

WAYFAIR 'SHIPS IN TIME'

CAMPAIGN REPORT

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Background

During the 2016 holiday season, Wayfair tested a strategic "Ships in Time" guarantee to determine whether assuring delivery timing would impact customer purchasing behavior during the crucial Christmas shopping period. This initiative aimed to assess whether offering the guarantee would influence customers' purchasing decisions and overall shopping habits. Customers were divided into two groups: Group A (Control/Guarantee Not Shown) and Group B (Treatment/Guarantee Shown). The insights from this test were intended to shape Wayfair's future marketing strategies and operational decisions, particularly in how they approach customer assurance during high-stakes shopping seasons.

Exploratory Data Analysis

The business question, '*Which product categories are most popular among different visitor types, and how do purchasing patterns vary across visitor segments when the guarantee is shown and not shown?*' will guide the EDA phase, as it allows us to understand any category-specific effects of the guarantee on purchasing behaviors before evaluating the campaign's overall effectiveness. By analyzing whether certain product types saw increased purchases in terms of quantity, we can identify where the guarantee has the most impact. This understanding is essential for accurately assessing the campaign's success and determining if the guarantee's effect justifies future use.

[\[View Visualization in Tableau Public by clicking here\]](#)

Description: This bar chart visualizes the **Quantity Purchased** for the **top 5 product categories** across four customer types: **Activated Customers, Acquired Members, New Visitors, and Returning Visitors**. Each bar represents the sum of purchased quantities for each product category, segmented by customer type. The chart is color-coded to differentiate visitor types, providing a clear comparison of purchase behaviors across these segments.

The data is filtered to include both scenarios where the "**Ships in Time**" **Guarantee was shown and not shown**. The product ranking can be adjusted using the filters, allowing you to explore how the ranking of product categories changes while keeping the same customer type. This feature enables a dynamic comparison of purchasing behaviors across different scenarios.

This view focuses on **the top-ranked products (1-5) across all 35 product categories**, offering insights into the most popular items among these customer groups. It provides a comprehensive breakdown of purchasing patterns by product category, allowing for an analysis of high-demand products and the potential influence of the guarantee on purchasing decisions.

Key Insights:

Across different visitor types:

- **Activated Customers** tend to purchase furniture like **Bedding** (17,433 purchases), **Decorative Accents** (8,448 purchases), and **Rugs** (6,242 purchases). **Acquired Members** also favor **Bedding** (5,006 purchases), **Decorative Accents** (2,293 purchases), along with **Furniture - Kitchen Dining** (2,015 purchases). Similarly, **New Visitors** are inclined towards **Bedding** (2,336 purchases), **Decorative Accents** (1,526 purchases), and **Furniture - Kitchen Dining** (1,341 purchases), while **Returning Visitors** commonly buy **Bedding** (1,687 purchases), **Decorative Accents** (1,584 purchases), and **Table Tops** (1,047 purchases).
- This highlights strong demand for **Bedding** and **Decorative Accents** across all visitor types, particularly among Activated Customers and Acquired Members. These two product categories consistently show high purchase volumes regardless of the visitor type, indicating their popularity and essential role in driving sales during the holidays.
- By adjusting the filter to display all product categories instead of just the top 5, we can examine the **least purchased products** across visitor types. Categories such as **Health & Fitness**, **AV**, **Luggage**, **Office Supplies**, and **Outdoor Storage & Equipment** show minimal purchases, with fewer than 100 units purchased across all visitor types. These consistently low numbers may indicate a lack of demand for these products, which suggests an opportunity for the company to either **reevaluate the necessity of these categories** or develop **targeted marketing campaigns** to boost interest and sales.
- Additionally, it is important to note that the low-demand product categories, such as Health & Fitness, AV, Luggage, and Office Supplies, were not significantly impacted by the 'Ships in Time' guarantee. These categories consistently underperformed regardless of whether the guarantee was shown or not, highlighting that other factors—such as overall product appeal or seasonal relevance—may be more critical in driving interest in these categories.

Across different customer types:

Using the **reference line** to highlight the average purchases across the **top 5 products** allows us to easily compare buying behavior between different customer types. When the **guarantee is not shown**, Activated Customers **average 6,315 purchases**, Acquired Members **1,840 purchases**, Returning Visitors **1,064 purchases**, and New Visitors **863 purchases**.

In contrast, when the guarantee is shown, Activated Customers **average 2,510 purchases**, Acquired Members **811**, Returning Visitors **429**, and New Visitors **326 purchases**.

The visualization suggests that purchase quantities are generally higher when the guarantee is not shown, indicating potential differences in customer behavior between these two scenarios.

Actionable Recommendation:

- **Focus Marketing on High-Demand Categories: Bedding and Decorative Accents** show strong demand across all visitor types, especially among **Activated Customers** and **Acquired Members**. Wayfair should prioritize these categories in marketing campaigns, promotions, and product placement during the holiday season to maximize sales in proven high-demand areas. Holiday-themed versions of these items can also attract shoppers seeking seasonal home upgrades.
- **Strategic Evaluation and Promotion of Low-Demand Product Categories :** The company should reevaluate the viability of low-demand product categories like **Plumbing, Pet, Health & Fitness, and Education**, as these consistently show minimal purchase quantities across all visitor types or implement targeted marketing campaigns and promotional offers to increase visibility and interest, such as bundling these products with high-demand items or offering special discounts to stimulate customer engagement in these underperforming areas.

Campaign Analysis

In the Campaign Analysis, our goal is to determine if the "Ships in Time" guarantee was effective enough to justify future investment by Wayfair. To do this, we'll address two business questions based on what we think defines a successful campaign:

Business question 1: How does the "Ships in Time" guarantee influence the average revenue per customer type, and what is the distribution of orders between those who saw the guarantee and those who did not?

