OptiMax Insurance

BigQuery Agent

Churn Model Performance:

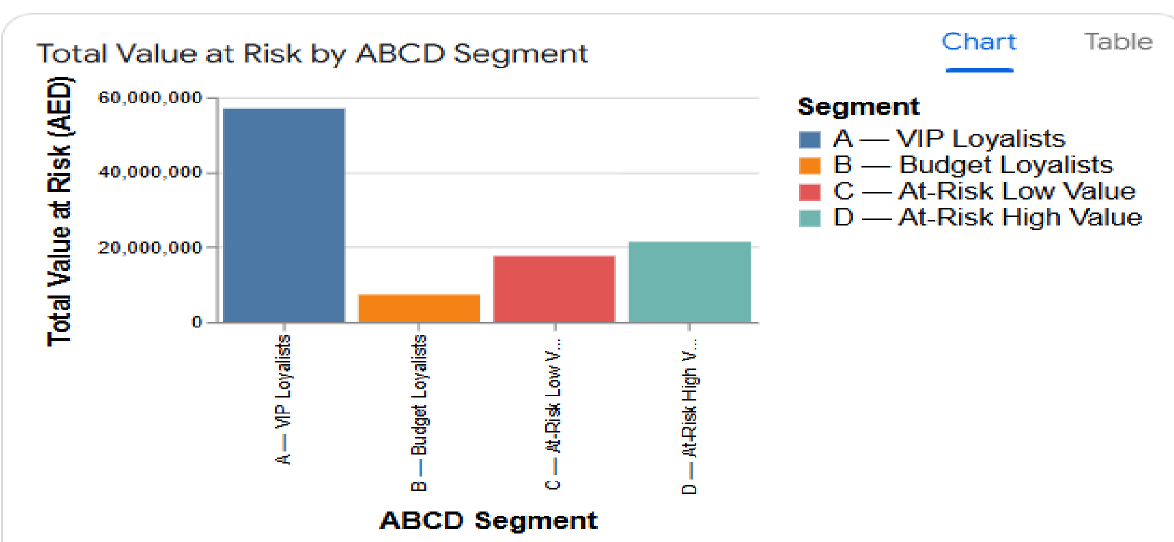
1.How many customers are in each ABCD churn segment and what is the total value at risk per segment?

The following data and chart provide a breakdown of the customer count and total financial value at risk for each ABCD churn segment.

Here's the query result for Churn Segments Analysis.

	abcd_segment	customer_count	total_value_at_risk
1	A — VIP Loyalists	3,811	56,966,164
2	B — Budget Loyalists	1,189	7,200,534
3	C — At-Risk Low Value	3,811	17,624,487
4	D — At-Risk High Value	1,189	21,366,027

The chart below visualizes the total value at risk across these segments, highlighting where the most significant financial impact lies.



Insights:

- Segment A — VIP Loyalists contains the highest concentration of value, with 3,811 customers representing over 56.9 million AED in value at risk. This segment is critical for retention efforts.
- Segment C — At-Risk Low Value has an identical customer count to Segment A (3,811) but a significantly lower value at risk (17.6 million AED), indicating these customers have lower average premiums or lower CLTV.
- Segment D — At-Risk High Value poses a substantial risk with 21.3 million AED tied to only 1,189 customers. This segment represents high-value individuals who are currently categorized as being at risk.
- Segment B — Budget Loyalists represents the lowest financial risk at approximately 7.2 million AED.

2.What is the average churn probability and average CLTV for Segment D customers?

The following data represents the average churn probability and Customer Lifetime Value (CLTV) for customers within Segment D At-Risk High Value.

I calculated these metrics by averaging the churn probability and CLTV fields for all records where the segment is identified as "D At-Risk High Value".

Here's the query result for Segment D Metrics.

	avg_churn_probability	avg_cltv_value	avg_predicted_cltv
1	0.5296	34,019.7223	12,680.4105

Insights:

- High Risk of Loss: Customers in Segment D have a 53% average churn probability. Given that this is a "High Value" segment, this high probability represents a significant potential financial impact on the portfolio.
- High Historical Value: The Average CLTV (Historical) is approximately 34,020 AED, which confirms the high-value status of these customers.
- Declining Future Value: Interestingly, the Average Predicted CLTV is significantly lower at 12,680 AED. This suggests that if these customers are retained but their behavior

follows predicted trends (perhaps due to reduced premiums or lower renewal likelihood), their future value to the company may decrease compared to their historical average.

- Retention Priority: The combination of high churn risk and high historical value makes this segment a top priority for immediate proactive retention campaigns and high-touch engagement.

3.Which segment has the highest urgency score and how many are due for renewal in the next 30 days?

Based on the analysis of the ABCD segments, the segment with the highest urgency for retention defined by the highest average churn probability—is Segment C — At-Risk Low Value. The table below details the average urgency score and the volume of renewals approaching in the next 30 days for each segment.

