dealer based on the customer's address.
- Prevent customers from placing orders for vehicles that are out of stock.
- Schedule automated updates for bulk order records based on stock availability.
- Implement Apex and automation tools to streamline order validation, tracking, and fulfillment.

**Objectives:**

- Enhance customer experience by providing quick, accurate order and dealer information.
- Improve order accuracy through stock validation automation.
- Reduce administrative workload by automating repetitive processes.
- Strengthen operational efficiency and data reliability.
- Provide transparent communication and real-time updates for customers and staff.

## **Design Data Model and Security Model**

The data model consists of the following key objects:

- Vehicle Object: Contains details such as Model Name, Price, and Stock Availability.
- Dealer Object: Stores information about Dealer Name, Address, and Assigned Orders.
- Customer Object: Records of customer profiles, including address and contact details.
- Order Object: Tracks order details linked vehicle and dealer, and current order status (Pending, Confirmed).

Security is implemented using Profiles, Roles, and Permission Sets to ensure that sensitive business data is protected and accessible only to authorized personnel. The Role Hierarchy enforces structured visibility from administrators down to sales and support users, maintaining data confidentiality and operational control.

### Stakeholders Mapping

- Executive Sponsor: Provides project direction and approves key milestones.
- Project Manager: Oversees progress, deliverables, and alignment with business goals.
- Salesforce Developers: Build and configure system logic using Apex, Flows, and automation tools.
- Business Analyst: Translates user needs into functional requirements.
- End Users: Sales representatives, dealers, and customer support personnel who interact directly with CRM.

Phase	Key Activities	Deliverables
1. Requirement Analysis	Identify user pain points and define functional and non-functional requirements.	Business Requirement Document (BRD)
2. System Design	Design data model, security model, and automation logic.	System Design Document
3. Configuration & Development	Implement custom objects, Apex triggers, workflows, and process automation.	Configured Salesforce Environment
4. Testing & Validation	Conduct functional and user acceptance testing.	Test Reports and Approval Sign-Off
5. Deployment & Training	Deploy solutions to production and train staff in CRM use.	Live CRM System and Training Documentation

## **Phase 2: Salesforce Development – Backend & Configurations**

### **2.1 Setup Environment & DevOps Workflow**

A Salesforce Developer Org was created to serve as the primary environment for development and testing. It ensures isolated experimentation without affecting production data.

Purpose: Enable safe customization, configuration, and testing of features.

Outcome: Activated developer account and configured initial Salesforce settings for the project.

### **2.2 Custom Objects and Fields**

Custom objects were developed to represent business data specific to *WhatNext Vision Motors*.

Created Objects:

Vehicle: Stores information such as model, year, and specifications.

Dealer: Maintains details about authorized vehicle dealers.

Other Related Objects: Include entities like Customer, Booking, and Service History for complete operational coverage.

### **2.3 Validation Rules & Automation**

Validation rules were implemented to ensure data accuracy, such as:

