Digital Consumer BX, Winter 2025
Professor Hamilton

Experiment Assignment: The Impact of Free Shipping Thresholds on Alo Yoga's Online Sales

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The Impact of Free Shipping Thresholds on Alo Yoga's Online Sales

Research Question

How does introducing a free shipping threshold impact average order value? Specifically, for Alo Yoga, does changing from free shipping on all orders to free shipping only on orders over $75 increase average order value (AOV) without significantly reducing conversion rates?

Hypothesis

Introducing a free shipping threshold of $75 will increase average order value (AOV) for Alo Yoga, as customers will add more items to their carts to qualify for free shipping.

Independent Variable

Control Condition: Alo Yoga's current policy of free shipping on all orders.

Treatment Condition: Free shipping is only available on orders over $75; orders below $75 incur a standard shipping fee.

Dependent Variable

Primary: Average Order Value (AOV) – Measured in USD per order, calculated as the total revenue generated divided by the number of orders placed.

Secondary: Conversion Rate – Measured as the percentage of visitors who complete a purchase, calculated as:

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$$\text{Conversion Rate} = \left(\frac{\text{Total Orders}}{\text{Total Website Visitors}}\right) \times 100$$

Data for both DVs will be collected directly from Alo Yoga's e-commerce analytics system during the test period.

Background

Free shipping is a key driver of online sales, reducing perceived costs and increasing conversions (Lewis, Singh, & Fay, 2006). However, offering it unconditionally can erode profit margins, especially for premium brands like Alo Yoga, which already has higher-than-average product prices in the activewear market. Competitors such as Lululemon and Athleta use shopping thresholds ($50-$100) to encourage larger purchases while maintaining profitability. Alo Yoga's current free shipping policy may unintentionally limit order values, as customers have no incentive to add more items to avoid shipping costs. Additionally, rising logistics and fulfillment costs make unconditional free shipping less sustainable in the long run. If Alo Yoga implements a $75 free shipping threshold, customers may increase their order size to qualify, potentially raising average order value (AOV) while maintaining conversion rates. This study tests whether shifting from free shipping on all orders to a threshold-based model effectively balances revenue growth and customer retention.

Psychological theories suggest that introducing a shipping threshold will influence consumer spending. Prospect Theory (Tversky & Kahneman, 1992) explains that people perceive losses more strongly than equivalent gains. By setting a $75 threshold, Alo Yoga shifts the reference point, making shipping fees feel like a loss, which customers may avoid by increasing their cart size. Similarly, the Threshold Effect (Shampanier, Mazar, & Ariely, 2007) suggests that consumers modify their spending to unlock rewards, while Mental Accounting (Thaler, 1985) shows that customers are more willing to spend on products than on shipping. Together, these insights predict that a free shipping threshold will drive higher AOV without causing a major drop in conversions.

While past research confirms that free shipping incentives increase spending (Berman & Thelen, 2018), most studies focus on introducing free shipping rather than restricting it. This study fills that gap by testing whether Alo Yoga can transition from unconditional free shipping to a $75 threshold without losing customers. The results will provide data-driven recommendations to help Alo Yoga manage rising fulfillment costs, improve profitability per transaction, and align its shipping strategy with consumer psychology while remaining competitive in the premium activewear market.

Method

This study employs an A/B testing experimental method, a widely used approach in e-commerce to determine the causal effect of a specific change on consumer behavior. In this case, the experiment tests whether introducing a $75 free shipping threshold increases average order value (AOV) without significantly reducing conversion rates. A/B testing involves randomly assigning website visitors to one of two conditions: the control group, which experiences the current policy of free shipping on all orders, or the treatment group, which sees a policy where free shipping is only granted for orders over $75 while lower-value orders incur a standard shipping fee. By maintaining identical website elements aside from the shipping policy, this method isolates the direct impact of the threshold on purchasing behavior while minimizing external influences.

