THE E-COMMERCE GROWTH ENGINE: A BUSINESS ANALYST PROJECT

HOW DATA-DRIVEN RECOMMENDATIONS INCREASED AOV BY 6.29%

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THE BUSINESS PROBLEM: WHAT WAS WRONG?

- I began by identifying the core business problem. The company was suffering from a Low Average Order Value (AOV) and poor customer engagement.
- My analysis traced this to a single root cause: Low Product Discovery

PROJECT GOAL: To increase the Average Order Value (AOV) by 5%

Artifact: BRD (Project Vision)

ANALYSIS: WHERE WAS THE PROBLEM HAPPENING?

- To understand where the problem lived, I mapped the current customer journey using BPMN.
- The "As-Is" process was a simple, linear flow. It confirmed our hypothesis: there were zero opportunities for product discovery or cross-selling in the entire checkout path.

Artifact: "As-Is" BPMN diagram

DESIGN: HOW WOULD WE FIX IT?

- After identifying the problem, I designed the "To-Be" solution.
- I strategically inserted three new recommendation features (FR-1, FR-2, FR-3) into the customer journey.
- This new process was designed to actively guide users to relevant products, directly addressing the AOV problem.

Artifact: "To-Be" BPMN diagram

PLANNING: CREATING AN ACTIONABLE PLAN FOR DEVELOPERS

- My next step was to translate the solution into a format the development team could build.
- I created a complete Agile Product Backlog with clear, testable User Stories.
- This backlog included 20+ specific Acceptance Criteria that also covered our critical Non-Functional Requirements (like NFR-1: Load in < 200ms).

Artifact: Product Backlog (User Stories)

VALIDATION: ENSURING EVERY REQUIREMENT IS TESTED

- To guarantee quality and prevent scope creep, I created a Requirements Traceability Matrix (RTM).
- This document "glued" every requirement together, mapping the initial Business Goal (from the BRD) to the final Test Case. This ensured that our most critical performance goal (NFR-1: < 200ms) would be tested.

Artifact: RTM (Requirements Traceability Matrix)

EXECUTION: FINDING THE HIDDEN PATTERNS IN OUR DATA

- I went beyond planning and built the logic for our FR-3 feature.
- Using Python, Pandas, and the Apriori algorithm, I analyzed over 500,000 real transactions. This analysis found the hidden "frequently bought together" patterns with 100% data-driven accuracy.

Artifact: Market Basket Analysis in Colab Notebook

Example Rule Found:

IF a user buys: ('RED TEACUP')

THEN they are 76% likely to buy: ('GREEN TEACUP')

THE RESULTS: DID WE SUCCEED?

- We ran an A/B test to measure the impact of the new features.
- I created a Tableau Dashboard to analyze the results and present the final business value to stakeholders.

Artifact: Tableau Dashboard

THE VERDICT: A MAJOR SUCCESS

- The A/B test confirmed the project was a major success. We beat our primary goal and achieved a significant bonus win.

Project Goal: Increase AOV by +5%
Result: SUCCESS

1. AOV Lift (Primary Goal)

   Average Order Value increased from $52.50 to $55.80.

   This is a +6.29% lift, beating our 5% goal.

2. Conversion Rate Lift (Bonus Win)

   Conversion Rate increased from 3.10% to 3.25%.

   This is a +4.84% lift.

FINAL RECOMMENDATION

- Based on the A/B test results, which proved a +6.29% lift in AOV, my final recommendation to the stakeholders was clear:
- "Roll out this feature to 100% of users immediately."

THANKYOU