

Optimizing Early Purchase Incentives Based on User Behavior

Analyzing First Purchase Timing & Long-Term Frequency

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Uuden asiakkaan etu: 0€:n kuljetusmaksut 14 päivää rekisteröitymisestä

Ei ole yhdistettävissä muihin tarjouksiin

Tarjous on voimassa 10.3.2025–14.7.2025 tai kampanjoiden maksimirajaan saakka sen mukaan, kumpi täyttyy ensin

Uudet Wolt-käyttäjät nauttivat 0€:n kuljetusmaksuista 14 päivän ajan käyttäjätilin luomisesta.

Tarjous on rajattu kuljetusmaksuihin. Palvelumaksu on voimassa normaalisti.

Wolt's current strategy:

“First purchase within 14 days = free delivery”

👉 Encourage first purchase within 14 days after registration

Questions:

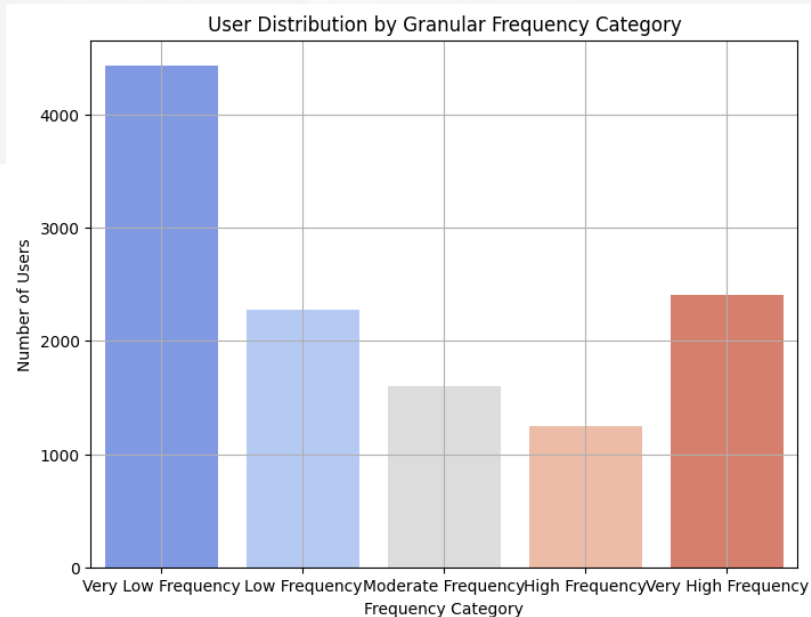
1. What is the relationship between early purchase behavior and long-term purchase frequency?
2. How can Wolt optimize its promotional strategies by segmenting users based on their first purchase timing?

Key Metrics & Segmentation

Purchase Frequency:

Formula:

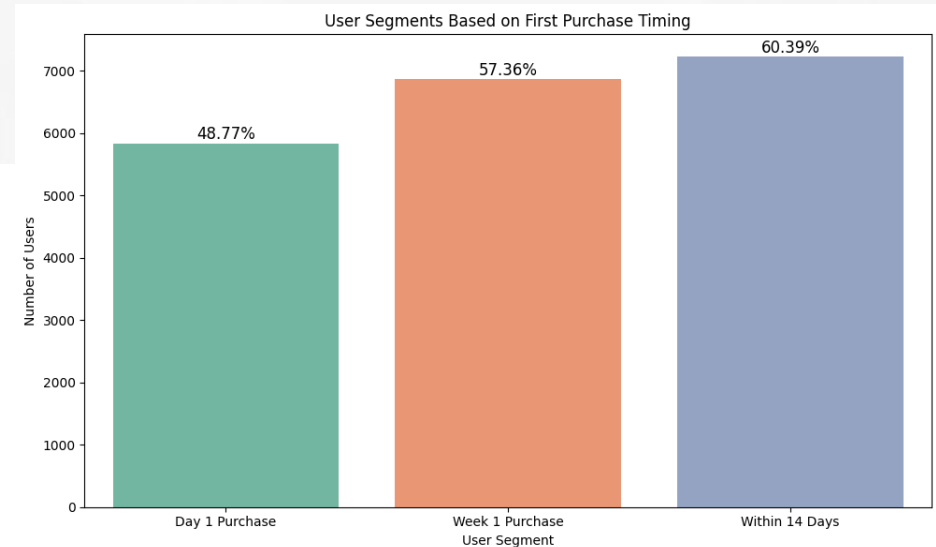
$$\text{PURCHASE_FREQUENCY} = \text{PURCHASE_COUNT} / \text{USAGE_DAYS}$$



