

Summary and Key Results From Item Purchase Association Rules at Dillard's

Business Question: Our goal is to find the 100 target SKU's that's purchase depends strongly on purchasing of other items in the store. Dillard's can strategically place and price the item depending on the associated SKUs place and price to incentivize increased consumer spending.

Methodology: Performing association rules on the most profitable items in customer baskets to understand what items are bought together. Strong associations are rated based on their support (how frequently the items appear in the data), confidence (how often the rule or association has been found to be true), and lift (the dependency of the items being bought together).

Insights/Recommendations:

- Association rules conducted on the most valuable products sold in the Overland Park store showed that the purchase of Lancome and other beauty products tend to be highly dependent on the purchase of some specific other items.
- Top 20 valuable SKUs and the purchases of which they are likely dependent on are shared in the attached files (top20SKUs.csv and targ20associatedrules.csv)
- We recommend very strategically designing the beauty sections of Dillard's so that they are in the center of the store, so that they encourage immersive beauty experiences, and so that the beauty products that are purchase dependent on each other are strategically priced to match Dillard's goals.
- We believe this is the most valuable use of the manpower to make 20 moves across the store, as these beauty products are the biggest profit driver for Dillard's.