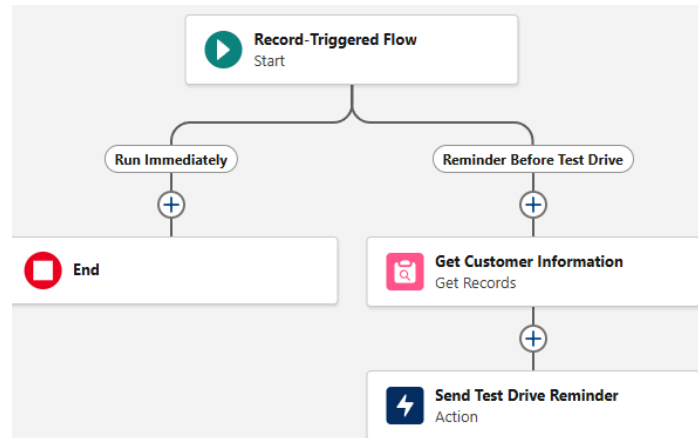
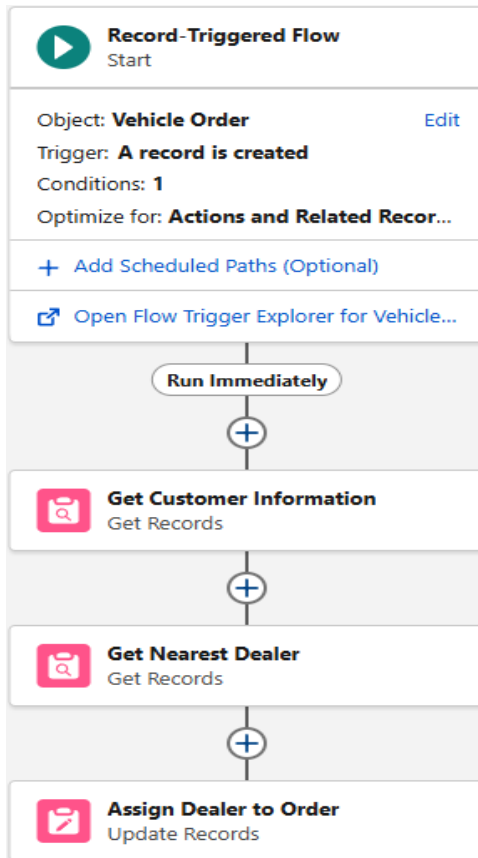
Preventing record creation without mandatory vehicle details.

Restricting dealer records from being saved without valid contact information.

Automation tools (Flows and Process Builder) streamline repetitive tasks, such as:

Auto-updating vehicle availability after booking confirmation.

Sending automated notifications for service schedules.



## 2.4 Approval Processes

Approval workflows were established for key actions, like:

Dealer onboarding requests.

Vehicle procurement approvals.

Each approval process includes defined entry criteria, approvers, and outcome actions.

## 2.5 Apex Development

Where automation tools were insufficient, Apex Classes and Triggers were used to implement logic for custom scenarios, ensuring system efficiency and data integrity.

Example: Trigger to update Dealer status when associated Vehicle records reach sales threshold.

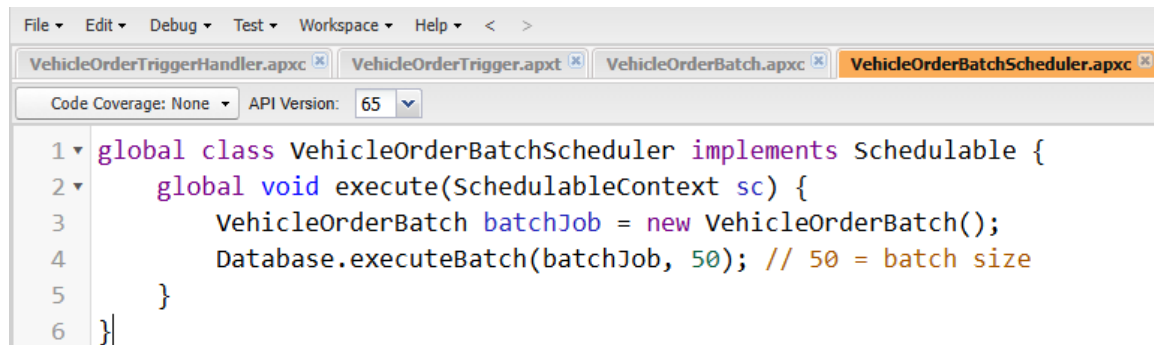
## 2.6 Testing Approach

Testing was performed through multiple stages:

Unit Testing: Checked functionality of each automation and trigger.

Integration Testing: Validated data flow between objects (Vehicle ↔ Dealer).

