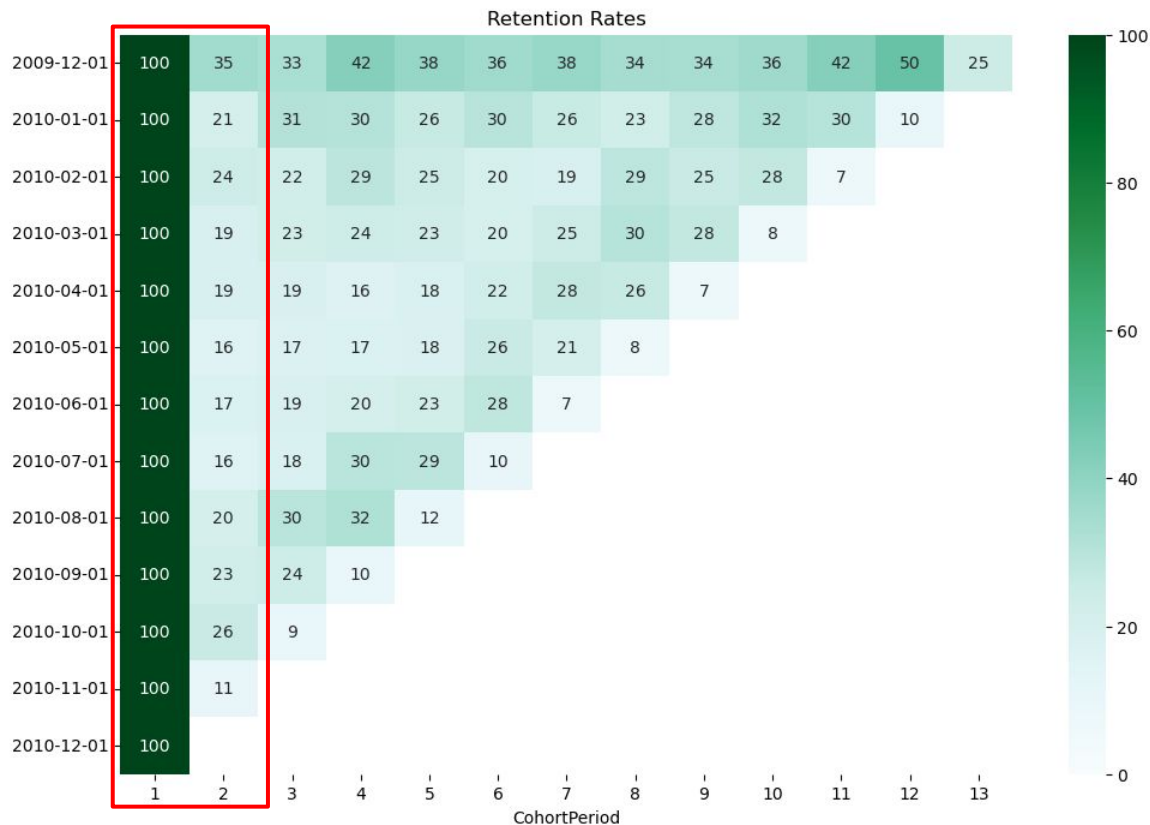


Retention Analysis

Key Insights

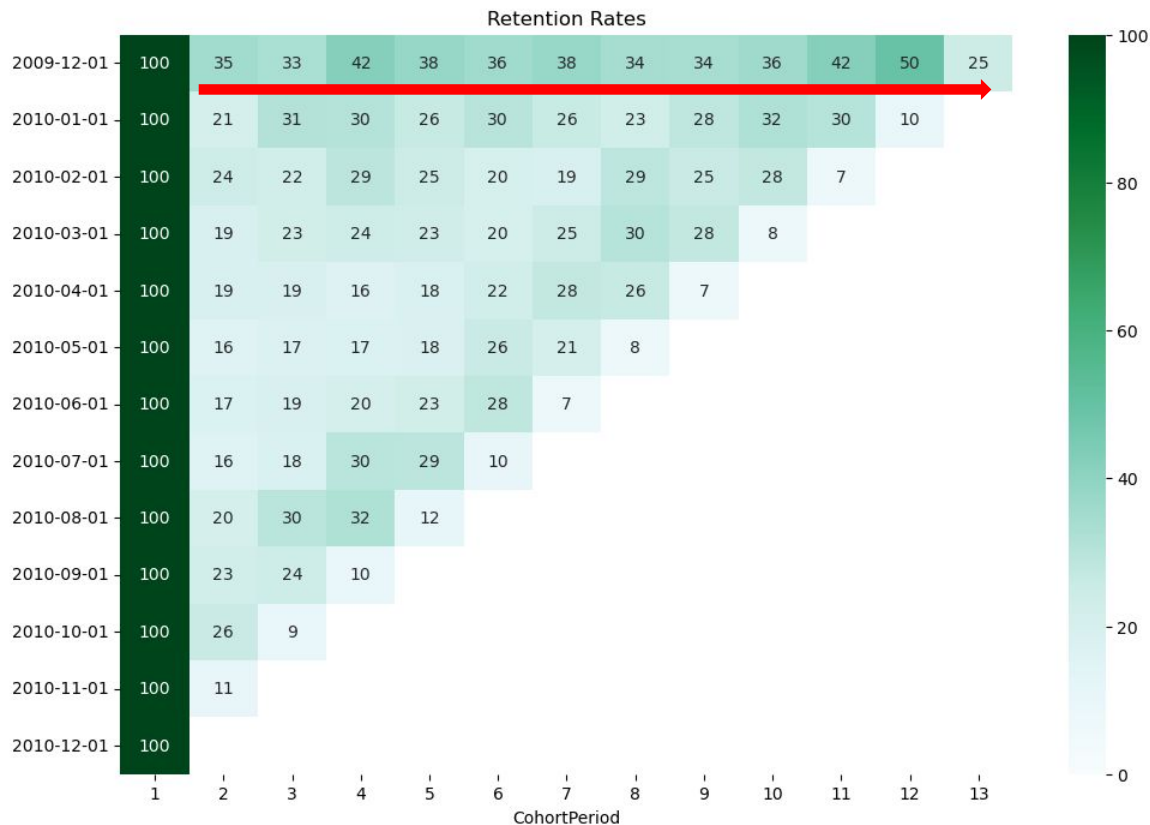


1. High initial drop-off

Most cohorts experience a significant drop in retention after the first month.

Possible causes: The drop-off could be due to