

VELLORE INSTITUTE OF TECHNOLOGY

MAT5024 - DECISION SUPPORT SYSTEMS
REVIEW I

SCRAPEWISE – A REAL-TIME PRICING INTELLIGENCE SYSTEM FOR E-COMMERCE

Delivers real-time pricing insights, enabling e-commerce businesses to monitor competitors and make faster, smarter pricing decisions.

Team Members:

V Vinay Shankar (22MIY0005) R Niveditha (22MIY0026) G Rithanya Grishma (22MIY0077)

PROBLEM STATEMENT

In today's dynamic e-commerce environment, pricing strategy plays a crucial role in shaping business success. With online platforms constantly adjusting prices in response to competitor movements, static or pre-defined pricing models fall short. They lack the flexibility to respond to real-time shifts in competitor pricing, inventory fluctuations, or demand spikes.

This inability to react swiftly often leads to missed revenue opportunities, unsold inventory, or loss of customer trust. Many e-commerce platforms still operate without timely insights into competitor actions—such as price updates, promotional rollouts, or stock availability—leaving them at a strategic disadvantage.

MOTIVATION

To address this challenge, we present **ScrapeWise**, a real-time Decision Support System (DSS) built on automated web scraping and intelligent data analysis. **ScrapeWise** is designed to provide continuous monitoring of competitor websites, equipping businesses with timely and actionable insights.

The system aims to:

- Enable dynamic pricing adjustments based on competitor data
- Offer early warnings on stock depletion risks
- Assist in evaluating and benchmarking competitor campaigns
- Support proactive decision-making through real-time analytics

By shifting from reactive to predictive pricing and inventory strategies, ScrapeWise helps e-commerce businesses stay agile and competitive.

TARGET USERS AND SUPPORTED USE CASES

Primary Users:

Pricing Analysts:

Rely on real-time competitor data to refine price points, enhance margins, and stay competitive.

Inventory Managers:

Use demand trends and stock-level insights to optimize restocking and avoid overstock or shortages.

• Business Strategists / Owners:

Leverage system intelligence to shape broader pricing policies, promotional planning, and growth strategies.

KEY DECISIONS ENABLED BY SCRAPEWISE

Dynamic Price Adjustments

ScrapeWise tracks competitor pricing in real-time across multiple platforms. Based on this data, it suggests optimal price changes and flags anomalies such as prices that are too low or exceed competitive thresholds.

Predictive Inventory Planning

By analyzing purchasing trends and historical stock levels, the system forecasts future inventory needs. Alerts are issued when reorder thresholds approach, helping managers avoid costly stockouts.

Promotion Strategy Optimization

ScrapeWise identifies how and when competitors launch campaigns. It compares pricing strategies and seasonal trends, helping users refine the timing and pricing of their own promotional offers.

Performance Monitoring & Pricing Analytics

The system generates dashboards and reports highlighting pricing impact, margin shifts, and key performance indicators. These insights help teams refine ongoing strategies and learn from historical data.

Policy Configuration & Manual Controls

Users can set constraints like minimum profit margins or maximum discounts, and manually approve or override system recommendations. This ensures the DSS works within business-defined boundaries while still enabling automation.

ARCHITECTURE DIAGRAM

Thank Jour