UpGuard Engagement Scoring - by Satabdi Dash

This report summarizes the application of a behavioral engagement scoring framework on UpGuard platform data. Using 2021 user event logs, customer records, and user metadata, we constructed an engagement scoring model based on the most common user actions and segment-specific usage patterns. This methodology enables UpGuard to identify which accounts are at risk, under-engaged, or positioned for expansion.

Data Collection and Processing

- 20 raw event files were merged into a unified dataset and filtered to 2021 activity.
- Events were then joined with user and customer data, resulting in 88 enriched customer records with full engagement and segment context.

Engagement Score Calculation

- Engagement Value = Event Weight × Segment Multiplier
- Event weights were assigned to the 5 most frequent events (1.0 to 0.2)
- Segment multipliers were assigned as follows:
    - SMB = 1x, SME = 2x, GOV = 2x, Mid-Market = 5x, Enterprise = 8x

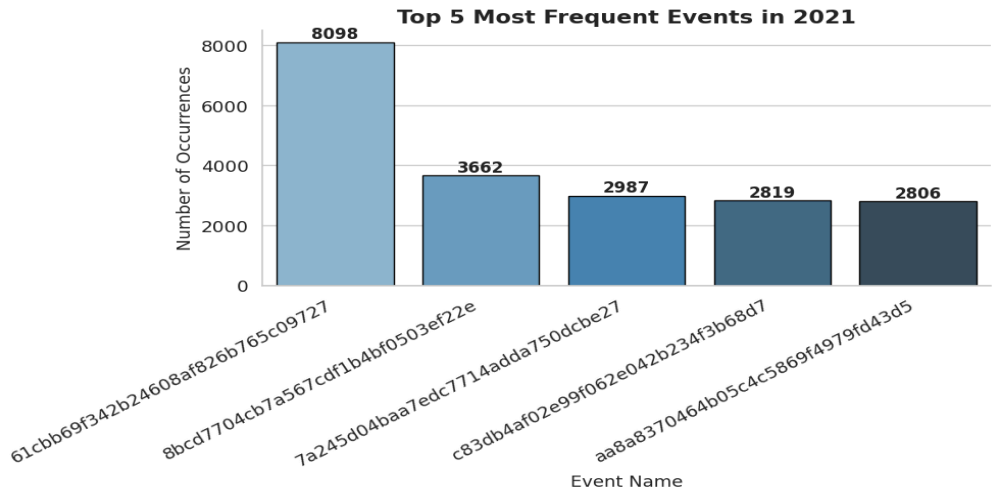
Example Metrics Computed

- Metric 1: Customer Count by Segment and Churn Status
- Metric 2: Average Engagement Score by Segment and Churn

Dataset Structure and Shape

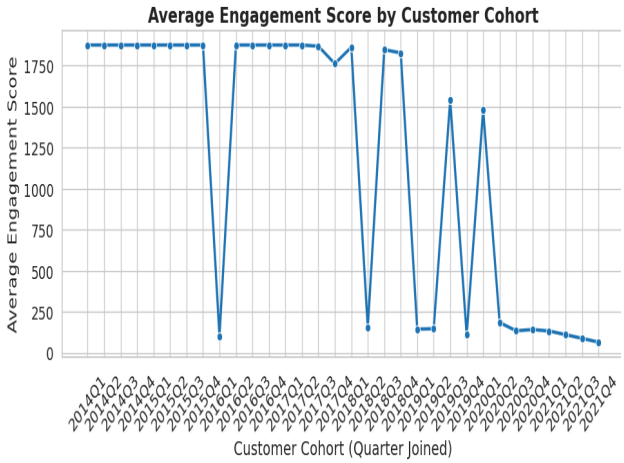
DataFrame	Shape	Columns	Description
events_df	~3.2 million rows	event_id, user_id, account_id, name, date	Raw event logs capturing platform usage across all users and accounts
users_df	~31,000 rows	user_id, account_id, email, is_active	User reference table with metadata used to link events to accounts
customers_df	~1,300 rows	account_id, segment, customer_from, customer_to	Account-level master table with business segment and churn/activation windows

