

# AUTOMOTIVE MARKETPLACE RETENTION CASE STUDY

## Introduction

This case study presents a retention analysis conducted on a synthetic dataset representing seller activity within an automotive B2B marketplace. The objective was to classify sellers based on activity patterns, analyze multi-year retention dynamics, and develop strategic recommendations to support sustainable growth. All data used in this project is sample data provided for a technical assessment.

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## 1. Headline Metrics and Scope

The analysis focuses on a 24-month period (August 2022 to July 2024). This time range was selected because it reflects the platform's current level of maturity, while excluding early-stage volatility.

Across this period, the seller base demonstrates:

- A strong recurring activity core
- Consistently positive net growth
- A declining and more stable churn rate
- A well-balanced segment distribution
- Clear and predictable seasonality patterns

These indicators collectively show a structurally healthy marketplace that is expanding while maintaining consistent engagement from active sellers.

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## 2. Retention and Growth Dynamics

Recurring sellers form the backbone of marketplace activity. Their count increased from around 100 in mid-2022 to more than 260 at peak in 2024. This sustained growth confirms the strength of the recurring cohort and the marketplace's ability to maintain engagement over time.

Churn also stabilized at lower levels, shifting from a volatile 13–28 percent range (2022–2023) to a more controlled 10–18 percent in 2024. Monthly net growth remained positive throughout the entire period, averaging around +80 sellers per month.

Importantly, churn volumes did not scale alongside the expanding seller base, which indicates improved retention mechanics and greater operational stability.

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## 3. Acquisition vs Reactivation

Reactivation significantly outpaces new seller acquisition. On average:

- Reactivated sellers: approximately 104 per month
- New sellers: approximately 34 per month

This ratio of 3:1 suggests a mature marketplace where seller activity follows inventory cycles rather than reflecting disengagement. Many sellers return after short inactivity periods, indicating loyalty and continued interest in using the platform.

However, if the reactivation pool decreases in the long run, the platform will increasingly depend on new acquisition as its growth driver. Monitoring this balance is essential.

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## 4. Seasonality and Behavioral Cycles

Seasonal churn spikes consistently occur in:

- Q4 (December)
- Summer months (July and August)

These fluctuations are tied to lower overall market activity, not structural retention issues. A large proportion of sellers return in Q1, feeding strong reactivation numbers.

Understanding these predictable patterns helps avoid misinterpretations of performance dips and allows the platform to plan proactive outreach around expected slowdowns.

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## 5. Segment Analysis

The seller segmentation (T, A, B, C) reveals several important dynamics:

- Segment T is the largest contributor to activity. It offers a stable core with moderate churn rates (10–15 percent).
- Segment C, traditionally the weakest, has shown major improvement. Churn dropped from 35–45 percent in 2022 to around 20–25 percent in 2024.
- Segment A has the lowest churn (5–10 percent) but represents a smaller portion of the base.
- Segment B sits between A and C, with increasingly stable behaviour.

Overall, the segment distribution is balanced and improving, reducing dependency on any single cohort.

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## 6. Key Insights Summary

- The recurring cohort has steadily grown, reinforcing platform stickiness.
- Reactivated sellers are a major driver of activity and outnumber new sellers.
- Net growth remains positive every month, confirming scalable engagement.
- Churn stabilizes at low levels and follows predictable seasonality patterns.
- Segment C shows notable recovery, closing the gap with segment B.
- The platform displays a healthy retention-driven growth model.

These points collectively indicate a strong foundation from which targeted acquisition and retention strategies can further scale the business.

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## 7. Recommendations

### 1. Optimize Reactivation Dynamics

Reactivated sellers play a central role in sustaining monthly activity.

Recommended actions:

- Distinguish between short-cycle (1–2 months) and long-cycle (3+ months) reactivation.
- Track the size of the reactivation pool (sellers inactive 3–12 months).
- Maintain light-touch engagement for short-cycle profiles.
- Deploy targeted win-back messaging for long-cycle profiles.
- Compare inactivity spikes with seasonal cooling periods to anticipate rebounds.

Expected impact:

- Turns reactivation into an active lever rather than a passive outcome
  - Ensures stable seller participation
  - Identifies risks if the reactivation pool begins shrinking
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### 2. Manage Seasonal Churn Proactively

Seasonal dips are predictable and should be anticipated, not reacted to.

Recommended actions:

- Pre-season communication to set expectations and share Q4 or summer guidance
- Mid-season outreach to sellers who slow down or pause activity
- Q1 re-engagement campaigns to convert returning sellers quickly

Expected impact:

- Reduces perceived churn
- Builds trust through proactive engagement

- Shortens inactivity cycles
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### 3. Monitor New Seller Acquisition Trends

Balanced growth requires continuous acquisition alongside strong reactivation.

Recommended actions:

- Track new sellers using moving averages
- Set thresholds to detect declines early (e.g. fewer than 25 per month for two consecutive months)
- Investigate root causes: marketing performance, competition, inventory cycles
- Analyze segment impact to target acquisition efforts effectively

Expected impact:

- Protects long-term growth potential
  - Ensures resilience if reactivation softens
  - Enables rapid corrective measures
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### 4. Strengthen Retention Monitoring and Governance

Retention should be a leading KPI, not a lagging one.

Recommended actions:

- Build or refine a dedicated retention dashboard
- Monitor churn rate, recurring base stability, net growth, and segment mix
- Set clear alert thresholds
- Link each alert to predefined operational actions (AM outreach, automated campaigns)

Expected impact:

- Faster reaction to early warning signals
  - Stronger cross-functional alignment (Sales, Ops, Marketing)
  - Institutionalizes a data-driven retention culture
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## 8. Potential Next Steps

- Analyze sales volume per active month to understand engagement intensity
- Measure average time to churn to detect short lifecycle segments
- Investigate whether seasonal dips originate on the supply or demand side
- Explore unsuccessful auctions to identify friction points
- Combine quantitative insights with qualitative seller feedback

- Measure duration in the recurring state to detect early churn signals
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## Conclusion

This analysis illustrates how marketplace activity data can be transformed into clear retention insights. It reveals the structural strengths of the seller base, highlights key behavioural patterns, and provides strategic recommendations grounded in measurable trends.

The case study demonstrates both technical execution (SQL-based clustering and dashboarding) and the ability to translate results into business-focused guidance that supports sustainable growth.

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