User Acceptance Testing (UAT): Confirmed the system meets business requirements.



```
File Edit Debug Test Workspace Help < >
VehicleOrderTriggerHandler.apxc VehicleOrderTrigger.apxt VehicleOrderBatch.apxc VehicleOrderBatchScheduler.apxc
Code Coverage: None API Version: 65
1 global class VehicleOrderBatchScheduler implements Schedulable {
2     global void execute(SchedulableContext sc) {
3         VehicleOrderBatch batchJob = new VehicleOrderBatch();
4         Database.executeBatch(batchJob, 50); // 50 = batch size
5     }
6 }
```

## Phase 3: Salesforce Development – Frontend (UI Design & Customization)

### 3.1 Creating the Lightning App

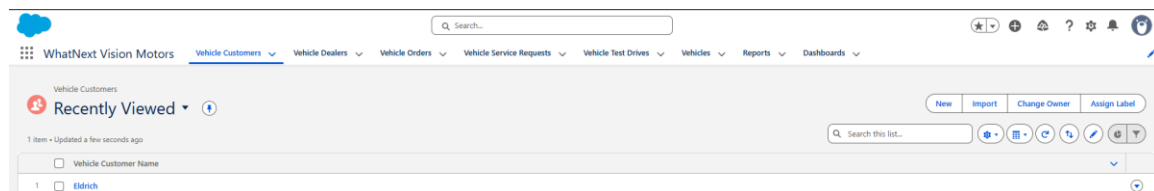
A custom Lightning App titled *WhatNext Vision Motors* was developed to centralize access to all major business modules such as Vehicle, Dealer, Customer, Orders, and Service Requests.

App Name: WhatNext Vision Motors

Description: Designed to streamline operations by integrating vehicle, dealer, and service workflows into one unified interface.

Primary Navigation: Includes essential objects and analytics tools (Reports and Dashboards).

Access Control: Assigned to the *System Administrator* profile for configuration and management.



### 3.2 Custom Fields in Vehicle Object

To enhance vehicle data management, additional fields were created in the Vehicle object to store model and inventory information.

Added Fields:

Vehicle Model (Picklist): Lists available vehicle models (e.g., Sedan, SUV, Electric).

Stock Quantity (Number): Tracks available stock count for each vehicle record.

These fields help maintain accurate, up-to-date vehicle availability for both sales and reporting processes.

Vehicle Model

--None--

✓ --None--

Sedan

SUV

EV

etc

Status

--None--

✓ --None--

Pending

Confirmed

Delivered

Canceled

Status

--None--

✓ --None--

Available

Out-of-Stock

Discontinued

3.3 Lookup Relationship: Vehicle ↔ Dealer

A Lookup Relationship was configured between the Vehicle and Dealer objects.

Purpose: To associate each vehicle record with its respective dealer, enabling data integrity and simplifying tracking of dealer-specific inventory.

Outcome: Facilitates report generation and easy access to related dealer details from the vehicle record page.

Vehicle Order Number

O-0001

Vehicle Customer

[Eldrich](#)

Vehicle

[Toyota](#)

Order Date

10/30/2025

Status

Pending

Assigned Dealer

[Kian](#)

Created By

 [Malcolm Marce](#), 10/23/2025, 8:06 AM

### 3.4 UI and Navigation Customization

The Lightning App's navigation bar and tab visibility were customized to ensure users can quickly access essential features and objects.

Tabs Included: Vehicle, Dealer, Customer, Order, Test Drive, Service Request, Reports, and Dashboard.

User Experience Focus: Simplified interface, ensuring intuitive navigation for operational efficiency

## Phase 4: Data Migration, Testing & Security

### 4.1 Data Migration

The initial data migration was performed using Salesforce's native tools to import business records into the system efficiently.

Tools Used:

Data Import Wizard: Used for importing small datasets such as *Dealers* and *Customers* to ensure data accuracy and validation during import.

Data Loader: Utilized for large-volume imports, including *Vehicle*, *Vehicle Orders*, and *Service Requests*. Enabled bulk updates and ensured referential integrity between related objects.

### 4.2 Field History Tracking

To ensure transparency and traceability, Field History Tracking was enabled on key objects:

Vehicle: Tracks updates to stock quantity and model changes.

Vehicle Order: Logs changes to order status (Pending → Confirmed).

Dealer: Records updates to contact or dealership details.

This allows admins and managers to audit modifications over time and maintain accountability for data accuracy.