- Very High Frequency: ≥ 1 purchase per day
- High Frequency: ≥ 1 purchase every 14 days
- Moderate Frequency: ≥ 1 purchase every 30 days
- Low Frequency: ≥ 1 purchase every 60 days
- Very Low Frequency: < 1 purchase every 60 days

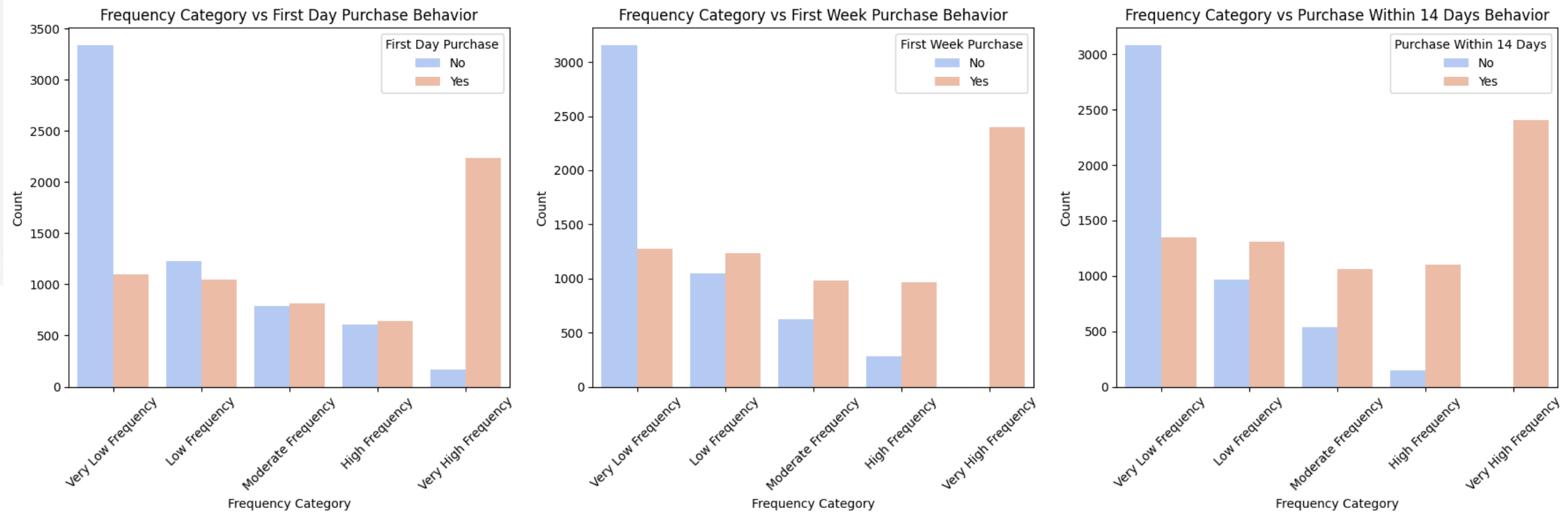
Early purchase behavior:

compare the first purchase day and registration day



- First Day Purchase: Indicates whether the user made a purchase on the registration day.
- First Week Purchase: Indicates whether the user made a purchase within the first 7 days after registration.
- First 14 Days Purchase: Indicates whether the user made a purchase within the first 14 days.
- Second Week Purchase: Indicates whether the user made a purchase between days 8 and 14.

