



# Improving Customer Retention with Cohort Analysis

Many businesses over-index on acquisition and under-measure retention, resulting in churn, lower profitability, and wasted marketing spend. Cohort analysis reveals how retention evolves by acquisition month and guides targeted actions.



# Retention questions

## Key Business Questions

### Return Rate

How many customers return after their first purchase?

### Retention Over Time

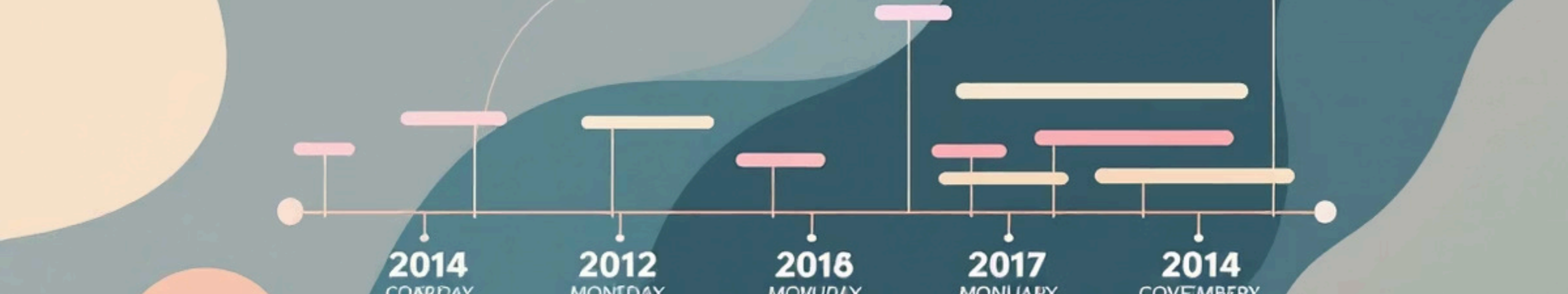
How does retention change month-to-month for each cohort?

### Cohort Comparison

Are newer cohorts performing better than older ones?

### Actions

What business actions can improve customer retention?



## Purpose of Cohort Analysis

Cohort analysis groups customers by first purchase month and tracks activity over time to separate natural lifecycle effects from business or market changes (seasonality, launches, pricing).

# How the Analysis Works — Steps

01

## Identify Completed Orders

Filter only completed transactions to ensure valid activity.

02

## Determine Cohort Month

Assign each customer the month of their first purchase.

03

## Map Purchases to Cohorts

Tag every order with the customer's cohort month.

