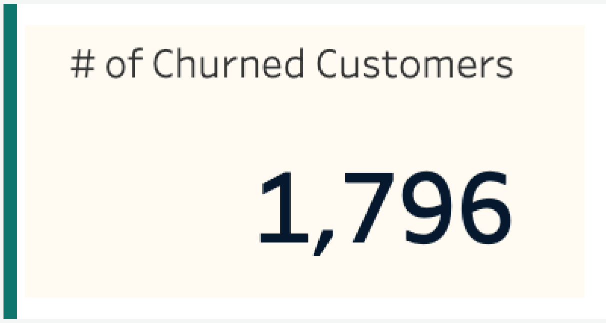
Datatel Telecom Churn Analysis

Identifying priority customer segments for retention testing

Analysis of 6,687 telecom customers found that the overall 26.9% churn rate masks substantial differences across service usage, contract and payment combinations, and age.

This report identifies the customer groups that warrant the closest attention and recommends where Datatel should test retention interventions first.



Dashboard evidence excerpt — Tableau

6,687	1,796	26.9%
CUSTOMERS ANALYZED	CUSTOMERS CHURNED	OVERALL CHURN

Contents

Executive Summary

Datatel's analyzed population contains 6,687 customers, of whom 1,796 churned, producing an overall churn rate of 26.9%.

The overall rate masks meaningful differences between customer groups. Three areas stand out as the clearest priorities for further investigation and retention testing.

01

International-plan usage

Customers who had an international plan but did not actively use international calling showed about 71% churn, compared with about 7.6% among customers who had the plan and used it. This is the largest observed contrast in the analysis and makes plan fit the first area to investigate.

02

Contract and payment concentration

1,141 of the 1,796 churned customers were on month-to-month contracts and paid by direct debit. The size of this group makes it an important population for further segmentation and retention testing.

03

Age

Churn becomes materially higher among older customers and approaches roughly 50% in some of the oldest age groups. The pattern warrants further investigation into whether product mix, service usage, tenure, pricing, or other customer characteristics differ within this population.

RECOMMENDED MANAGEMENT ACTION

Begin with focused diagnostic and retention tests in these three groups rather than applying the same intervention across the entire customer base. The current analysis identifies where to investigate first. Controlled testing is required to determine which interventions actually improve retention.

EXECUTIVE-SUMMARY EXHIBIT **Three areas to prioritize**

PLAN FIT	CONTRACT + PAYMENT	AGE
~71% vs ~7.6%	1,141 / 1,796 churned	Churn rises materially in older groups

BOTTOM LINE **Prioritize -> diagnose -> test -> measure -> scale**

Business Problem & Analytical Approach

A 26.9% churn rate establishes the size of the problem. Segment-level evidence shows where management should look first.

Datatel lost 1,796 customers in the analyzed population.

A company-wide churn rate provides scale, but retention decisions require a more specific view of where churn is unusually high and where large numbers of churned customers are concentrated.

The analysis therefore compared customer groups across contract structure, payment method, international-plan usage, customer age, and selected demographic and geographic views.

TWO TYPES OF EVIDENCE

Churn rate

The share of customers within a defined group who churned.

Use: identify groups with unusually high observed churn.

Churn concentration

The number or share of all churned customers represented by a defined group.

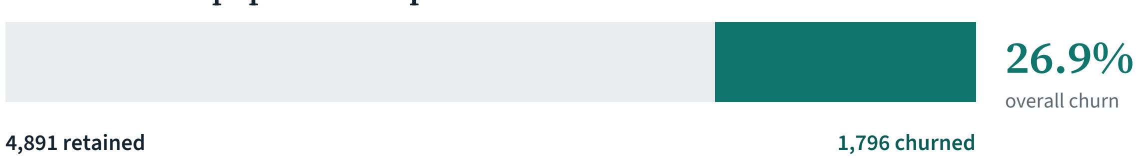
Use: identify populations large enough to matter operationally.

A small group can have a high churn rate without representing many customers. A large group can matter even when its churn rate is not the highest.

DECISION QUESTION

Where should Datatel focus its retention investigation and testing first?