unmet expectations, lack of continued engagement, or users not finding long-term value in.

Key Insights

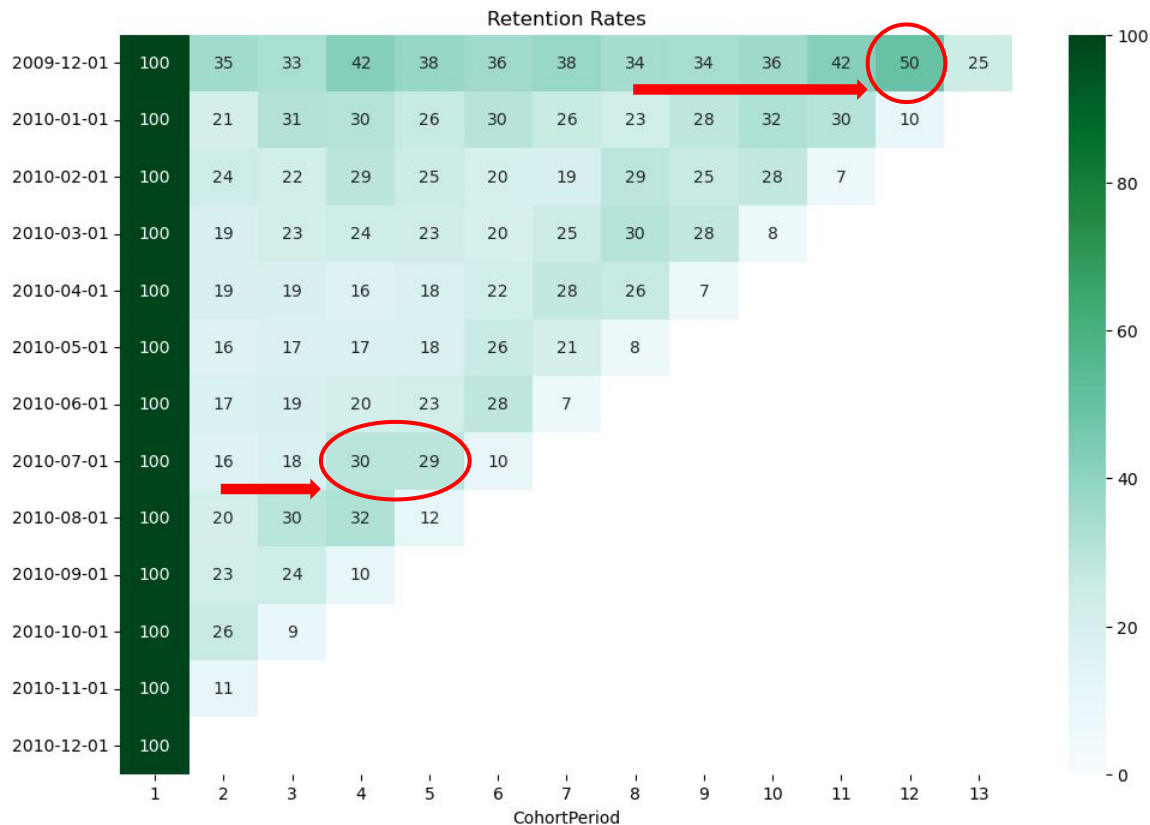


2. Retention stability

After the initial drop-off, the retention rates tend to stabilize, though at lower percentages.