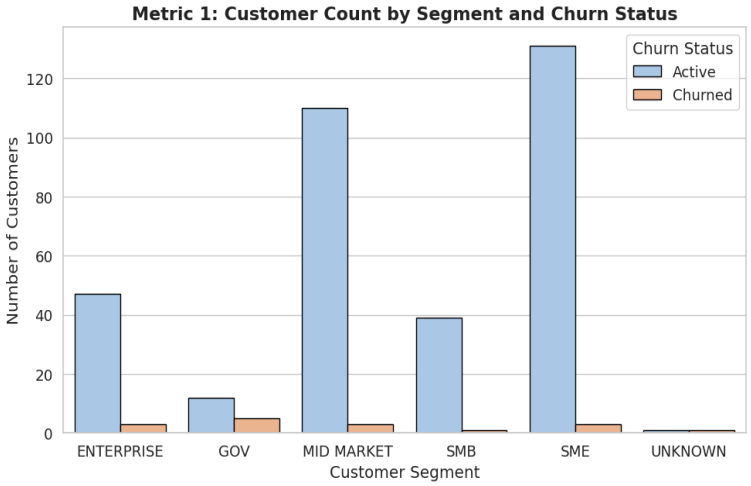
Following data integration across events, user, and customer records, 88 accounts were scored. These scores were used to generate retention, engagement, and expansion insights for executive review. Top 5 Events by Frequency – These are the behavioral foundation of engagement scoring.



1. Metric 1: Customer Volume by Segment & Churn

Accounts are classified as Active or Churned based on the `customer_to` date: any account active past Nov 1, 2021 is considered Active. The following chart shows the distribution of customer volume across business segments and churn status.





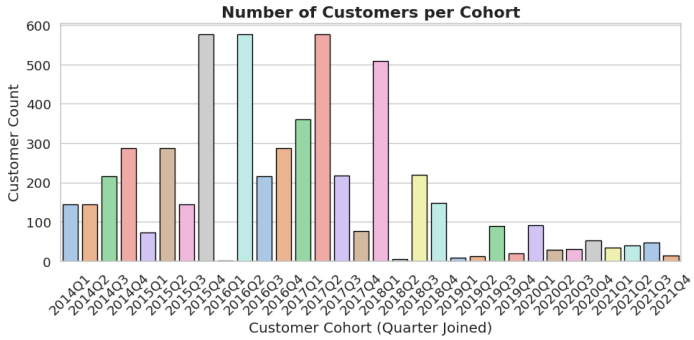
Insights:

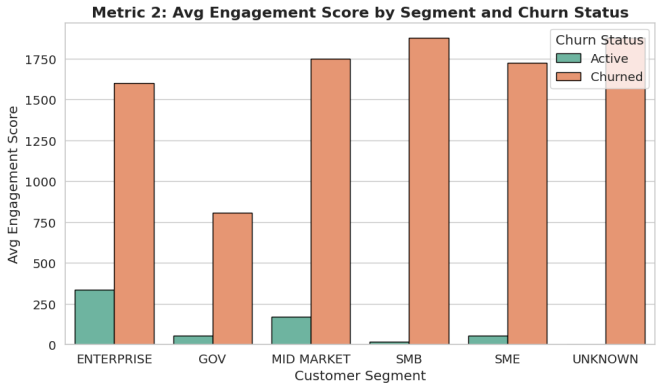
- **SME and Mid Market** dominate the active customer base.
- **Churn is highest** in **SMB**, **GOV**, and **Enterprise**.
- **Enterprise churn** is notable despite fewer accounts, signaling risk among high-value clients.

Action: Focus retention on Enterprise, review churn drivers in SMB/GOV, and double down on Mid Market/SME growth.

2. Metric 2: Average Engagement Score by Segment

Average engagement scores by segment show meaningful differences in platform interaction intensity. This reflects both user behavior and inherent business value of each segment. Enterprise and Mid Market segments consistently outperform others.





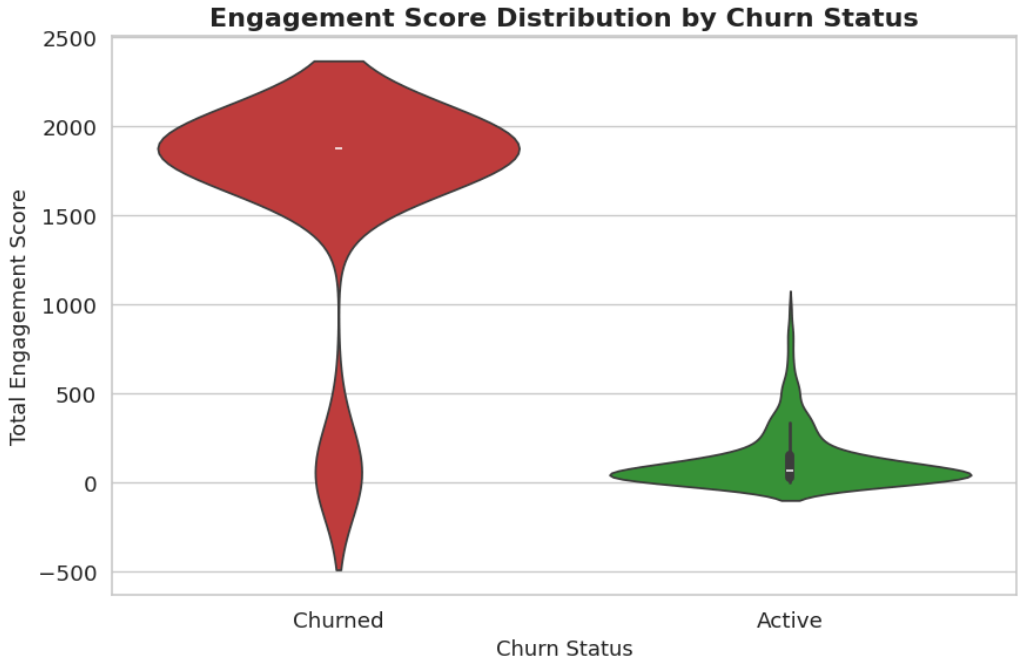
Insights:

- **Churned customers** show **much higher engagement scores** than active ones across all segments.
- Indicates **disengagement despite high usage** — possibly due to unmet expectations.
- **Active users** show low engagement, especially in **SMB, GOV, and Enterprise**.

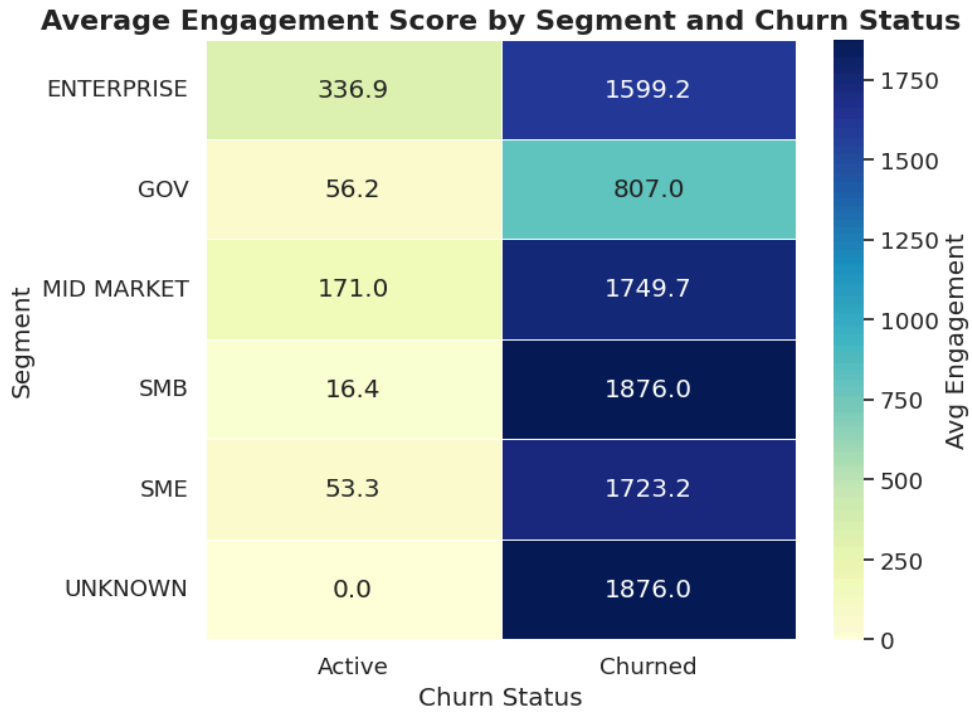
Action: Investigate why high-engagement users are leaving, and re-engage active accounts with low interaction.

3. Adoption Risk: Champion Dependency & Diversity

Customer-level Gini coefficients and engagement diversity scores are used to measure how evenly adoption is spread across users. Accounts with high scores but low user distribution are considered structurally fragile and prone to churn if key users disengage.



Gini vs Engagement – High-value, high-Gini accounts are risk-prone and single-threaded.



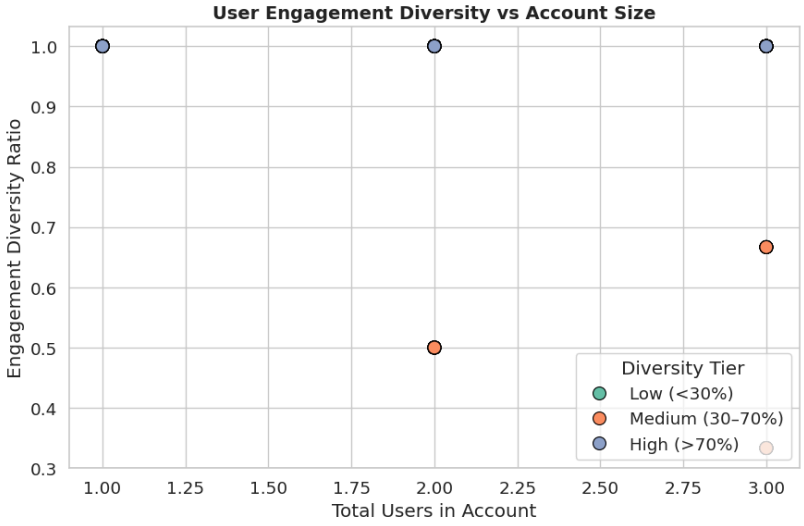
Insights:

