

Increasing store level sales through better brand portfolio decision making.

A trial and error approach to optimizing merchandising for a single retail store is inefficient and ineffective. Capitalizing on regional data to predict brands with higher sales potential puts any retail company on a better path. This Innovation Note provides brand merchandising managers and other analysts such as brand portfolio managers, a recommendation score for all products not currently sold at a store. The approach is similar to collaborative filtering and therefore adapts to customer behavior well.

A Guided Analytics Buyer Preferences Application uses an approach similar to collaborative filtering. This method makes automatic predictions of individual customer interests, by collecting preferences from many customers. The underlying assumption of this approach is that if customer A has the same preference as a 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 the following three parts:

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

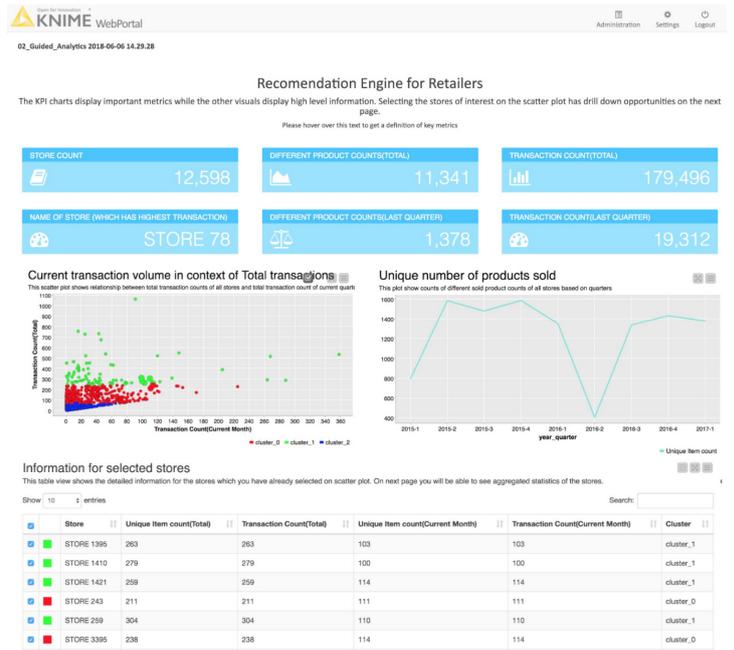


Fig. 1: Recommendation Engine for Retailers dashboard with various interaction points such as store and transaction count.

Results:

Using Guided Analytics delivered from KNIME Server achieves an optimized store merchandising portfolio by:

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



Fig. 2: High-level KNIME workflow.

KNIME Analytics Platform demonstrates its extensibility and openness by integrating a Python-based recommendation engine. The Guided Analytics Application can be deployed on KNIME Server, enabling merchandising managers and analysts to view and interact with the results.

This Innovation Note was written by our partner:



Try it out for yourself!
Access reference workflows and data from within KNIME via the Examples Server:
[50_Applications/43_Recommendation_Engine_for_Retailers](#)