

AI for Bharat Hackathon

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Problem Statement: Market conditions change fast. Sellers get data, not decisions.

Brief about the Idea: The Challenge in Indian E-Commerce

Problem Statement:

- Indian retailers and marketplace sellers face intense competition on platforms like Amazon, Flipkart, Meesho
- Manual price monitoring across 100s of competitors is impossible
- Demand forecasting errors lead to ₹1000s Cr in lost revenue annually
- 70% of sellers struggle with optimal pricing decisions
- Limited access to actionable market intelligence

Our Solution: ShelfIQ is an AI-powered Commerce Intelligence Copilot that provides:

- Real-time competitor pricing intelligence
- AI-driven demand forecasting
- Automated pricing recommendations
- Listing optimization for better visibility
- Margin protection alerts

Impact:

- 15%+ improvement in pricing accuracy
- 20%+ reduction in stockouts
- 10%+ increase in revenue through optimized pricing

What Makes ShelfIQ Different?

How Different from Existing Solutions?

AI/Copilot Approach vs Traditional Analytics

Existing: Static dashboards requiring manual interpretation

ShelfIQ: Conversational AI that provides actionable recommendations

India-First Design

Built for Indian marketplaces (Amazon.in, Flipkart, Meesho)

Understands regional pricing dynamics and festivals

Supports vernacular languages for wider adoption

Real-Time Intelligence

Competitor price updates within 15 minutes

Instant alerts on market changes

Proactive recommendations, not reactive reports

How Will It Solve the Problem?

Automated Data Collection: Eliminates manual competitor tracking

AI-Powered Insights: Transforms raw data into actionable recommendations

Predictive Analytics: Forecasts demand to prevent stockouts and overstock

Margin Protection: Alerts before profitability is compromised

Listing Optimization: Improves product visibility and conversion rates

USP of the Proposed Solution:

- ✓ Conversational AI Copilot - Ask questions in natural language, get instant insights
- ✓ Multi-Marketplace Support - Unified view across Amazon, Flipkart, Meesho
- ✓ Real-Time Alerts - Never miss a competitive threat or opportunity
- ✓ Affordable Pricing - Accessible to small and medium sellers
- ✓ India-Specific Features - Festival demand prediction, regional pricing strategies