EXHIBIT 1 **The overall population separates into retained and churned customers**



Source: DataCamp's Analyzing Customer Churn in Tableau case-study dataset; Tableau.

ANALYTICAL BOUNDARY

The analysis identifies observed associations and concentrations. It does not establish that a customer characteristic caused churn.

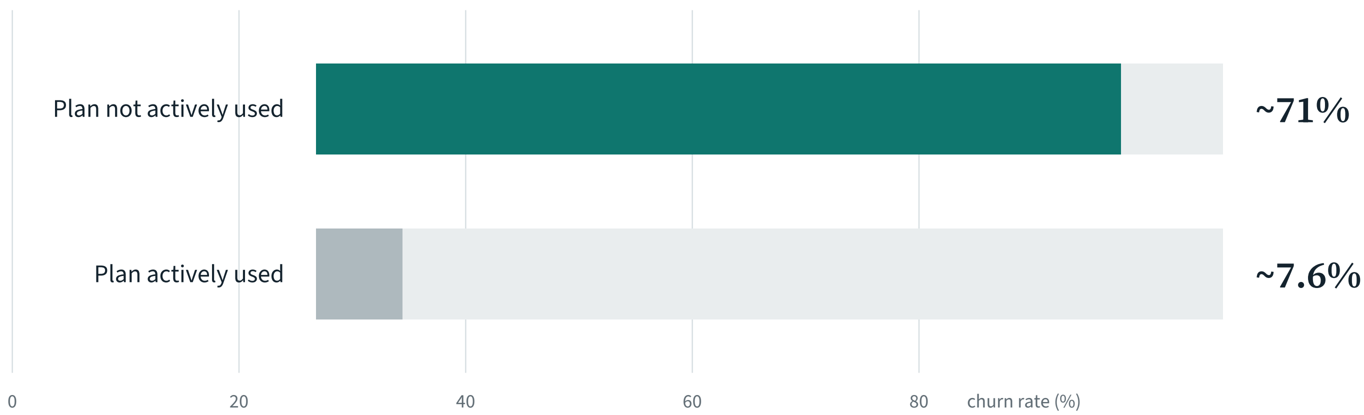
Key Finding 1

International-plan usage produced the largest observed churn contrast.

Among customers with an international plan, usage status separated two very different churn outcomes.

EXHIBIT 2

Plan use separates two very different observed churn rates



International-plan population, segmented by whether international calling was actively used. Body figures rounded; supporting source analysis reports 71.19% for the no-use group.

Source: DataCamp's Analyzing Customer Churn in Tableau case-study dataset; Tableau.

THE MANAGEMENT QUESTION

Are some customers paying for an international feature that does not fit their actual usage?

Customers paying for an international plan without actively using international calling showed substantially higher churn than customers who used the service. The current data cannot determine whether the difference reflects plan fit, pricing, customer understanding, another customer characteristic, or a combination of factors.

BUSINESS IMPLICATION

Plan-fit analysis should be the first retention investigation.

Key Findings 2 & 3

A large share of churned customers sits in one contract-and-payment combination.

