

Customer Behaviour Analysis Report

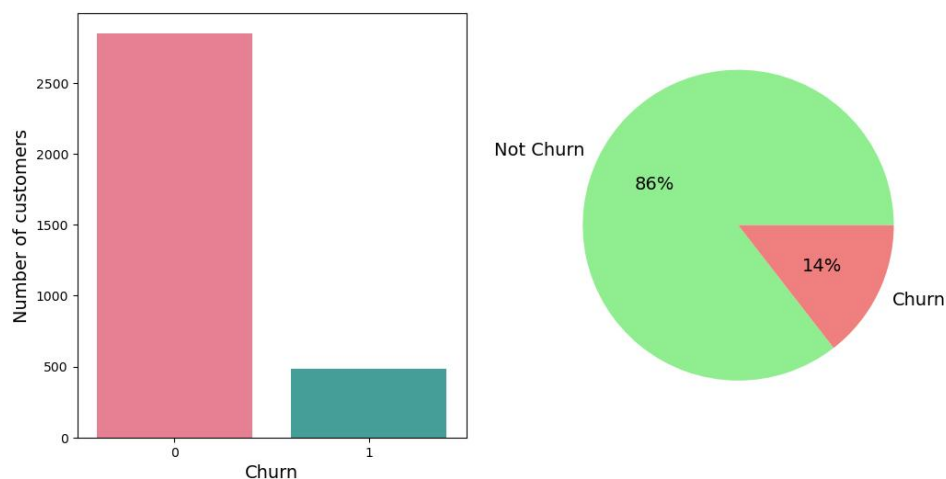
Executive Summary

This report provides an in-depth analysis of customer behavior with a focus on churn patterns, engagement factors, and demographic influences. The findings reveal that 14% of customers churned, with churn strongly linked to location, push notification status, and whether credit card information is saved. Additionally, numeric variable distributions highlight operational imbalances that can inform predictive modeling. The insights support the development of targeted retention strategies to improve customer loyalty and reduce revenue loss.

Key Findings

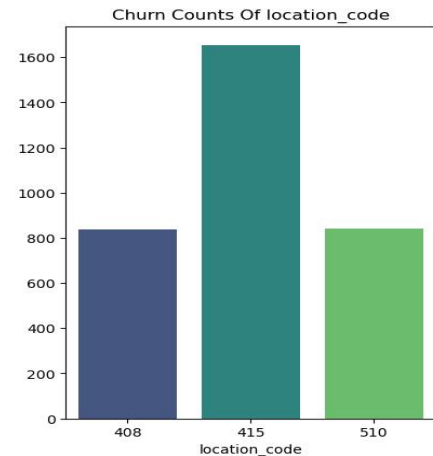
1. Overall Churn Rate

- 86% of customers remained, while 14% churned.
- Visuals (bar and pie charts) confirm churn is a minority but still significant.
- Implication: Even a relatively small churn percentage can represent a major financial impact.



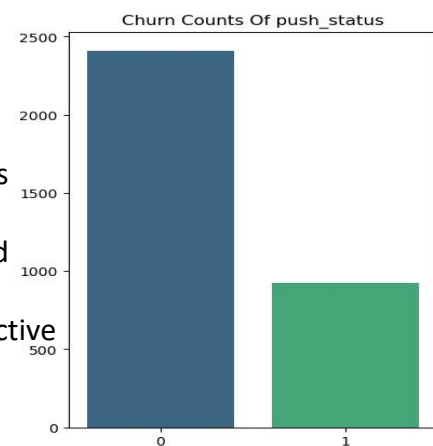
2. Churn by Location

- Location 415 recorded the highest churn (~1,650 customers).
- Locations 408 (~800 churns) and 510 (~1,000 churns) also showed notable churn.
- Implication: Regional differences suggest localized service or competition issues.



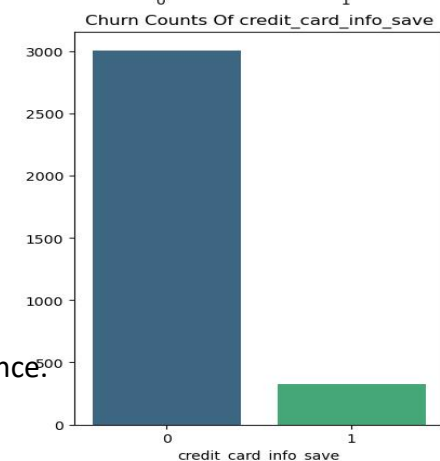
3. Churn by Push Notification Status

- Customers not receiving push notifications churned at much higher rates (~2,400).
- Customers with push notifications enabled churned significantly less (~1,000).
- Implication: Push notifications are an effective engagement tool that reduces churn.