Pricing Intelligence

Competitor tracking
AI pricing
Margin protection

Demand Intelligence

Forecasting
Seasonality detection
Event-based spikes

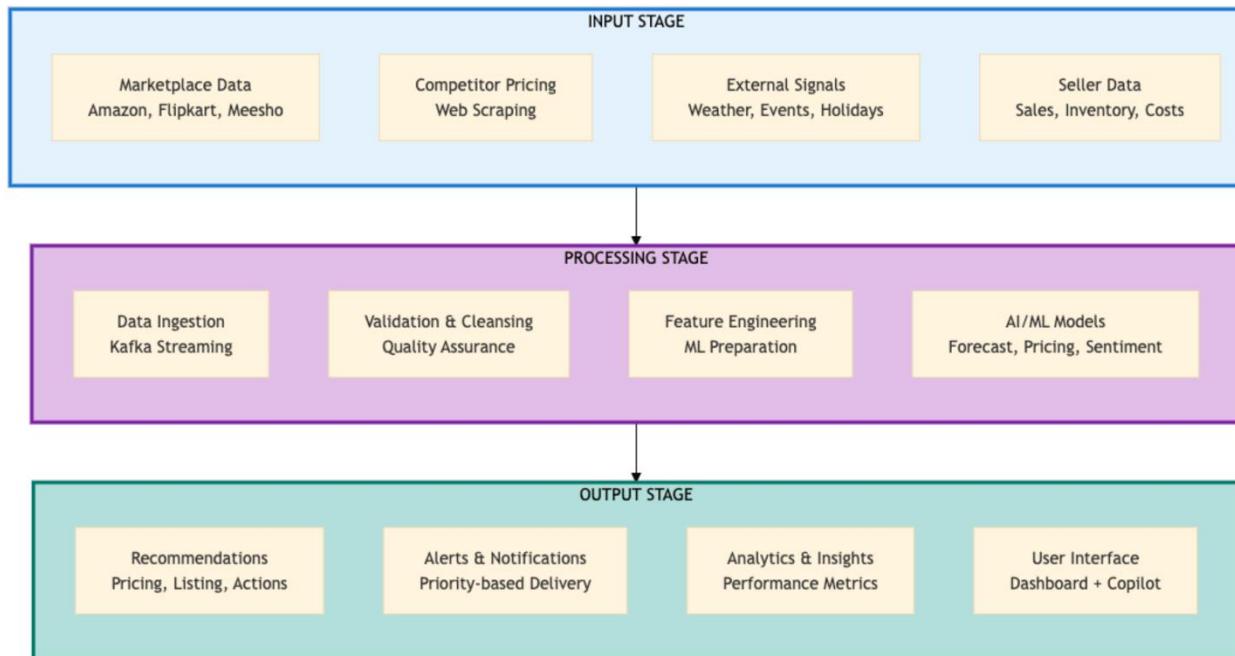
Optimization & Insights

Listing optimization
Sentiment analysis
Market signals

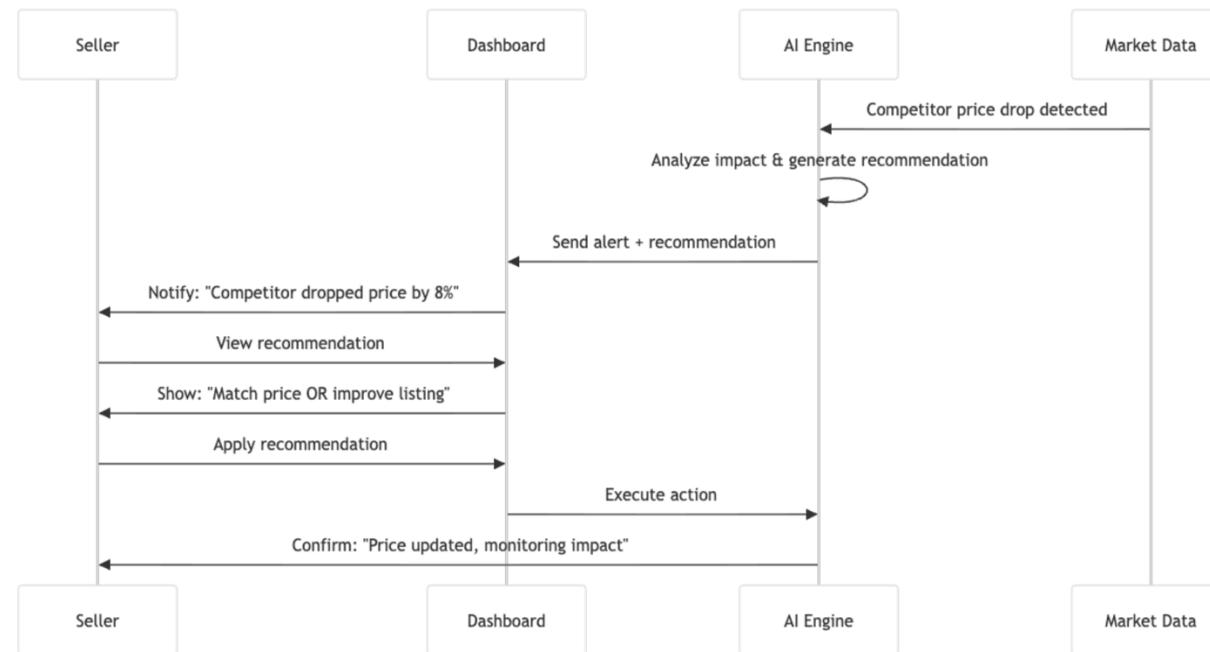
Action & Execution