EXHIBIT 3

Month-to-month + direct debit represents 63.5% of churned customers

1,141
MONTH-TO-MONTH + DIRECT DEBIT

out of

1,796
TOTAL CHURNED CUSTOMERS

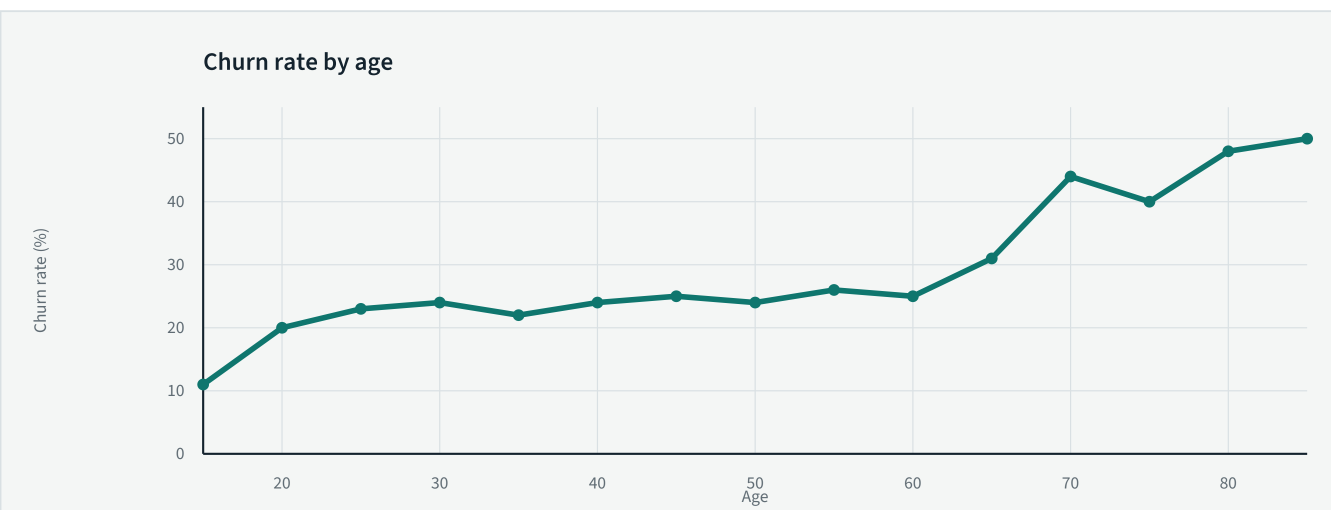
This combination represents 63.5% of all churned customers in the analyzed population. The 63.5% figure is a concentration measure. It should not be labeled as the segment's churn rate.

Source: DataCamp's Analyzing Customer Churn in Tableau case-study dataset; Tableau.

This population is large enough to justify deeper segmentation before selecting a retention treatment.

Churn also becomes materially higher among older customers.

Churn stays closer to the broader range through much of the age distribution and then increases among older customers, reaching roughly 50% in some of the oldest age groups.



CHURN BECOMES MATERIALLY HIGHER IN THE OLDER AGE GROUPS

Source: DataCamp's Analyzing Customer Churn in Tableau case-study dataset; Tableau.

Strategic Recommendations

01 Test plan-fit interventions first

Identify customers who pay for an international plan but show little or no international usage. Test interventions such as a plan-fit review, a better-aligned plan recommendation, and clearer communication of current-plan usage and value.

Measure retention or churn relative to an appropriate comparison population.

02 Diagnose the month-to-month + direct-debit population

Break the 1,141 churned customers in this combination into smaller groups using available customer attributes before designing a treatment. The purpose is to determine whether this large population contains subgroups with distinct retention needs.

Measure segment-level churn and response to targeted interventions.

03 Investigate the older-customer experience

Examine the elevated age pattern alongside product mix, service usage, tenure, pricing, and other available account characteristics.

Measure whether the observed age pattern persists after those differences are considered.

04 Scale only after measured evidence

Move a retention treatment into a broader program only after a controlled or otherwise credible test shows a measurable improvement.

EXHIBIT 5

Action matrix

Priority	Action	Evidence	Next decision
1	Plan-fit test	~71% vs ~7.6%	Does intervention improve retention?
2	Segment contract/payment group	1,141 of 1,796 churned	Which subgroups matter most?
3	Diagnose older-customer pattern	Elevated churn in older groups	What explains the difference?

Source: DataCamp's Analyzing Customer Churn in Tableau case-study dataset; Tableau.

Measurement & Management Conclusion

Move from observed patterns to measured intervention results.

The current analysis creates a prioritization framework. The next stage should establish whether specific retention interventions change customer behavior.

MEASUREMENT SEQUENCE

1 **Define the target population**

Use the segment definitions from this analysis.

2 **Define the intervention**

Change one retention lever at a time where practical.

3 **Measure the outcome**

Track retention or churn relative to an appropriate comparison population.

4 **Evaluate economics**

Add intervention cost and customer-value measures before deciding whether a treatment should scale.

5 **Refine and repeat**

Use measured results to improve the segmentation and targeting logic.

MANAGEMENT CONCLUSION

Datatel's overall 26.9% churn rate is distributed differently across customer groups.

The clearest priorities are:

- international-plan fit
- month-to-month + direct-debit customers
- older customer groups

These findings provide a focused starting point for retention work.