### 4.3 Duplicate and Matching Rules

Duplicate Rules and Matching Rules were implemented to prevent redundant data entries and improve data quality.

Matching Rules:

Configured to identify potential duplicates using fields such as *Email*, *Dealer Name*, and *Vehicle Name*.

Duplicate Rules:

Automatically notify users and restrict creation of duplicate records while allowing admin overrides for exceptional cases.

#### **4.4 Security Model: Profiles, Roles, and Permission Sets**

A multi-layered security model was designed to protect sensitive business data while supporting operational flexibility.

Profile:

System Administrator: Full access for configuration, customization, and testing.

Sales Executive: Limited access to creating and viewing orders, customers, and service requests.

Dealer Manager: Can view and update assigned vehicle and dealer data only.

Roles and Role Hierarchy:

CEO → Regional Manager → Dealer Manager → Sales Executive

Enables hierarchical visibility so senior roles can access subordinate records.

Permission Sets:

Created additional permission sets for features like reporting access and dashboard editing, ensuring least-privilege access control.

Sharing Rules:

Configured to automatically share *Vehicle Orders* and *Service Requests* among team members within the same region.

#### **4.5 Test Classes**

To validate backend logic and ensure code reliability, Apex Test Classes were developed and executed.

Purpose:

Validate the functionality of triggers and batch classes (e.g., `VehicleOrderTriggerHandler`, `VehicleOrderBatch`).

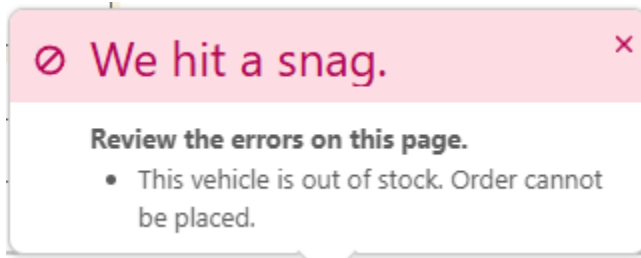
Ensure test coverage exceeds Salesforce's minimum requirement ( $\geq 75\%$ ).

Testing Focus Areas:

Order creation and stock update automation.

Batch job behavior for pending-to-confirmed order transitions.

Error handling for out-of-stock vehicle orders.



## 4.6 Testing Approach

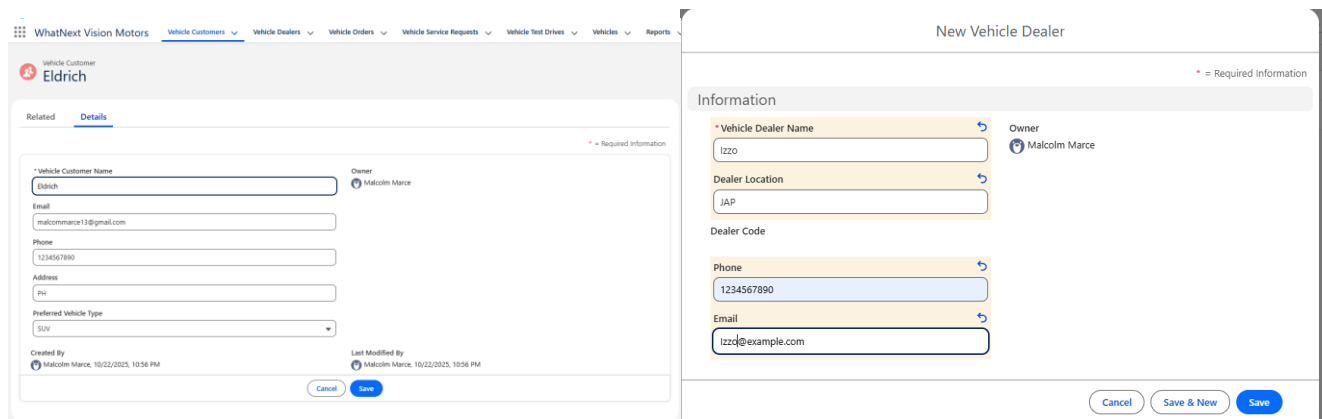
Testing included unit testing, integration testing, and user acceptance testing (UAT) to confirm that system workflows and data automations performed as expected.