Insight 1 – Very High Frequency Users



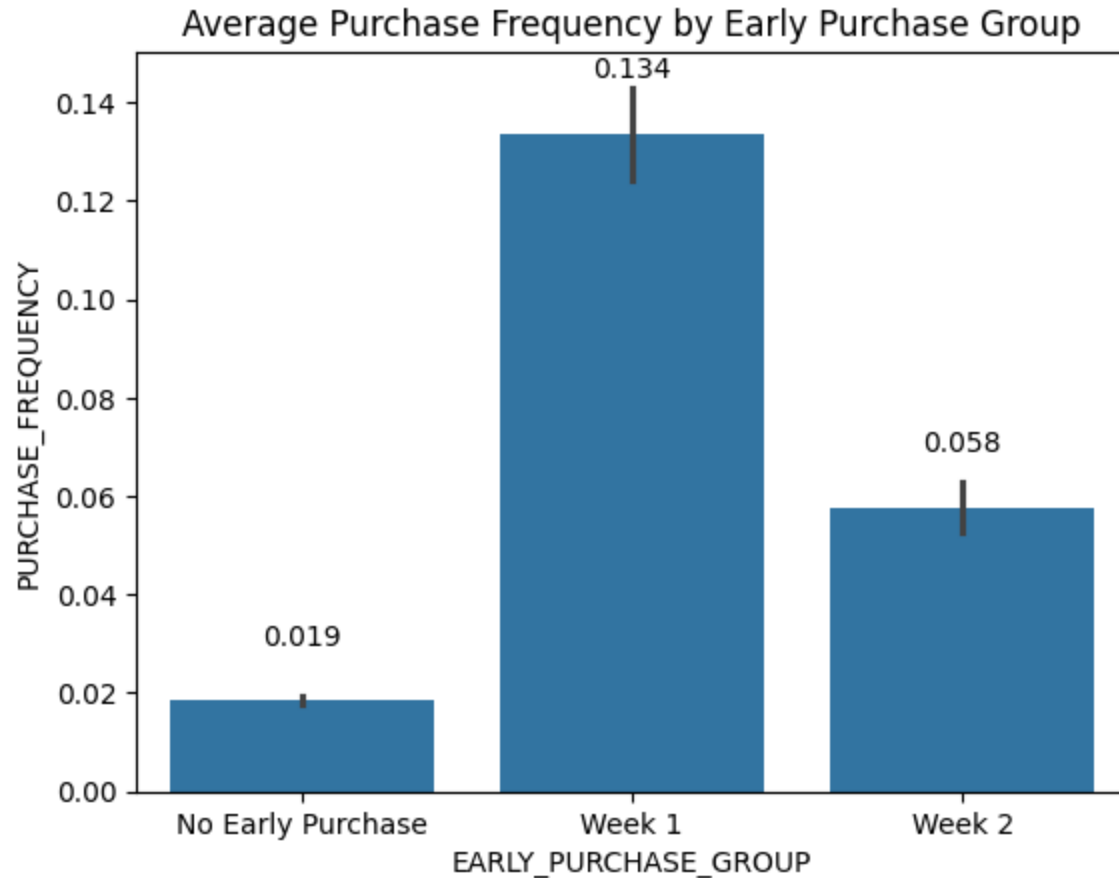
Almost all very high-frequency users made their first purchase within the **first week**, even if not on the **first day**.

Insight 2 – T-Test Results

	T-statistic	P-value
First Day Purchase	7.6207	2.76e-14
First Week Purchase	24.5852	1.41e-129
Purchase Within 14 Days	23.9820	1.45e-123
Second Week Purchase	-1.4618	0.144

- Significant correlation between **early purchases (Day 1, Week 1, 14 Days)** and frequency, especially week1 and 14 days
- **Week 2** purchase is **not significant**
👉 Suggests first-week behavior is most relevant

Insight 3 – Purchase Timing & Frequency Comparison



Statistic	Value
F-statistic	3.075558e+02
P-value	2.779157e-130

ANOVA across early purchase groups (Week 1, Week 2, No Early Purchase) confirmed significant differences in purchase frequency ($p < 0.001$), highlighting Week 1's key role.

Week 1 buyers have the highest average frequency.

Insight 4 – OLS Regression Results

	Coefficient	Std. Error	t-value	p-value
First Week Purchase	0.11230	0.004568	24.585182	1.414996e-129
Purchase Within 14 Days	0.10969	0.004574	23.982015	1.451812e-123

- Both are positively related to frequency;
- “First week purchase” shows a slightly stronger effect.



Key Takeaways

- **Week 1 is the most critical period for habit formation**
- **Users who purchase in Week 1 are more likely to become high-frequency customers**
- **Second week is not predictive of long-term behavior**

Recommendation

- **Keep the 14-day free delivery incentive**
- **Add a new bonus for first-week purchases, e.g.:**
 - **Free delivery plus a lottery entry**
 - **Lottery rewards: another discount/free delivery if they order again within a week**
- **Goal: Reinforce short-term habit, maximize long-term value**