Alerting system
Growth recommendations
Copilot chat
Multi-marketplace dashboard

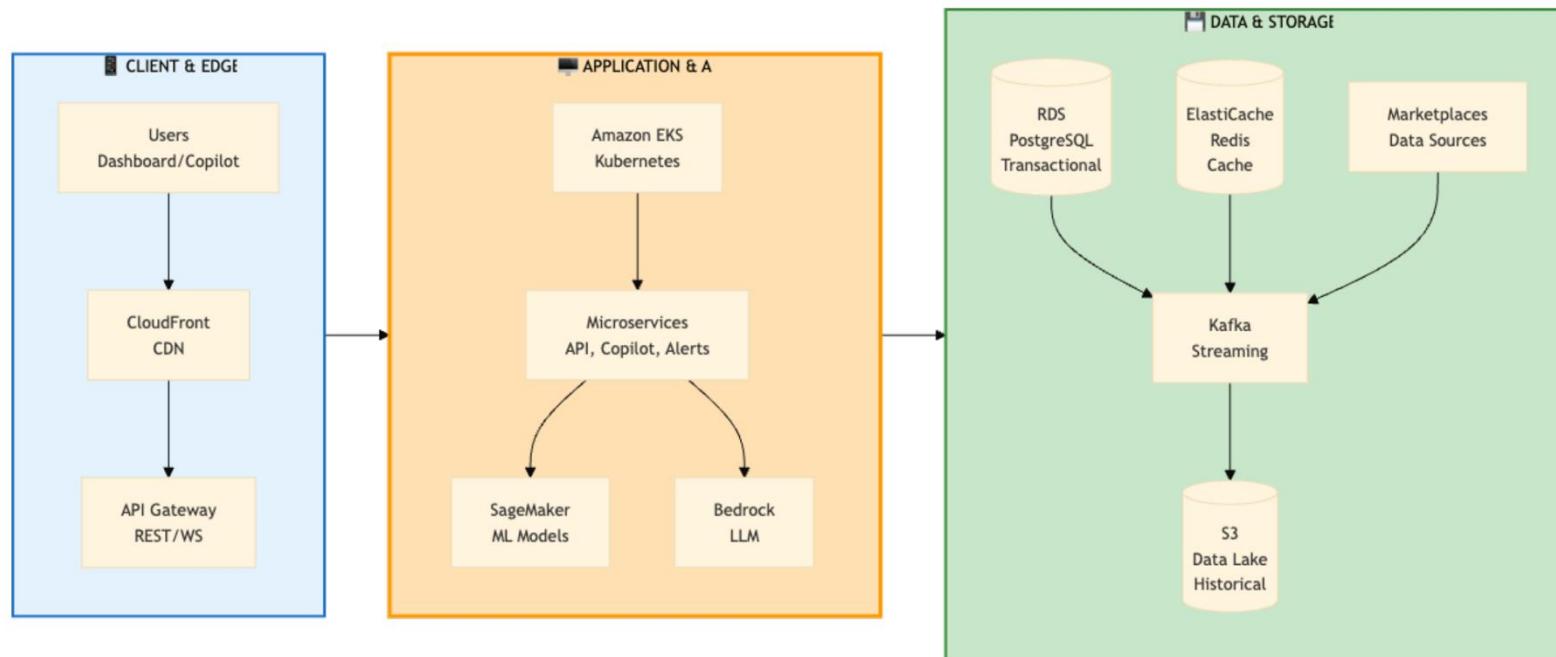
Process flow diagram or Use-case diagram



Wireframes/Mock diagrams of the proposed solution (optional)



Architecture diagram of the proposed solution:



Technologies to be used in the solution:

Frontend: React 18 + TypeScript | Material-UI | Recharts | Socket.io

Backend: FastAPI (Python) | Node.js | GraphQL (Apollo) | Kong Gateway

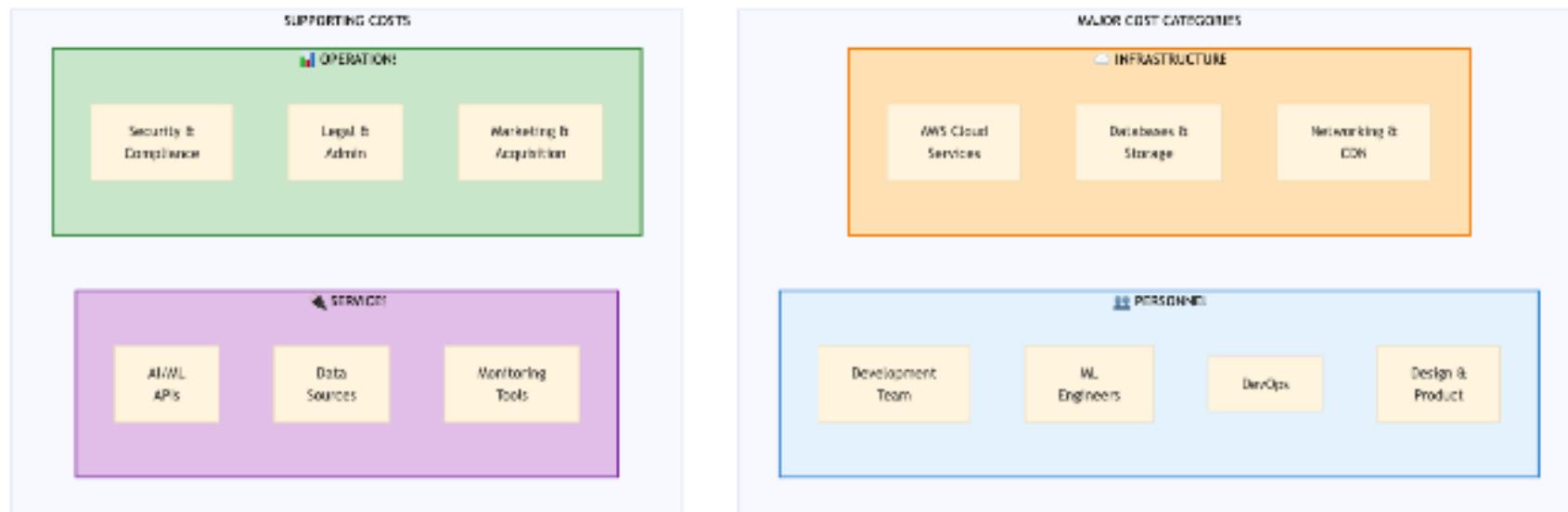
AI/ML: • Forecasting: Prophet + LightGBM + LSTM • Pricing: Bayesian Regression + Optimization
• NLP: DistilBERT | GPT-4 (Copilot) • Serving: TensorFlow Serving | MLflow

Data: Kafka | Flink | Airflow | Feast (Feature Store) | S3 Data Lake

AWS Services: • Compute: EKS (Kubernetes) • Database: RDS PostgreSQL | ElasticCache Redis
• ML: SageMaker | Bedrock • Storage: S3 | Monitoring: CloudWatch

DevOps: Docker | Terraform | GitHub Actions | ArgoCD | Prometheus

Estimated implementation cost (optional):



AWS Services Used

- ✓ Amazon SageMaker for ML training and deployment
- ✓ Amazon Bedrock for conversational AI copilot
- ✓ Amazon EKS for container orchestration
- ✓ Amazon RDS and ElasticCache for data storage
- ✓ Amazon S3 and AWS Glue for data lake and ETL
- ✓ Amazon CloudWatch and AWS X-Ray for monitoring and observability

Bharat-Specific Features

- ✓ Multi-language support including Hindi, Tamil, Telugu, Bengali, and Marathi
- ✓ Festival demand intelligence for events like Diwali, Holi, and Eid
- ✓ Support for Indian marketplaces such as Flipkart, Meesho, and Amazon India
- ✓ Designed for Tier 2 and Tier 3 sellers with low-bandwidth optimized UI
- ✓ GST-aware pricing and compliance support

Social Impact

- ✓ Empowering MSMEs to make better pricing and inventory decisions
- ✓ Improving revenue stability for small sellers
- ✓ Supporting growth of new e-commerce entrepreneurs

Innovation

- ✓ Conversational AI copilot built specifically for Indian e-commerce sellers

Innovation partner



Media partner



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Thank You