Methods:

Verified automation through sandbox runs.

Simulated various user roles to confirm data visibility and permissions.

Ensured reports and dashboards displayed accurate results post-migration.

A screenshot of the 'New Vehicle Dealer' form in the 'WhatNext Vision Motors' system. The form is titled 'New Vehicle Dealer' and includes a legend indicating that red asterisks denote required information. The form is divided into two main sections: 'Information' and 'Owner'. The 'Information' section contains fields for 'Vehicle Dealer Name' (with value 'IZZD'), 'Dealer Location' (with value 'JAP'), 'Dealer Code', 'Phone' (with value '1234567890'), and 'Email' (with value 'izzd@example.com'). The 'Owner' section shows 'Malcolm Marce' as the owner. At the bottom, there are 'Cancel', 'Save & New', and 'Save' buttons. The left sidebar shows the 'Vehicle Customer' section with a 'Details' tab and a 'Related' section.

New Vehicle Order

Information

Vehicle Order Number

Vehicle Customer

Eldrich

Vehicle

Toyota

Order Date

10/24/2025

Status

Pending

Assigned Dealer

Search Vehicle Dealers...

Recent Vehicle Dealers

Izzo

Dave

Kian

New Vehicle Dealer

Owner

Malcolm Marce

WhatNext Vision Motors

Vehicle Customers

Vehicle Dealers

Vehicle Dealers

Recently Viewed

3 items • Updated a few seconds ago

	Vehicle Dealer Name
1	Izzo
2	Dave
3	Kian

New Vehicle Service Request

Information

Vehicle Service Request Name

Repaint

Vehicle Customer

Eldrich

Vehicle

Toyota

Service Date

10/30/2025

Issue Description

too dark

Status

Requested

Owner

Malcolm Marce

WhatNext Vision Motors

Vehicle Customers

Vehicle Dealers

Vehicle Orders

Vehicle Service Requests

Vehicle Service Request

Repaint

Related

Details

Vehicle Service Request Name	Repaint	Owner	Malcolm Marce
Vehicle Customer	Eldrich		
Vehicle	Toyota		
Service Date	10/30/2025		
Issue Description	too dark		
Status	Requested		
Created By	Malcolm Marce, 10/23/2025, 10:40 AM	Last Modified By	Malcolm Marce, 10/23/2025, 10:40 AM

Related

Details

Vehicle Test Drive Name	abc	Owner	Malcolm Marce
Vehicle Customer	Eldrich		
Vehicle	Toyota		
Test Drive Test	10/24/2025		
Status	Scheduled		
Created By	Malcolm Marce, 10/23/2025, 8:19 AM	Last Modified By	Malcolm Marce, 10/23/2025, 8:19 AM

Reminder: Your Test Drive is Tomorrow! Spam x

Malcolm Marce via yh2tyjf4ezyrwm.g5-ym8eak.ind168.bnc.salesforce.com to me

Why is this message in spam? This message is similar to messages that were identified as spam in the past.

Report not spam

Dear UserEldrich,

This is a reminder that your test drive a04g50000005ruvAAA is tomorrow. If you need to reschedule please contact us at support@gmail.com

Thank You.

Vehicle Ford	Vehicle Order O-0004	Vehicle Ford
Related <u>Details</u>	Related <u>Details</u>	Related <u>Details</u>
Vehicle Name Ford	Vehicle Order Number O-0004	Vehicle Name Ford
Vehicle Model Sedan	Vehicle Customer <a href="#">Eldrich</a>	Vehicle Model Sedan
Stock Quantity 100	Vehicle <a href="#">Ford</a>	Stock Quantity 99
Price \$70,000	Order Date 10/24/2025	Price \$70,000
Vehicle Dealer <a href="#">Izzo</a>	Status Confirmed	Vehicle Dealer <a href="#">Izzo</a>
Status Available	Assigned Dealer <a href="#">Izzo</a>	Status Available
	Created By <a href="#">Malcolm Marce</a> , 10/23/2025, 10:55 AM	Created By <a href="#">Malcolm Marce</a> , 10/23/2025, 10:45 AM

## 4.7 Future Security Enhancements

Planned improvements include:

Multi-Factor Authentication (MFA): To strengthen login security.