Observation: The stability indicates that users who stay beyond the first month are more like to continue purchasing.

Key Insights

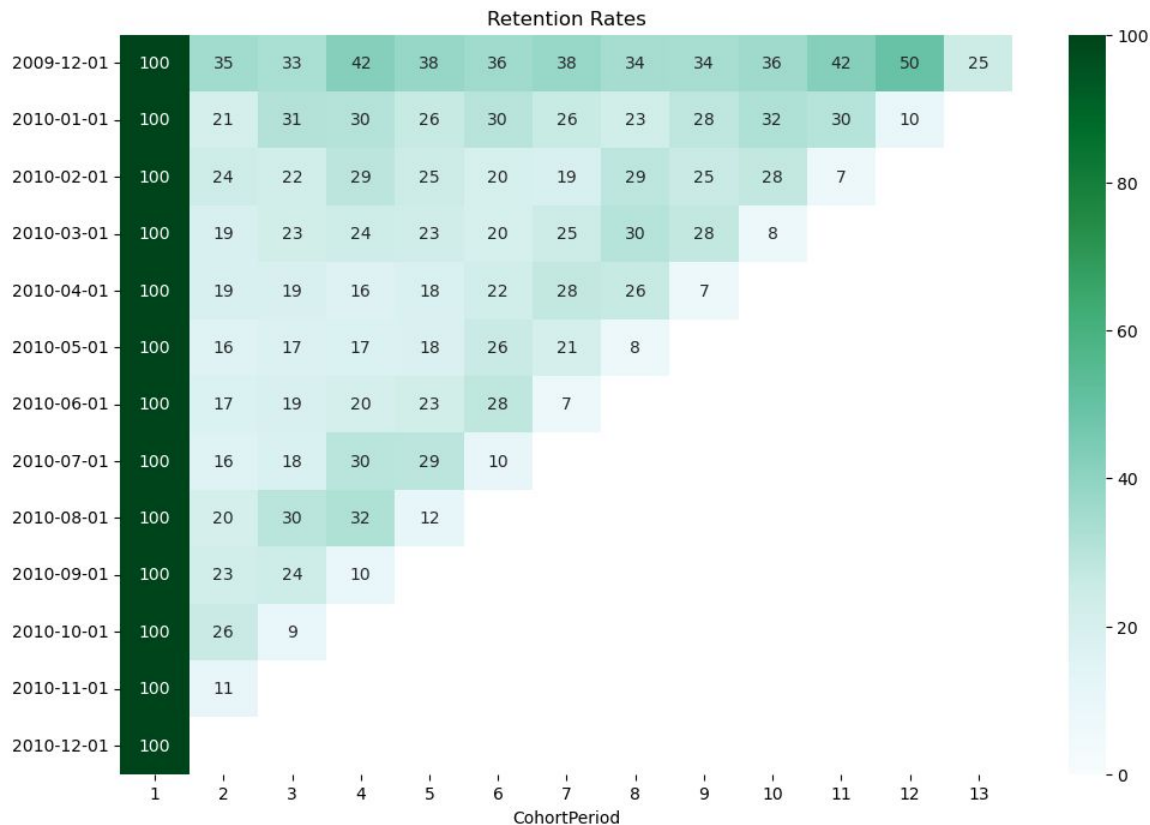


3. Improvement in some cohorts

Some cohorts show an increase in retention after months. For instance, the '2009-12-01' cohort rise from around 30-40% to 50% in period 12.

Interpretation: This could indicate successful re-engagement efforts such as marketing campaigns and enhancing user experience.

Key Insights



4. Long-term retention challenges

Retention generally stagnates over time, with very few cohorts maintaining strong retention.

Concern: This suggests that long-term retention is a challenge.

Note: Retention rates in the last period of most cohorts appear low as the last month in dataset was not fully recorded.

```
window_period = (min(df2.InvoiceDate), max(df2.InvoiceDate))
window_period

(Timestamp('2009-12-01 07:45:00'), Timestamp('2010-12-09 20:01:00'))
```

Actionable Suggestions

1. Re-engagement campaigns

For cohorts that show signs of improvement after a few months, analyze the factors contributing to this trend and apply similar strategies to other cohorts. Implement targeted re-engagement campaigns for users at risk of churn, offering incentives, new features, or personalized content to bring them back.

2. Analyze feedback from long-term users

Since some users stay long-term, gathering feedback from this group could provide insights into what aspects of the services are most valuable. Use these information to refine your value proposition and enhance features that drive long-term engagement.

3. Segmentation for personalization

Segment users based on their behavior, preferences to personalize user experience can increase relevance and encourage continued usage.