[\[View Visualization in Tableau Public by clicking here\]](#)

Description: This visualization shows the distribution of orders between customers who saw the "Ships in Time" guarantee (**32.45%**) and those who did not (**67.55%**). Yellow marks indicate transactions with the guarantee, while purple marks represent those without it. The size of each mark reflects the percentage of distinct orders within each group, allowing for a clear comparison of order distribution and average revenue across customer segments. Due to inconsistencies in Customer Order IDs, the visualization is filtered to display the percentage of Total Distinct Order Product IDs.

Key Insights:

- **Distribution of Orders:** The majority of orders (67.55%) were placed without the guarantee, offering a substantial control group for comparison. The remaining 32.45% of orders included the guarantee.
- **Impact on Average Revenue:** Orders with the guarantee had an average revenue of \$157.28, compared to \$150.98 for those without it—a 4.18% increase. While the guarantee has a positive influence on revenue, the impact is modest.

Conclusion 1:

The "Ships in Time" guarantee results in a slight increase in average revenue per transaction. However, the 4.18% uplift is relatively small and may not alone justify the costs and effort involved in implementing the guarantee at scale.

Business question 2: How does the "Ships in Time" guarantee influence the purchase volume and product variety across different visitor types (Acquired Members, Activated Customers, New Visitors, and Returning Visitors)? Specifically, does displaying the guarantee lead to significant changes in purchasing behavior and product diversity among these visitor groups?

[\[View Visualization in Tableau Public by clicking here\]](#)

Description: The provided visualization compares the Average Purchased Quantity across four visitor types—**Acquired Members, Activated Customers, New Visitors, and Returning Visitors**—by whether the "Ships in Time" guarantee was shown or not. The color coding represents different visitor types, and the marks are labeled with the Distinct Count of Product IDs, indicating the variety of products purchased.

Key Insights:

- **Acquired Members:** Customers shown the "Ships in Time" guarantee tend to purchase fewer items on average (1.0 item per transaction) compared to those without it (1.5 items). Additionally, the range of products they purchase is smaller (4,988 distinct products versus 10,559). This suggests that while customers with the guarantee buy less in quantity, their purchases are more focused, likely prioritizing essential or time-sensitive items over a wider variety of products.
- **Activated Customers:** For Activated Customers, the presence of the "Ships in Time" guarantee also leads to a shift in purchasing behavior. Without the guarantee, these customers purchase an average of 1.5 items per transaction and explore a broad range of products, with a distinct count of 28,032. When the guarantee is shown, the average quantity per transaction drops to 1.0, and the distinct product count reduces to 12,534. This pattern, similar to Acquired Members, suggests that the guarantee encourages Activated Customers to buy fewer items, focusing more on specific products rather than diversifying their purchases across a wider range.
- **New Visitors:** The "Ships in Time" guarantee similarly affects purchasing behavior. When the guarantee is not shown, these customers buy an average of 1.2 items per transaction and explore a range of products with a distinct count of 6,008. However, with the guarantee, the average quantity decreases to 1.0 item, and the product variety drops to 2,832 distinct products. This indicates that New Visitors, like other customer types, are likely to make fewer purchases and focus on a narrower selection of items when they see the guarantee, reducing their exploration across different product types.

- **Returning Visitors:** For Returning Visitors, the "Ships in Time" guarantee also results in fewer items purchased and a narrower product selection. Without the guarantee, they buy an average of 1.2 items per transaction and explore 7,414 distinct products. With the guarantee, the average quantity drops to 1.0 item, and the product variety decreases to 3,385. This indicates that Returning Visitors, like other customer types, tend to make more focused purchases with fewer items when the guarantee is shown.

Conclusion 2:

The "Ships in Time" guarantee leads all visitor types—Acquired Members, Activated Customers, New Visitors, and Returning Visitors—to purchase fewer items on average and focus on a narrower range of products. Customers prioritize essential or time-sensitive purchases, reducing both item quantity and product diversity. While the guarantee encourages more focused shopping, it doesn't drive broader purchasing or larger cart sizes across customer segments. For example, Activated Customers without the guarantee purchased a wider variety of products (28,032 distinct items), but when shown the guarantee, their product selection dropped to 12,534 items. This suggests that the guarantee narrows product exploration and limits broader engagement with Wayfair's offerings.

Final Conclusion: Does the "Ships in Time" Campaign Work?

The "Ships in Time" guarantee has modest positive effects, leading to a 4.18% increase in average revenue per order. However, this slight boost may not justify the costs and logistical challenges of scaling the guarantee across all customer segments during the holiday season. The guarantee narrows purchasing behavior, with customers buying fewer, time-sensitive products rather than expanding their shopping baskets.

As a result, the guarantee may be more effective when applied selectively to high-demand items or specific customer segments during peak periods. To maximize its impact, it could be integrated into a broader promotional strategy, combining the guarantee with other incentives to encourage larger cart sizes and broader shopping behavior.

Next Steps and Recommendations for Wayfair

1. **Targeted Implementation of the Guarantee:** Wayfair should consider offering the "Ships in Time" guarantee selectively, focusing on high-demand items or key customer segments where timely delivery is most valued. For instance, targeting frequent buyers or high-value product categories during peak periods may enhance its impact without incurring extensive costs.
2. **Integrate the Guarantee with Additional Incentives:** To enhance the guarantee's effectiveness, Wayfair could pair it with complementary promotions, such as limited-time discounts or bundle offers to encourage broader shopping behavior, potentially increasing average cart size and order variety alongside the delivery assurance.