- 20% of high-value accounts are driven by **1–2 users** (high Gini), making them fragile.
- **Low user diversity (<30%)** is common in over 30% of accounts..
- These accounts should be tagged as high risk and included in expansion campaigns or education tracks.

Action: Drive multi-user adoption via training and nudges; monitor Gini and diversity in health scores.

4. Account Activation & Recency Trends

Recency and onboarding cohorts are key indicators of customer lifecycle health. Inactivity beyond 30 days signals disengagement. Cohort-level average engagement helps reveal when onboarding and product experience were most effective.

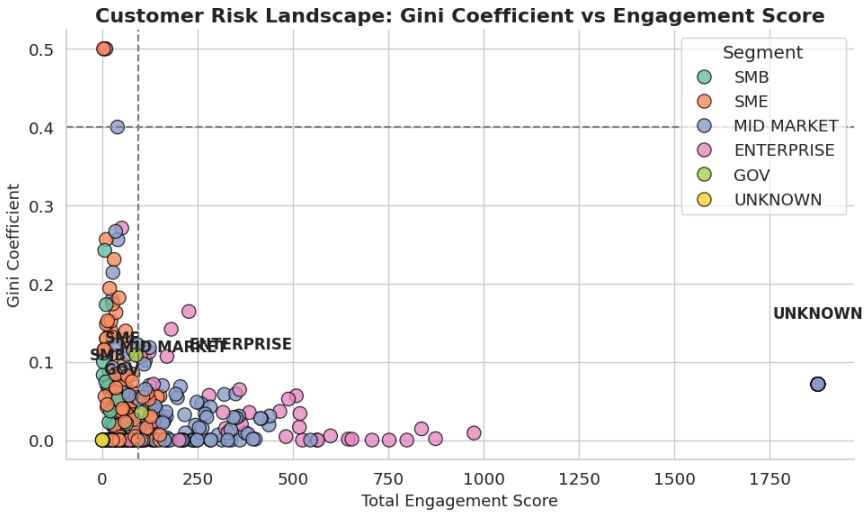


Insights:

- Many large accounts show **low engagement diversity**, indicating limited platform adoption across users.
- High diversity is rare even in mid-sized accounts, signaling **champion-heavy usage**.
- A long tail of accounts show no activity in the past 30+ days, indicating early signs of churn.

Action: Target low-diversity, high-user accounts with multi-user activation and team onboarding campaigns. Automatically trigger alerts and reactivation campaigns for accounts inactive >30 days.

Days Since Last Event – Many accounts fall into the >30-day dormant window.



Insights:

- Several high-engagement accounts have **Gini > 0.4**, indicating dependency on one or two users.
- These accounts are **valuable but fragile**, as disengagement of key users could trigger churn.
- Early cohorts (2020 Q4 and 2021 Q1) had higher engagement scores, indicating effective onboarding during those periods.

Action: Flag high-Gini accounts for CSM attention and promote broader usage through team-wide adoption initiatives. Replicate onboarding and activation strategies from these cohorts across newer customer groups.

5. Strategic Recommendations

Retention Strategy

- Focus on accounts with high engagement but low user diversity.
- Watch for “champion” risk: 1–2 users driving all activity.
- Encourage broader team adoption via incentives and onboarding.
- Adjust CSM involvement based on segment type.

Churn Risk Alerts

- Flag accounts inactive for 30+ days.
- Monitor low-scoring accounts in churn-prone cohorts (e.g. SMB Q2–Q3).
- Combine recency, Gini, and diversity for churn detection.
- Send targeted reactivation messages.

Health Scoring & Dashboards

- Build a real-time health index using:
  - Engagement score
  - Diversity score
  - Gini coefficient
  - Last activity date
- Segment scores by cohort or behavior cluster.

Future Recommendations

- Link event weights to actual revenue impact.
- Group customers by lifecycle stage for better targeting.
- Use event patterns to trigger “next best actions.”
- Recalibrate scores quarterly as usage changes.
- Feed insights into your CDP for real-time marketing.

Strategic Impact

- Improves churn prediction
- Supports customer expansion
- Enables smarter CSM workflows
- Helps monitor segments at scale