The analysis identifies where to start. Testing determines what works.

FURTHER EVIDENCE

Explore the Tableau dashboard ->

public.tableau.com/views/ChurnAnalysisTelecomProvider/ChurnAnalysis

Appendix A - Methodology & Definitions

DATA SOURCE AND POPULATION

Source: DataCamp's Analyzing Customer Churn in Tableau case-study dataset, used as the source dataset for this analysis. The dataset is a point-in-time customer snapshot with one row per customer.

Analysis population: 6,687 customers.

CUSTOMER COUNT

Customer counts represent customer-level records in the analysis population. The source is one row per customer; use the customer identifier as the unique customer grain for calculations.

CHURNED CUSTOMER

A churned customer is a customer whose source churn label is Yes.

Churned customers: 1,796.

OVERALL CHURN RATE

Churn rate = churned customers / customers in the same population

1,796 / 6,687 = 26.86%

The report presents this as 26.9%.

SEGMENT CHURN RATE

Every segment-level churn rate uses the same definition:

churned customers in the segment / all customers in the segment

The denominator therefore changes when a segment filter changes. A segment churn rate should not be compared with a count or share of all churned customers as if they were the same measure.

INTERNATIONAL-PLAN USAGE COMPARISON

The international-plan finding compares customers who had an international plan and separates them by whether international calling was actively used.

Plan present, not actively used: 177 customers with 71.19% churn. The report presents this as ~71%.

Plan present, actively used: approximately 7.6% churn.

The comparison is observational. It does not establish that lack of usage caused churn.

CONTRACT + PAYMENT CONCENTRATION

The contract/payment finding uses the churned-customer population as its denominator:

1,141 month-to-month + direct-debit churned customers / 1,796 total churned customers = 63.5%

This is the share of churned customers represented by the group. It is not the group's churn rate.

AGE INTERPRETATION

Age views compare churn rates across age groups using the segment churn-rate definition above. Churn becomes materially higher in older groups and reaches roughly 50% in some of the oldest groups. The report does not define a fixed age threshold at which a customer becomes high risk.

CHURN-REASON VIEWS

Churn reason and churn category are attributes recorded for churned customers. When a chart shows the distribution of churn reasons/categories, its relevant denominator is the churned-customer population rather than all customers. The source case-study analysis reports 44.82% of churned customers in the Competitor churn category. This is a recorded reason/category, not evidence that competitor activity caused 44.82% of churn.

TABLEAU CALCULATION RULES

1. Keep customer as the analytical grain.
2. Apply one churn definition across all views.
3. Recalculate denominators within active segment/filter context.
4. Use churned customers as the denominator for reason/category distributions.
5. Label counts, rates, and shares distinctly.
6. Round for readability; show detailed figures where available.

Appendix B - Supporting Evidence & Planning Scenario

RECORDED CHURN CATEGORIES

The source case-study analysis reports the Competitor category as the largest recorded churn-reason category:

44.82%

OF CHURNED CUSTOMERS

Examples inside the source category include better offers, better devices, more data, and higher speeds.

INTERPRETATION

This result describes the reasons/categories recorded in the source data. It does not demonstrate the size of a causal competitor effect or prove that a pricing change would reduce churn.

Source: DataCamp's Analyzing Customer Churn in Tableau case-study dataset; Tableau.

CALIFORNIA SUPPORTING OBSERVATION

Observed California population:

68 customers in California
43 churned customers
63.24% churn

The California result is based on a relatively small state-level population and is retained as supporting evidence. Additional market, service-quality, and customer data would be needed before attributing the difference to a specific cause.

GROUP-MEMBERSHIP SUPPORTING OBSERVATION

Churn varied by group size in the source analysis. For example, customers not in a group showed 32.85% churn, while the six-person group showed 5.6%. These differences support additional segmentation, but the current evidence does not establish that moving customers into group plans would improve retention.

PLANNING SCENARIO

18-20%

PLANNING SCENARIO

The 18-20% range was used as a planning scenario to illustrate the potential scale of improvement. It was not a measured result, validated forecast, or estimate of the effect of the recommendations in this report. Financial impact is outside the scope of this analysis and would require a separate economic model.