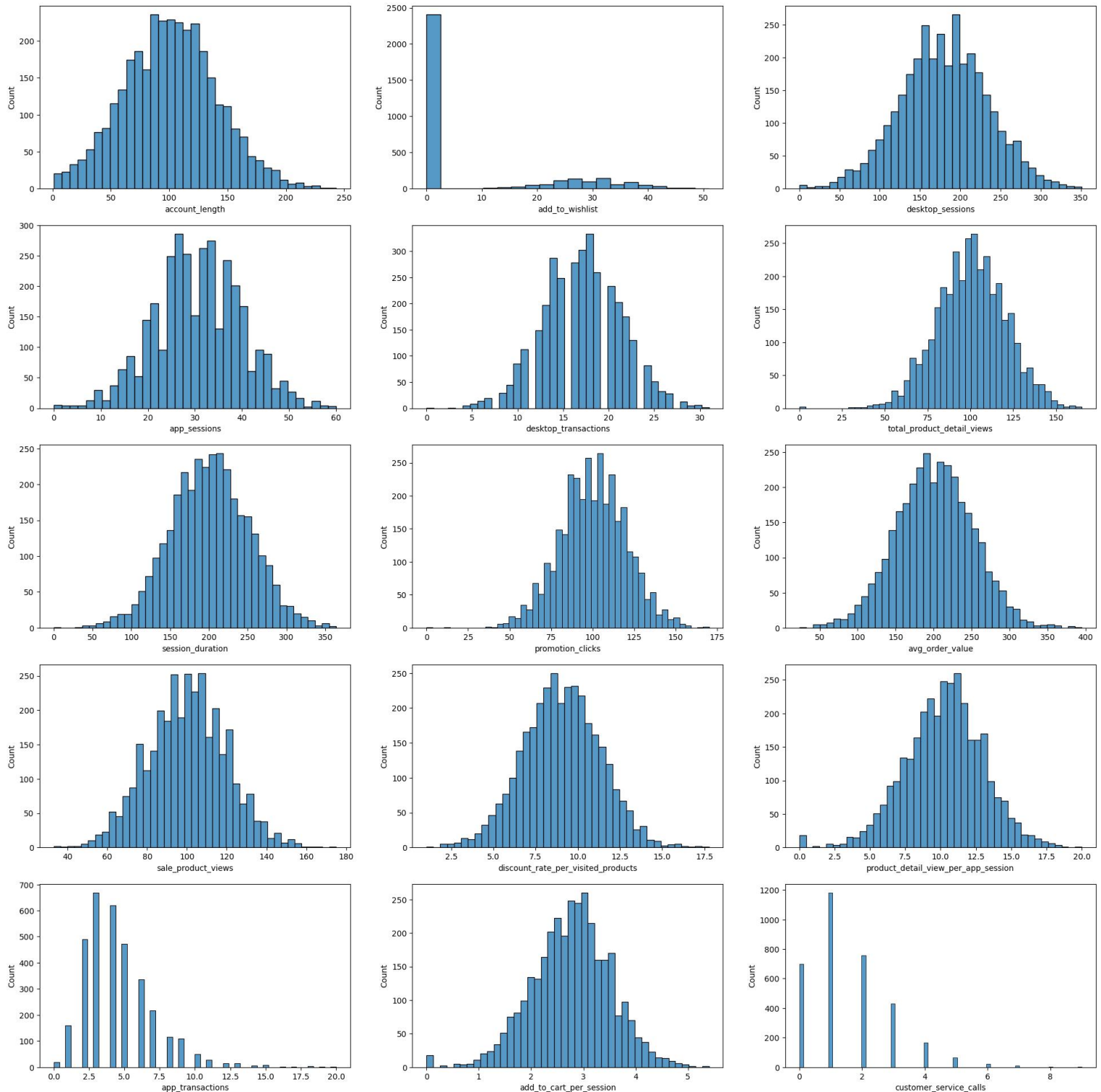
4. Churn by Credit Card Information Saved

- Customers without saved credit card info churned heavily (~3,300).
- Customers with saved credit card info churned far less (~300).
- Implication: Saving payment details correlates with higher retention and convenience.



5. Distribution of Numeric Variables

- Histograms show wide variation in population, gps_height, longitude, latitude, and construction_year.
- Some variables are skewed, indicating outliers and imbalances.
- Implication: Data preprocessing and normalization are required before predictive modeling.



Strategic Recommendations

1. Regional Retention Campaigns

- Investigate location 415 for service quality or competitive challenges.
- Deploy localized offers and customer support initiatives.

2. Enhance Push Notification Strategy

- Encourage all customers to opt-in for notifications.
- Personalize messages to increase engagement and reduce churn.

3. Promote Credit Card Saving

- Incentivize customers to save payment details (discounts, faster checkout).
- Highlight security and convenience benefits.

4. Data-Driven Modeling

- Use churn-related features (location, push status, credit card info) in predictive models.
- Normalize skewed numeric variables for accurate forecasting.

Conclusion

The analysis demonstrates that customer churn is influenced by engagement, convenience, and geography. By addressing these factors with targeted strategies, the business can significantly reduce churn, improve retention, and strengthen long-term customer relationships.