IP Whitelisting: To restrict unauthorized access.

Data Encryption at Rest: For compliance with advanced data protection standards.



## Phase 5: Deployment, Documentation & Maintenance

### 5.1 Deployment Strategy

The deployment strategy for WhatsNext Vision Motors' Salesforce solution was designed to ensure smooth migration of customizations from the development environment to the production environment, minimizing disruption to business operations.

Deployment Method:

Change Sets were primarily used to deploy components (custom objects, fields, triggers, flows, validation rules, profiles, and reports) from the Developer Sandbox to the Production Org.

Each change set was validated before deployment to ensure that dependencies (e.g., referenced fields or objects) were properly included.

Post-deployment, sanity testing was performed to confirm that automation rules, triggers, and integrations behaved as expected.

Deployment Process Summary:

Created and tested all configurations in the Developer Org.

Prepared Outbound Change Sets containing components for migration.

Validated deployment in a UAT Sandbox.

Final deployment to Production Org after UAT sign-off.

Conducted a post-deployment review to ensure all functionality matched expectations.

## **5.2 System Maintenance and Monitoring**

To ensure long-term stability and scalability, a structured maintenance and monitoring plan was defined.

Maintenance Approach:

Regular Data Audits: Periodic cleanup to remove obsolete records and maintain database performance.

Scheduled Backups: Daily automatic backups to prevent data loss.

User Management: Ongoing review of profiles and permissions to align with organizational changes.

Performance Monitoring: Tracking system logs and load time to identify potential bottlenecks.

Monitoring Tools:

Salesforce Setup Audit Trail: Tracks configuration and administrative changes.

System Overview Page: Monitors API usage, storage, and active user sessions.

Email Alerts: Configured for automation or integration failures (e.g., batch job errors).

### 5.3 Troubleshooting & Support Documentation

A dedicated troubleshooting framework was established to handle post-deployment issues efficiently.

Common Issue Categories and Resolutions:

Issue Type	Possible Cause	Resolution Approach
Workflow or Trigger Error	Field missing or invalid reference	Review error log, validate object relationships
Batch Job Failure	Invalid query or record lock	Analyze Apex Jobs log, rerun batch manually
Duplicate Record Entry	Weak matching rule	Adjust Matching & Duplicate Rules
Permission Denied	Profile misconfiguration	Update profile or assign additional permission set
Data Import Errors	Field mapping mismatch	Verify CSV headers and data types

Support Process:

Issues are logged in an internal support tracker.

Admin reviews and categorizes by impact level (Low, Medium, Critical).

Fixes are implemented in sandbox, tested, and redeployed via change set.

### 5.4 Future Maintenance Enhancements

Future improvements to ensure sustainability and scalability include:

Implementing automated monitoring alerts using Salesforce Health Check.

Scheduling quarterly security reviews and code refactoring sessions.

Integrating Salesforce Service Cloud for ticket-based issue management.

## Conclusion

The Salesforce CRM implementation for WhatsNext Vision Motors clearly demonstrates how modern cloud technologies can transform traditional automotive activities into a more flexible, customer-centered, data-driven setting. Using this capstone project, several Salesforce features custom objects, automation flows, Apex triggers, and batch operations were blended to improve the car. The order process should enable real-time stock verification and help to enhance dealer-customer contacts. Obviously, these changes help the company's aims of improving operational efficiency and customer happiness. Apart from the technical implementation, this project provided interesting insights into Salesforce development with the best practices, including modular Apex coding, correct data modeling, and process optimization. low-code technologies, such as flows, enable this. In essence, this project accomplished its primary objectives of enhancing customer experience, raising efficiency, and modernizing operations. It also established a solid foundation for upcoming innovation, including artificial intelligence-based recommendations, chatbot-driven customer care, and predictive analytics to forecast market needs.