

# Recommendation Engine for Retailers

A trial and error approach to optimizing merchandise levels for a single retail store is inefficient and ineffective. To reduce the amount of unsold stock, Merchandising Managers and Brand Portfolio Managers must have a good idea of what will sell and what will not. Capitalizing on regional data to predict brands with higher sales potential puts any retail company on a better path.



A workflow, built in KNIME Analytics Platform, uses an approach similar to collaborative filtering by making automatic predictions of individual customer interests. It does this by collecting preferences from many different customers.

The underlying assumption of this approach is that if customer A has the same preference as customer B in one product category, then customer A is more likely to have customer B's opinion in other cases compared to a randomly chosen person.

The solution contains three parts:

- Extract, transform, and load component for data preparation
- Build the recommendation engine using singular value decomposition
- Determine several user interaction points to allow users to interact with the application (as seen in Fig. 1)



Fig. 1: Recommendation engine displayed in the KNIME WebPortal.

**Results:**

With this Analytical Application, Merchandising and Brand Portfolio Managers can optimize their merchandising portfolio by:

- Providing and synthesizing historic, store level transactional data for review
- Understanding product performance across different stores and making that actionable through recommendations
- Delivering easy to use, graphical insights of the selected metrics to the wider team

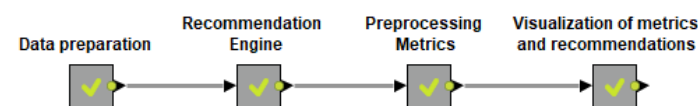


Fig. 2: High-level KNIME workflow.

Tasks like ETL and data prep require a certain degree of technical knowledge - as does creating a recommendation engine. In this case, data scientists can focus on creating and deploying an Analytical Application from which Merchandising and Brand Portfolio Managers can draw insights and make decisions.

## Try it out for yourself!

This workflow is available on the KNIME Hub: [tinyurl.com/knime-recommendation-engine](https://tinyurl.com/knime-recommendation-engine)

