CUSTOMER SEGMENTATION FOR A SUBSCRIPTION-BASED FITNESS PLATFORM USING MINITAB

1. Overview

Client:

A rapidly growing subscription-based fitness platform offering on-demand and live workout programs to customers across the UK

Objective:

To mine customer usage and subscription data using Minitab and identify distinct behavioral segments for targeted retention strategies.

2. Background

Despite steady growth, the platform experienced an unexpected churn plateau at the 3-month mark. Marketing campaigns lacked precision, relying on broad personas rather than data-informed customer segmentation. The leadership team engaged us to uncover hidden patterns in platform usage behavior using Minitab's clustering capabilities, aiming to reduce churn and personalize engagement.

3. Data Summary

Time Period:

12 months of customer data (Jan–Dec 2023)

Dataset Fields:

Variable	Type	Description
Customer_ID	Identifier	Unique subscriber ID
Age	Continuous	Age in years
Tenure_Months	Continuous	Number of months subscribed
Avg_Weekly_Usage_Minutes	Continuous	Average weekly time spent on the platform
Content_Type_Preference	Categorical	Predominant use: Live, On-Demand, Mixed
Total_Sessions	Count	Total logged workout sessions

Mobile_App_Use_Frequency	Categorical	High, Medium, Low usage frequency of mobile app
Cancellation_Flag	Binary	1 = Cancelled within 3 months, 0 = Retained

Dataset was pre-cleaned to exclude trial users and inactive accounts.

4. Methodology

Software Used:

Minitab 21

Analysis Objectives:

- Uncover underlying customer segments

- Identify high-risk churn profiles

- Generate targeted retention insights

Steps in Minitab:

1. **Data Normalization:**

    o Continuous variables (usage time, sessions, age) normalized using Z-scores.

2. **Clustering (K-Means):**

    o *Stat > Multivariate > Cluster Observations*

    o Performed K-means clustering with Euclidean distance, selecting **k = 4** based on elbow method and silhouette plot.

3. **Cross-Tab Analysis:**

    o *Stat > Tables > Cross Tabulation and Chi-Square*

    o Analyzed cluster membership vs. cancellation flag to isolate high-churn segments.

4. **Boxplots and Descriptive Statistics:**

    o *Graph > Boxplot* to visualize usage and tenure distribution across clusters

    o Summarized average characteristics of each segment

5. Findings

Defined Customer Segments:

Cluster	Key Traits	Churn Rate
1	Young (20–30), low usage, prefers on-demand only	38%
2	Mid-aged (30–45), medium usage, high mobile app engagement	14%
3	Older (45+), consistent usage, high live session preference	9%
4	Mixed-age group, high total sessions but low session duration	27%

- **Cluster 1** was clearly overrepresented in cancellations

- Mobile app frequency had a statistically significant association with retention (Chi-square $p < 0.01$)

- Average retention for **Cluster 3** was 91%, driven by structured engagement habits

6. Visual Outputs (Created in Minitab)

- **Cluster Plot** (2D projection)

- **Boxplot** of weekly usage time by cluster

- **Stacked bar chart**: Churn rate by cluster

- **Pareto chart** of dominant content types by engagement

7. Outcome and Implementation

- Retention emails and personalized nudges were redesigned and targeted specifically to Cluster 1 (high churn, low usage)

- App onboarding was modified to prompt live session trials in the first two weeks

- Platform dashboard was updated to suggest engagement goals for Cluster 4 users

Within 8 weeks of implementation, retention among at-risk segments improved by 15.2%.

8. Recommendations

- Implement real-time segmentation tagging within the CRM based on updated usage patterns

- Create separate onboarding funnels for live-preferring and on-demand users

- Extend segmentation logic to pricing experiments (e.g., loyalty pricing for Cluster 3)

- Monitor transition patterns between clusters using quarterly engagement snapshots

9. Future Scope

- Integrate demographics and psychographics into advanced clustering models

- Use logistic regression to build a predictive churn score for each user

- Combine Minitab insights with external analytics dashboards (Power BI or Tableau) for cross-functional use

10. Strategic Value

- Demonstrated how Minitab's clustering tools can be leveraged beyond manufacturing use cases

- Provided marketing and product teams with a statistically validated segmentation structure

- Helped transition retention strategy from intuition-based to data-driven, resulting in measurable revenue protection