04

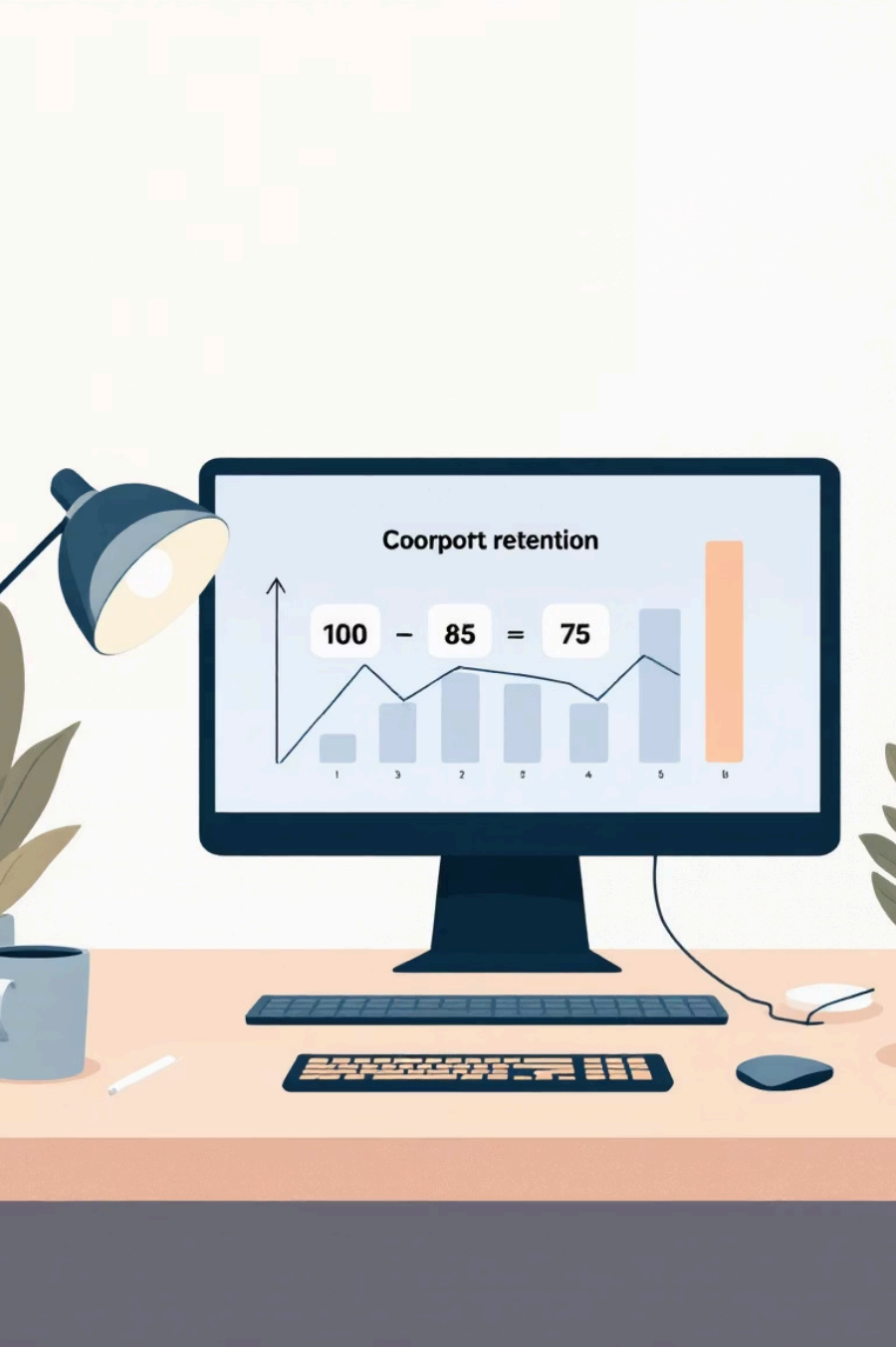
## Calculate Cohort Index

Measure months since first purchase for each order.

05

## Compute Retention

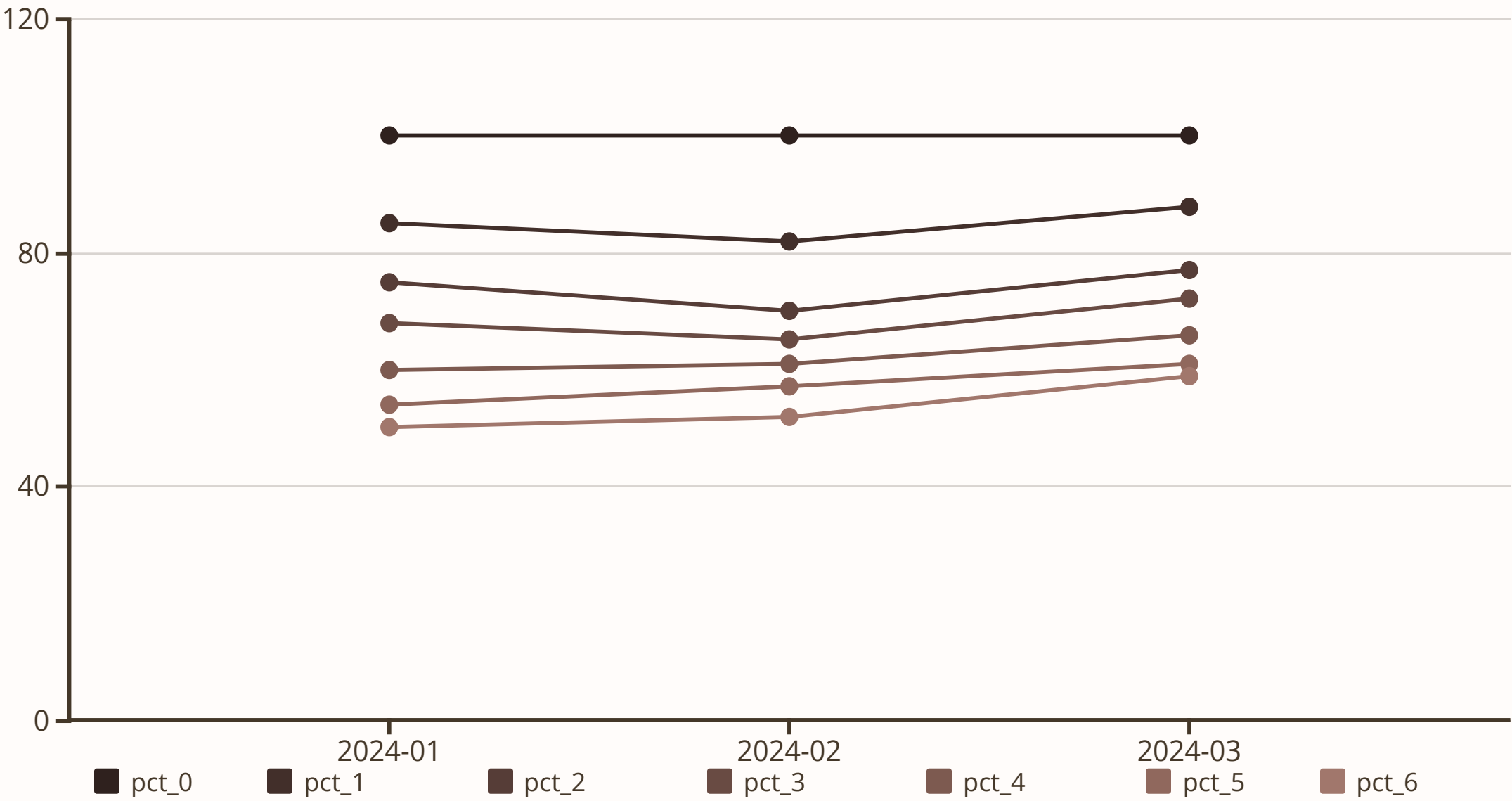
Count unique active customers per cohort & index, divide by cohort size, express as a percentage.



