

SQL REPORT

Customer Retention & Churn Analysis — Online Retail II

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retention_rates for customer retention heatmap

cohort_sizes

```
Create Table cohort_sizes As
Select
    cohort_month,
    Count(Distinct customer_id) As cohort_size
From transactions_clean
Group By cohort_month;
```

cohort_activity by month since cohort

```
Create Table cohort_activity As
Select
    cohort_month,
    (
        (Cast(Substr(transaction_month, 1, 4) As Integer) * 12 + Cast(Substr(transaction_month, 6, 2) As Integer))
        -
        (Cast(Substr(cohort_month, 1, 4) As Integer) * 12 + Cast(Substr(cohort_month, 6, 2) As Integer))
    ) As cohort_index,
    Count(Distinct customer_id) As active_customers
From transactions_clean
Group By cohort_month, transaction_month;
```

retention_rates

```
Create Table retention_rates As
Select
    a.cohort_month,
    a.cohort_index,
    a.active_customers,
    s.cohort_size,
    Round(1.0 * a.active_customers / s.cohort_size, 4) As retention_rate
From cohort_activity a
Join cohort_sizes s
On a.cohort_month = s.cohort_month
Where a.cohort_index >= 0;
```

revenue_retention for revenue retention heatmap

revenue_by_cohort

```
Create Table revenue_by_cohort As
Select
    cohort_month,
    (
        (Cast(Substr(transaction_month, 1, 4) As Integer) * 12 + Cast(Substr(transaction_month, 6, 2) As Integer))
        -
        (Cast(Substr(cohort_month, 1, 4) As Integer) * 12 + Cast(Substr(cohort_month, 6, 2) As Integer))
    ) As months_since_cohort,
    Sum(revenue) As revenue
From transactions_clean
Group By cohort_month, transaction_month;
```

revenue_retention_base

```
Create Table revenue_retention_base As
Select
    cohort_month,
    revenue As cohort_revenue
From revenue_by_cohort
Where months_since_cohort = 0;
```

revenue_retention

```
Create Table revenue_retention As
Select
    r.cohort_month,
    r.months_since_cohort,
    r.revenue,
    b.cohort_revenue,
    Round(1.0 * r.revenue / b.cohort_revenue, 4) As revenue_retention_rate
From revenue_by_cohort r
Join revenue_retention_base b
    On r.cohort_month = b.cohort_month
Where r.months_since_cohort >= 0;
```

Other tables and KPI metrics built in Tableau:

churn_over_time was built in Tableau

repeat_customers was built in Tableau