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CASE STUDY

# Optimizing Marketing Channel Allocation with Databricks for a Leading Tech Real Estate Marketplace



**Industry: Real Estate Technology** | **Domain: Marketing Analytics Migration**

## THE IMPACT

**15-22%**
PLATFORM ENGAGEMENT BOOST

**30-40%**
DIGITAL EFFICIENCY ENHANCEMENT

**75-80%**
INSIGHT GENERATION ACCELERATION

## CLIENT

A leading US real estate marketplace providing property listings, home valuations, rental search tools, and financing services to streamline end-to-end real estate experience.

## THE CHALLENGES

The client's marketing analytics team faced challenges with its existing Media Mix Modeling (MMM) process:

### Fragmented Measurement

Inconsistent modeling approaches across channels, business lines, and DMAs reduced accurate attribution and investment confidence.

### Manual and Disconnected Platform

Manual development and lack of unified platform slowed model development cycles, limited reproducibility and reduced governance.

### Limited Visibility and Adoption

Lack of standardized dashboards constrained stakeholder adoption, performance monitoring, and data-driven decision-making.

## OUR APPROACH

## Standardizing and Automating Bayesian MMM Platform

We developed a Bayesian Media Mix Modeling framework on Databricks to remove inconsistencies, built robust statistical modeling with MLOps and automation to deliver faster and explainable media measurement.

### Here's **what we did**

- **Built a standardized Bayesian MMM framework** incorporating business priors, non-linear relationships, diminishing returns and halo effects, addressing data inconsistencies.
- **Improved model validation and stability** with automated feature engineering and selection.
- **Automated end-to-end MMM lifecycle in Databricks** with Declarative Automation Bundle (DAB) and CI/CD pipelines, improving development reliability.
- **Established centralized MLOps platform with Databricks MLflow** for experiment tracking, model versioning, and artifact management.
- **Utilized Unity Catalog Volumes** for secure governance and storage centralization.
- **Increased visibility with Databricks AI/BI dashboards** for monitoring, model diagnostics, and insights.

## BUSINESS OUTCOMES

### Faster Insight Generation by **75-80%**

Accelerated modeling cycles, quicker reporting and agile responses to evolving market dynamics.

### Lifted Engagement by **15-22%**

More total site traffic and optimized channel spend allocation.

### Improved Digital Efficiency by **30-40%**

Lower cost-per-acquisition across digital media.

### Established **Transparent & Defensible ROI Metrics**

Rigorous measurement of marketing spend effectiveness.

### Enabled **Advanced Scenario Planning**

Smarter budget allocation strategies and simulated investment impact.

