

Online Product Displays Can Shape Your Buying Behavior



E-commerce shoppers are less likely to spend on products when they are recommended with different types of items, according to new UC San Diego research

By Christine Clark | [UC San Diego News](#)

One of the biggest marketing trends in the online shopping industry is personalization through curated product recommendations; however, it can change whether people buy a product they had been considering, according to new University of California San Diego research.

The [study](#) by Uma R. Karmarkar, assistant professor at the UC San Diego [Rady School of Management](#) and [School of Global Policy and Strategy](#), finds that display items that come from the same category as the target product, such as a board game matched with other board games, enhance the chances of a target product's purchase. In contrast, consumers are less likely to buy the target product if it is mismatched with products from different categories, for example, a board game displayed with kitchen knives.

The study utilized eye-tracking—a sensor technology that makes it possible to know where a person is looking—to examine how different types of displays influenced visual attention. Participants in the study looked at their target product for the same amount of time when it was paired with similar items or with items from different categories; however, shoppers spent more time looking at the mismatched products, even though they were only supposed to be there “for display.”

“What is surprising is that when I asked people how much they liked the target products, their preferences didn’t change between display settings,” Karmarkar said. “The findings show that it is not about how much you like or dislike the item you’re looking at, it’s about your process for buying the item. The surrounding display items don’t seem to change how much attention you give the target product, but they can influence your decision whether to buy it or not.”

Karmarkar, who holds PhDs in consumer behavior and neuroscience, says the findings suggests that seeing similar options on the page reinforces the idea to consumers that they’re making the right kind of decision to purchase an item that fits the category on display.

“When the information is mismatched, it changes the scope of the decision,” she said. “A mismatched display is comparable to shopping in a store with more variety. You may consider a featured board game but if you can see other products to buy, this board game may not be the first kind of purchase you want to make. The mismatched items draw additional attention and compete with the category you were considering.”

The study, to be published in *Frontiers in Neuroscience*, involved 58 participants, ages 18 to 40, who had to make 36 online shopping decisions for real products with real money. The findings showing differences in purchase rates replicate a set of studies Karmarkar published in 2017. In the new research, she was able to measure what parts of the display were engaging more or less attention. In addition, the upcoming paper shows that matched displays increase purchase rates even when they include more attention-grabbing information, like details about price.

Karmarkar talked with industry experts about product recommendations systems, which shaped her approach to these questions. Recommender algorithms can

have different designs to meet a variety of retailers' respective goals. Products can be shown with "mismatched" displays when retailers are using cross-promoting tactics based on prior customer behavior or inventory they may want to sell more rapidly.

The board game example Karmarkar often uses is based on a real experience she had while shopping online during the month of October.

"I had been browsing games like 'Bananagrams' and when I reloaded the product page, a Halloween costumes display popped up," she said. "Given my search history, the store probably estimated I had a family. So while I'm sure they wanted me to buy the game, they also knew they had an active shopper who might be interested in the Halloween costumes that needed to sell by the end of the month. It looks like a win-win, but our work suggests that creating this mismatched situation could have lowered the chance that I would add the game to my cart."

While the study is useful for online retailers to know the benefits of showing same-category options on a specific product page, the research is valuable to consumers as well.

"This shows how outside forces shape our decisions in ways we might not recognize," she said. "If a shopper is looking for something specific, they are likely to focus their attention, regardless of recommender displays. But when people are just 'browsing stuff online,' different page designs can create different patterns of attention. Store displays can change what we choose, even when they don't change what we like."