## Retention Example (Explanation)

If 100 customers joined in January and 85 ordered in February → Retention at month 1 = 85%. This percentage system is repeated for each cohort and month index to form retention curves.

# Sample Cohort Table (Illustrative)



Line chart shows retention trends across cohorts by month index.

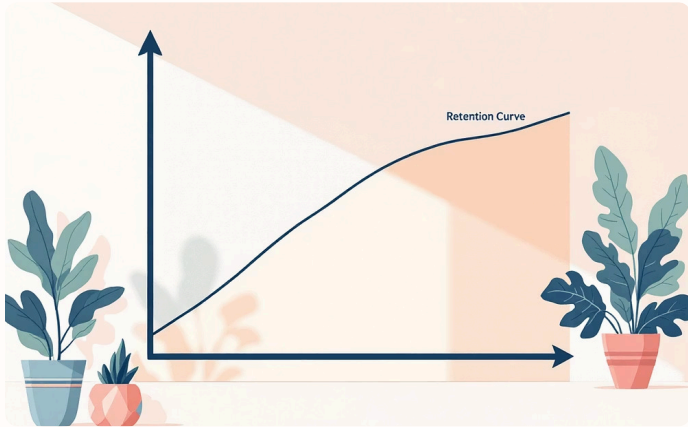


# SQL & Data Artifacts

Include `cohort_analysis.sql` in your repo (no edits needed). Add `sample_orders.csv` to show example input/output tables for reproducibility.



# Business Insights & Interpretation



## Retention Curve

First months often show a sharp drop; goal is to flatten this curve via improved experience and engagement.



## Comparing Cohorts

If newer cohorts show higher retention, recent strategies are working; declines indicate acquisition or experience issues.



## CLV Proxy

Higher retention increases lifetime value and profitability.



# How Cohort Analysis Drives Action

1

## Customer Retention

Identify month of drop-off → send re-engagement offers or reminders before the drop.

2

## Marketing Optimization

Compare retention by acquisition channel → allocate spend to high-retention channels.

3

## Product Improvements

Spot churn patterns → gather feedback from cohorts that churn early.

4

## Revenue Forecasting

Predict long-term customer behavior to estimate lifetime value and revenue per cohort.

5

## Segmentation & Loyalty

Differentiate loyal vs. one-time buyers → build programs for high-value cohorts.

# Key Learnings & Next Steps



## Cohort Analysis Value

Essential for data-driven retention strategies and isolating behavioral patterns.



## Practical Capability

SQL is sufficient to perform cohort analysis without advanced tools.



## Action Plan

Implement cohort queries, monitor retention curves, test targeted re-engagement, and reallocate marketing to high-retention channels.

