

c. Recommendations for Targeted Retention Strategies:

- Submit a document outlining recommendations for implementing targeted retention strategies based on the analysis results.

(1) Let's review the Customer Segment Profiles in Section 2, based on k-means clustering analysis, we got the Strategies:

Cluster 0 (31.3%) — New + High Price, churn 49.2% → largest and highest-risk segment.

Strategy: Focus segment, onboarding support, personalised discounts, rapid issue resolution.

Cluster 1 (24.6%) — New + Low Price, medium churn (24.5%) → growth potential.

Strategy: Growth segment, offer small value-added services and promote package upgrades.

Cluster 2 (27.7%) — Long-tenure + High Price, lower churn (15.7%) → high-value customers.

Strategy: High-value segment, invest in VIP programs, proactive satisfaction checks, premium service perks.

Cluster 3 (16.5%) — Long-tenure + Low Price, very low churn (4.8%) → stable, loyal segment.

Strategy: Loyal segment, maintain satisfaction while exploring cross-selling opportunities to increase lifetime value.

(2) Based on keras ANN analysis, we got the Strategies:

- **Thresholds aligned to business goals**

Use the precision–recall curve to pick an operating point:

Accuracy-optimal: capture more potential churners (fewer unnecessary contacts).

F1-optimal: minimize false positives (better balance of precision/recall).

This flexibility lets teams choose **cost control vs. maximum retention**. (*For imbalanced churn data, F1-optimal is the recommended default.*)

- **Improve revenue and customer experience**

Apply **targeted incentives, dedicated support, and personalized outreach** to high-risk customers to raise satisfaction and loyalty.

- **Enable granular, data-driven operations**

Use the model's probability to **tier customers** (high / medium / low risk) and run **differentiated playbooks**: intensive save offers for high risk, light nudges for medium risk, and experience maintenance with upsell testing for low risk.