

PROJECT TYPE

eCommerce platform modernization, Headless commerce

TECHNOLOGIES

Legacy monolith commerce core (PHP/Java/.NET), Headless commerce architecture, BFF layer, Domain microservices, Event streaming for customer behavior data, Amazon Personalize, BI data marts, A/B testing framework

DURATION

7 months

METHODOLOGY

Scrum

TEAM

- 1 Solution Architect
- 1 Business Analyst / Product Owner
- 2 Backend Engineers
- 2 Frontend / BFF Engineers
- 1 DevOps / Cloud Engineer
- 1 Data Engineer
- 1 ML Engineer
- 1 QA Engineer

AI-Driven Legacy eCommerce Modernization

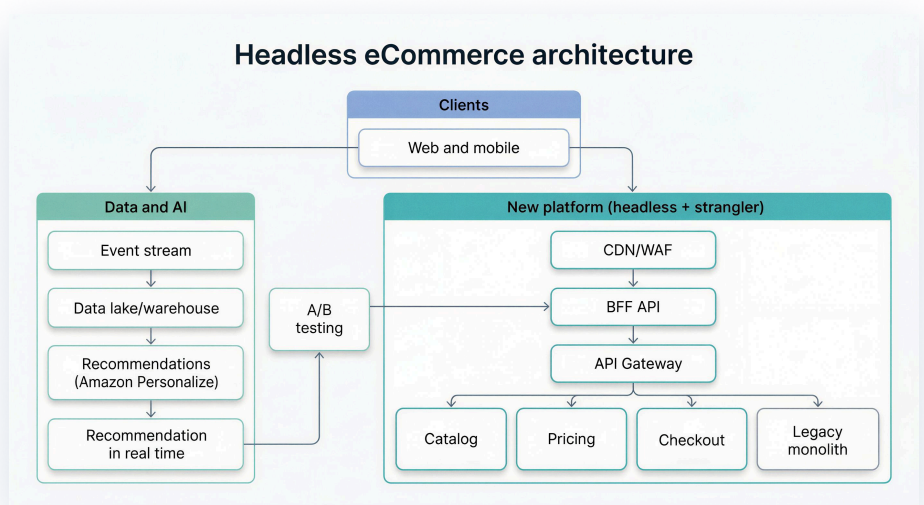
An omnichannel apparel and home goods retailer replaced a restrictive monolith with a modernized platform and AI-driven recommendations to support growth and improve conversions.

Project background

The Client was a mid-sized omnichannel retailer in apparel and home goods with strong seasonal traffic and 1–2 million website visits per month. Its online business ran on a rigid, monolithic commerce platform that was hard to change, hard to integrate, and poorly suited to AI-driven personalization. The company brought in SumatoSoft to modernize the platform and build the data and AI layer needed for more effective digital growth.

Project Distinctive Features

The project combined legacy modernization and AI adoption into a single roadmap. Instead of replacing the entire platform at once, SumatoSoft used a Strangler Fig approach, introduced a headless commerce layer, built a unified event stream for customer behavior, and added AI-powered recommendations via real-time and batch delivery

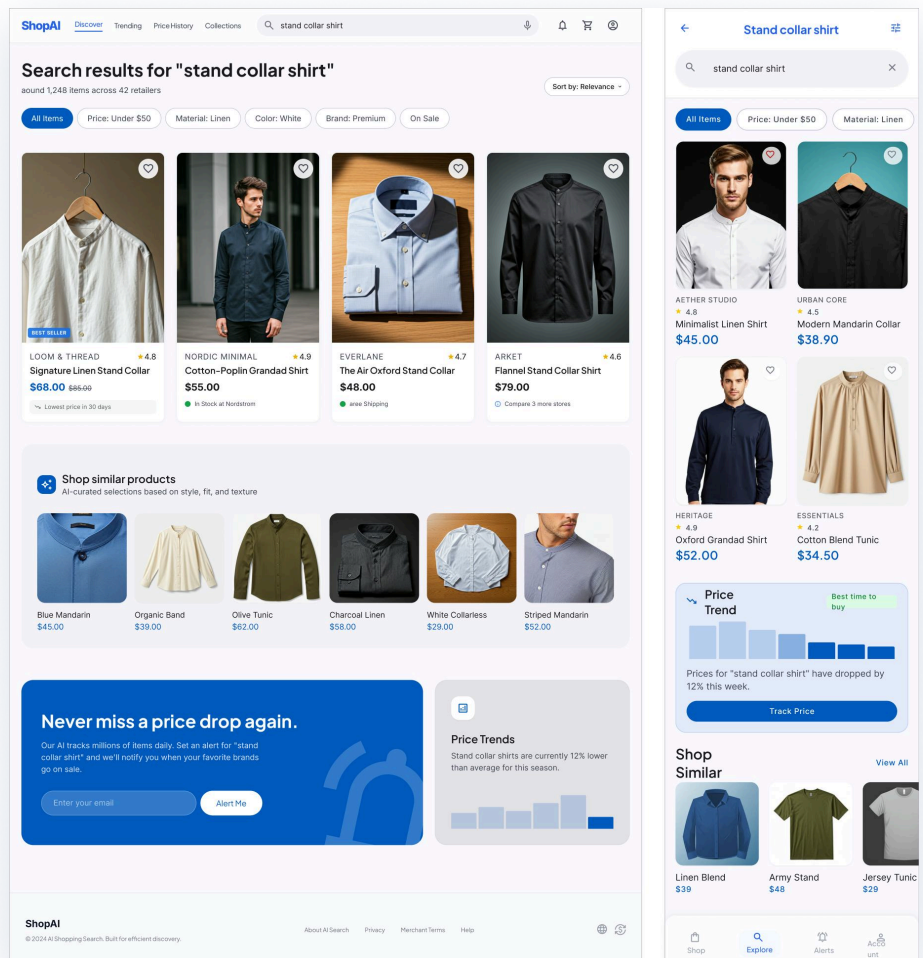


Business challenge

The Client wanted to reduce its reliance on its legacy monolith, accelerate campaign launches, improve personalization, and support online revenue growth. The existing platform slowed releases, made A/B testing difficult, relied on fragmented integrations with ERP, OMS, and marketing systems, and lacked a single behavioral data layer for recommendations and analytics. The business needed a safe modernization path that would not disrupt checkout, payments, or order flows.

Our solution

SumatoSoft placed a BFF and API facade in front of the legacy monolith, then began separating the commerce core into headless, domain-oriented services, including catalog, pricing, promotions, checkout, and customer profile. In parallel, we built an event pipeline for views, cart actions, and purchases, connected it to catalog data, and prepared an AI-ready data foundation. On top of that, we integrated Amazon Personalize for real-time recommendation blocks on the storefront and for batch recommendations in email and push. We also introduced observability, A/B testing support, and phased cutover controls to reduce migration risk.



Customer's benefits

The new setup gave the Client a more flexible commerce architecture, faster and safer release cycles, and a usable data foundation for AI personalization. Customer behavior data moved from fragmented tracking to a unified event stream. Recommendations moved from static rules or no recommendation logic at all to managed AI-powered real-time delivery. Experiments became easier to run, and platform observability improved. The case model estimates conversion growth from 2.1% to 2.5%, a revenue uplift from 5% to 12%, and an improvement in marketing ROI from 10% to 25%.

What's happening with the project right now?

The modernization foundation is in place, and the Client continues to expand personalization scenarios, optimize recommendation quality through experimentation, and gradually move more commerce capabilities away from the legacy core.