

Optimal Joint Assortment for an Omni-Channel Retailer

How should an omni-channel retailer design a joint product assortment and set prices across brick-and-mortar and online channels to maximize profit?

This study by Subodha Kumar and his colleague, published in Information Systems Research, examines joint assortment design for omni-channel retailers who sell products through both brick-and-mortar (BM) and online channels. Customers are classified into two groups based on their channel preference: those who prefer shopping in physical stores and those who prefer online shopping. Using a locational choice model, the authors discover that the optimal assortment for such retailers is composed of two distinct types of products.

Customized products are designed and priced to appeal primarily to customers who prefer the channel through which they are sold. On the other hand, omni-channel products are priced attractively to appeal to customers from both groups, including those who are more flexible in shopping from their nonpreferred channel. The mix of these products depends on how flexible customers are in shopping across channels as well as the relative size of each customer group.

The paper also challenges the widely held belief that niche or less popular products should always be sold exclusively through the online channel. It finds that when the online channel has higher costs to include products and fewer customers preferring it, selling niche products in the BM channel can be more profitable. Pricing decisions are complex and influenced by product popularity, channel preferences, and cost structures. Notably, prices may not always align with product popularity when comparing across channels.

The study also takes into account customers who shop exclusively from one channel and highlights how common products sold through both channels can be used strategically to guide omni-channel customers to more profitable channels. These insights provide a strong foundation for retailers seeking to optimize their assortment and pricing strategies in the evolving omni-channel retail landscape.

MAJOR TAKEAWAYS:

- The optimal omni-channel assortment is a mix of customized and omni-channel products, priced to target channel preferences and cross-channel appeal.
- Selling niche products exclusively online is not always optimal; higher costs and customer preference for BM stores can make selling niche products in BM better.
- Differential pricing influenced by product popularity, channel costs, and customer classes is key; prices may not always align with product popularity across channels.

WHO NEEDS TO KNOW:

- Retail Managers
- Supply Chain Analysts
- E-Commerce Researchers

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