

# Common component strategy could improve profits, research shows

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(Phys.org) —When designing product lines, one important decision marketing and manufacturing managers must consider is whether to use common or product-specific components. While the use of common components can reduce manufacturing costs, firms have traditionally shied away from that strategy over concerns of intensifying what scholars call "product cannibalization."

But according to research from two University of Illinois business professors, commonality can actually reduce product line cannibalization, a finding that could allow firms to redesign their product lines and improve profits.

When consumer preference is "nondominating," commonality and its associated cost savings can help firms design better product lines with common components and attributes, says research from Dilip Chhajed and Yunchuan "Frank" Liu, professors of business administration at Illinois.

"People in marketing are afraid of firms using common components for their products because that means that the products lose their [uniqueness](#), what differentiates them from the competition," Chhajed said. "But it turns out that commonality can indeed relieve cannibalization in product lines, which means marketing managers should be encouraged to pursue it."

"It seems counterintuitive, but employing commonality can actually

soften product line cannibalization," Liu said. "So managers should consider it, even though it runs counter to the conventional marketing wisdom, both in practice and in academia."

The research, co-written with Kilsun Kim, of Sogang University, in Seoul, South Korea, also debunks a crucial assumption long-held by scholars that one consumer segment's preference for a product's attributes dominates another's preference structure.

When consumer preference is "nondominating" – that is, no single attribute of a product dominates across the spectrum of [consumer preferences](#) – commonality and its associated cost savings can help firms design better product lines with common components and attributes, and thus improve profits.

"This suggests that firms are more likely to choose a common attribute that exhibits a large potential cost savings, and that the characteristics of the consumer market are relatively less important," said Chhajed, who also is the associate head and executive director of the master's programs in the department of business administration. "Our analysis of commonality for consumer segments with nondominating consumer preference structure shows that the commonality strategy exhibits much more diverse effects."

"Marketing managers think a lot about product cannibalization," Liu said. "If [consumers](#) have a choice about products, they'll switch, and those products will cannibalize each other. So marketing managers think, 'Let's differentiate the products so that there is a clear choice for consumers, so they don't cannibalize each other.' That's the traditional view. But that overlooks the possibility that consumers can be nondominating, or that consumers can have wildly different tastes."

For some goods, there is a dominating consumer preference. However,

for other product categories, consumers can have very different tastes. But such "nondominating" preference structures are found for many products, the researchers say.

Take the iPod, for example.

"Some consumers like the style and don't worry as much about the storage capacity," Liu said. "Another segment worries about the capacity over the style."

Or food.

"Some consumers like taste, while others prefer certain health aspects," Liu said. "It's a nondominating consumer structure because consumers value different attributes."

Under a nondominating preference structure, there is no simple way to strictly rank-order the consumer preferences, because consumers will exhibit different preference ordering for different attributes, Chhajed said.

"We claim that a nondominating structure is quite common in practice since a dominating preference structure entails restrictive strict ordering of preference among segments for all attributes," he said.

But a careful examination of the consumer preference structure in a particular market is necessary before marketing managers adopt the [commonality](#) strategy. So marketing managers should examine how their preference structure may have changed, and how dynamic the change is, the researchers say.

"I think marketing managers need to look at differing consumer tastes," Liu said. "Consumer tastes can change. Consumer taste is very

dynamic."

But if you don't do it correctly, the strategy could backfire, "because every object then looks the same," Chhajed said.

The research will appear in a forthcoming issue of the journal *Marketing Science*.

**More information:** The article, "Can Commonality Relieve Cannibalization in Product Line Design," is available [online](#).

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