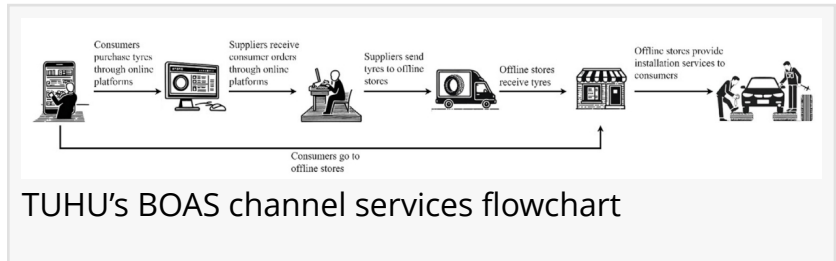


# Implications of buy-online-and-assemble-in-store approach for firms, consumers and environment

FAYETTEVILLE, GA, UNITED STATES, May

19, 2025 /EINPresswire.com/ -- By building a game-theoretic model, researchers have found that a larger proportion of professional consumers can incentivize firms to adopt the [buy-online-and-assemble-in-store](#) (i.e.,

BOAS), while higher handling or traveling costs may lead firms to avoid its use. This study not only contributes to the existing literature, but also provides actionable insights for practitioners.



With the rapid development of digital technology and diversification of consumer needs, companies have adopted the buy-online-and-assemble-in-store (i.e., BOAS) approach to better meet the individual needs of consumers. Through BOAS, consumers can place orders online, pick up the products and enjoy services such as assembly at a physical shop. However, due to uncertain post-processing costs, it remains unclear whether companies would benefit from the use of BOAS. Furthermore, the impacts of BOAS on consumers and the environment are of research interest.

In a study published in the KeAi journal [Sustainable Operations and Computers](#), a team of researchers at South China University of Technology considered a monopolistic firm selling products that require consumers' post-processing assembly for effective use.

"There are two consumer types with heterogeneity in handling products and consumption preferences," explains lead author Guanxiang Zhang. "Specifically, professional consumers excel at product post-processing and prioritize product price and quality more highly, whereas amateur consumers demonstrate weaker post-processing skills and are more concerned with convenience and service quality."

Notably, the distribution of consumer types and product post-processing costs affect the firms' introduction strategies of the BOAS. Companies may be more willing to introduce the BOAS when facing a high proportion of professional-type consumers. Conversely, with higher handling costs, traveling costs and value perception proportions, firms may be more inclined to forego introducing the BOAS.

“Generally, the use of BOAS is favorable for consumers because it offers a better consumer experience,” says Zhang. “However, we found BOAS may put consumers at risk, as its may idecrease consumer surplus when the share of professional consumers is high. This also explains why companies like Uniqlo went downhill after introducing the BOAS while TUHU gained a strong competitive advantage in the car service industry.”

Furthermore, from the perspective of environmental performance, the introduction of the BOAS channel can reduce waste and energy consumption by centralizing the final assembly or customization of products.

“Implementing the use of BOAS may raise the retail price of products in the online channel and ultimately reduce total demand, says Lipan Feng, corresponding author when discussing the effects of BOPS use on firms' pricing decisions and demand. “Our study contributes to the existing body of knowledge by elucidating the nuanced effects of BOAS on firm strategies and sustainability, providing actionable insights for practitioners navigating the complex omni-channel landscape.”

## References

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