

HW3:
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1. Question 1: If a new user is observed to access the following pages:
Home => Search => Prod_B, according to your clusters, what other product should be recommended to this user? Explain your answer based on your clustering results.

Answer:

- Product A or Product C could be recommended for such a person.
- Used a k-means algorithms with 4 cluster. A person going from Home → Search → Prod_B could be in cluster 2 or 4 with equal probability. Hence Prod_A or Prod_C could be recommended

What if the new user has accessed the following sequence instead: Products => Prod_C

Answer:

- In this scenario, recommend product B to the customer, as based on K-means such a cluster of people generally buy Prod_B after prod_C

2. Question 2 - an clustering help us identify casual browsers ("window shoppers"), focused browsers (those who seem to know what products they are looking for), and searchers (those using the search function to find items they want)? If so, are any of these groups show a higher or lower propensity to make a purchase?

Answer:

- Window Shopper= Someone who looks at all products but never adds anything to cart or searches something specifically. Based on clustering, such people never made any purchase.
- Searcher: Searcher is someone who uses search functionality. 33% of users who have used search would make a purchase. However, in a 4 cluster model, they belong to cluster 2, where 66% of buyers would make a purchase.
- Focused buyer is someone who visits the products pages and adds an item to the cart. Such buyers were highly likely to make a purchase. Given the current data, the cluster shows that 66% of such users would make a purchase.

3. Do any of the segments show particular interest in one or more products, and if so, can we identify any special characteristics about heir navigational behavior or their purchase propensity?

Answer:

- Prod_A is popular among all three classes of shoppers.
- Prod_B is less popular among searchers and Focused buyers; It has some popularity among Windows Shoppers.
- Prod_C is not very popular but is better known among Focused users and Searchers but not popular at all among Window shoppers

4. If we know that, during the time of data collection, independent banner ads had been placed on some popular sites pointing to products A and B, can we identify segments corresponding to visitors that respond to the ads? If so, can we determine if either of these promotional campaigns are having any success?

Answer:

This question can be answered by looking if people landed on the product by search or without search

- For both cases of Prod_A and Prod_B, the % of people landing on a product page when they have used any search engine is lower than people landing on the page without using Search engine.
- Prod_A
 - With Search: 44.2%
 - Without Search: 59.7%
- Prod_B
 - With Search: 48.9 %
 - Without Search: 59.6%

This shows that the banner ad campaign has had some impact