

Business Analysis	Purpose	Algorithm / Technique	Data Required
1. Product Similarity Analysis	Identify near-duplicate products across platforms for consolidation	Sentence Embeddings + Cosine Similarity	Product names, descriptions, attributes
2. Low-Selling Product Detection	Detect products with poor performance over time	Rule-Based Thresholding / Time-Series Trends	Sales volume, last sold date, inventory
3. Obsolete Product Identification	Flag inventory that hasn't moved in a long time	Rule-Based Filters + Time Decay Functions	Inventory aging, sales history
4. Pricing Inconsistency Detection	Compare the same SKU across platforms/regions for pricing mismatches	Rule-Based Logic + Cross-DB Join Matching	Product IDs, platform, region, prices
5. Platform Optimization Analysis	Suggest where to keep or remove a product based on regional performance	Comparative Analytics + Threshold Rules	Regional/platform sales data, margins
6. Product Bundling Recommendations	Find frequently co-purchased items to form bundles	Apriori / FP-Growth (Association Rule Mining)	Order history (order_id, product_id)
7. Demand Forecasting (Future Scope)	Predict future demand to support bundle timing or stocking decisions	Time Series Forecasting (ARIMA, Prophet, LSTM)	Historical sales data (time series)
8. Product Clustering	Segment products into groups for pricing strategy or bundling	K-Means / DBSCAN / Agglomerative Clustering	Price, category, sales volume, text vectors