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The experiment will run for 30 days, with participant assignment handled via automated website randomization, ensuring a balanced sample. Customers will shop as usual, and transaction data will be collected through Alo Yoga's e-commerce analytics platform. The primary dependent variable (AOV) will be calculated as total revenue / total number of orders, while the secondary dependent variable (conversion rate) will be measured as (total orders / total visitors) x 100. This methodology ensures that any observed differences in AOV or conversion rates result from the shipping threshold change rather than selection bias. By leveraging this approach, Alo Yoga can make data-driven decisions about optimizing its shipping policy to maximize profitability while maintaining customer satisfaction.

Expected Results

This study predicts that implementing a $75 free shipping threshold will result in an increase in average order value (AOV) while causing a slight decrease in conversion rates. Specifically, I expect that customers in the treatment group (who must reach $75 for free shipping) will increase their spending per order to meet the threshold, leading to a higher AOV than the control group, which currently receives free shipping on all orders. However, some price-sensitive customers may choose not to complete their purchase due to the new shipping fee, leading to a small drop in conversion rates.

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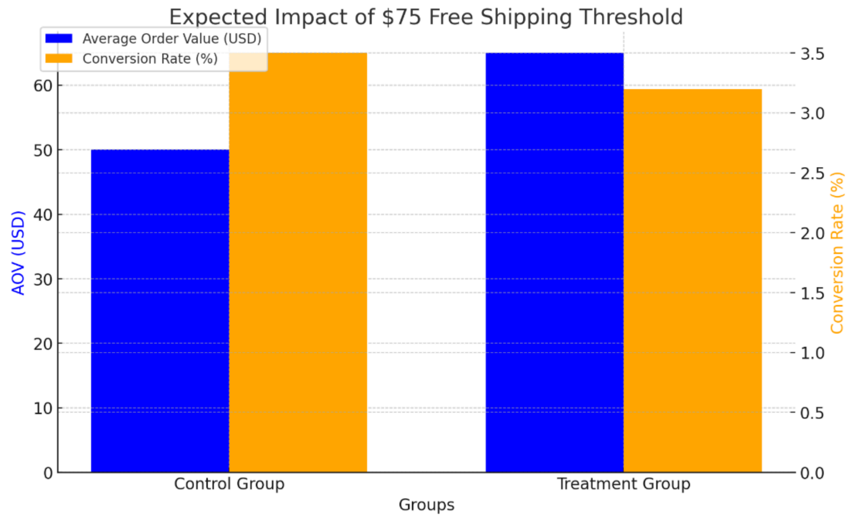

Discussion

If the results confirm the hypothesis, they will show that a $75 free shipping threshold increases average order value (AOV) as customers adjust spending to avoid shipping fees. This would support Prospect Theory (Tversky & Kahneman, 1992) and Loss Aversion Theory, which explain that consumers perceive shipping fees as a loss and modify their behavior to avoid it. Additionally, it would align with the Threshold Effect (Shampanier, Mazar, & Ariely, 2007), suggesting that minimum spending incentives drive larger purchases. If successful, Alo Yoga can increase revenue per transaction while maintaining a competitive shipping strategy.

If the hypothesis is not supported—meaning AOV does not increase or conversion rates drop significantly—it may indicate that Alo Yoga customers are less price-sensitive and more brand-loyal, making them less responsive to shipping incentives. Alternatively, the $75 threshold may be too high, leading to cart abandonment rather than larger purchases. Future research could test a lower threshold (e.g., $50) or alternative promotions like free shipping for loyalty members to maintain customer retention. If customers begin shopping elsewhere, it may suggest that competitors with lower shipping thresholds or free returns are drawing them away.

Limitations

This study has several limitations. Seasonality may skew results, as consumer spending fluctuates during holidays or promotional periods. Additionally, the test does not measure long-term customer sentiment—some shoppers may react negatively to losing free shipping on small orders, potentially impacting brand loyalty. The study also assumes that behavior during the test reflects long-term trends but does not account for repeat purchasing patterns—customers may temporarily increase their order size but later adjust their buying habits. Lastly, while AOV may increase, the study does not measure profit margins, meaning lost conversions or higher fulfillment costs could offset gains. Future research should examine the long-term financial impact of a free shipping threshold.

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