Here's the query result for Urgency Renewal Analysis.

	abcd_segment	avg_urgency_score	renewals_due_30_days
1	C — At-Risk Low Value	0.57602	307
2	D — At-Risk High Value	0.52955	115
3	B — Budget Loyalists	0.43311	79
4	A — VIP Loyalists	0.41406	291

I have defined "urgency score" as the Average Churn Probability, as a higher probability of churn indicates a more urgent need for intervention. Renewals due in the next 30 days are calculated based on a days_to_renewal value between 0 and 30.

Insights:

- Highest Urgency: Segment C — At-Risk Low Value has the highest average churn probability at 57.6%. This segment also has the largest volume of immediate renewals, with 307 customers due for renewal in the next 30 days.

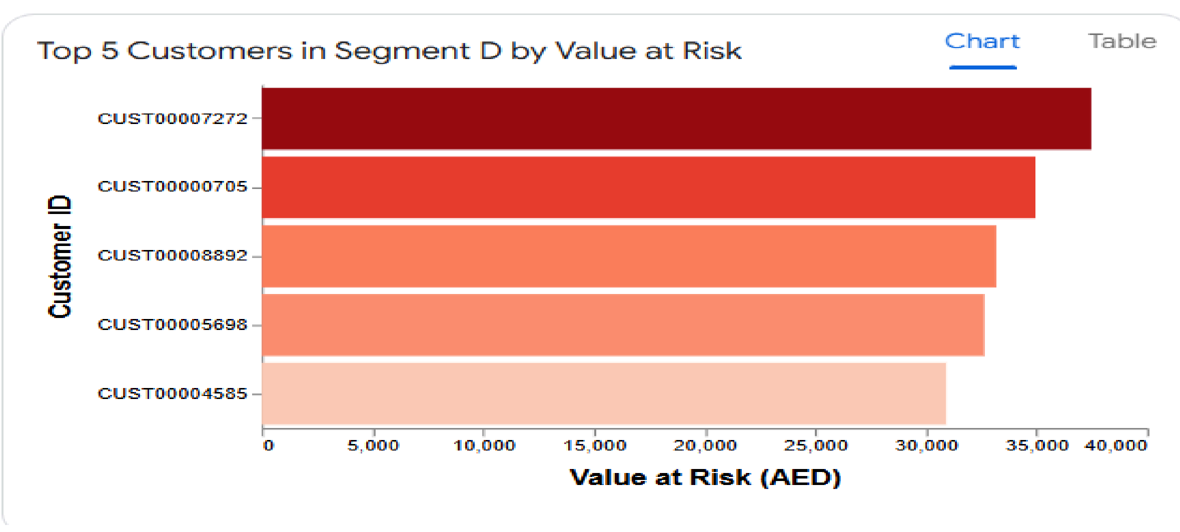
- High-Value Risk: Segment D — At-Risk High Value follows closely with an urgency score of 53.0%. While it has fewer immediate renewals (115), the high-value nature of these customers makes them a critical priority.
- Retention Opportunity: Segment A — VIP Loyalists has the lowest churn risk (41.4%) but a significant number of upcoming renewals (291). Maintaining high engagement here is key to preventing these loyalists from moving into at-risk categories.
- Volume vs. Risk: Segment C represents the most significant operational challenge due to both high risk and high volume of immediate renewal decisions.

4.Show me the top 5 Segment D customers ranked by value at risk with their policy details and days to renewal.

The following data and chart identify the top 5 customers within the D — At-Risk High Value segment, ranked by their financial value at risk. These policyholders represent high-priority targets for retention intervention.

Here's the query result for Top Segment D Risk Customers.

	customer_id	policy_number	insurance_product	value_at_risk_aed	days_to_renewal
1	CUST00007272	MTR91689115	MTR	37,479	-11
2	CUST00000705	MTR63338597	MTR	34,953	175
3	CUST00008892	MTR47093228	MTR	33,172	1
4	CUST00005698	MTR92005093	MTR	32,651	223
5	CUST00004585	MTR11589988	MTR	30,913	225



- **Insights:**
  - Immediate Crisis: Customer CUST00007272 has the highest value at risk (37,479.48 AED) and is already 11 days past their renewal date (days_to_renewal: -11). Immediate outreach is required to save this policy.
  - Imminent Renewal: Customer CUST00008892 represents 33,171.75 AED at risk and has only 1 day left until renewal. This is a critical "Save" opportunity.
  - Product Concentration: All top 5 at-risk customers in this list are specifically tied to Motor (MTR) insurance policies, suggesting that high-value motor premiums are a major driver of risk in this segment.
  - Medium-Term Risk: Customers CUST00005698 and CUST00004585 have high value at risk but more time before renewal (over 200 days), allowing for a more strategic nurturing or loyalty campaign.

5.How many Segment D customers have renewal within 14 days and what is their combined value at risk?

The analysis identifies customers in Segment D — At-Risk High Value who are due for renewal within a very short timeframe (0 to 14 days). These cases represent the most urgent retention priorities for high-value revenue protection.
Here's the query result for Immediate Segment D Risk.

Customer_count	combined_value_at_risk
55	996,142.0000

Insights:

- Immediate Financial Exposure: There are 55 high-value customers due for renewal in the next 14 days, with a combined financial exposure of 996,142 AED.
- High Per-Customer Impact: On average, each of these customers represents approximately 18,111 AED at risk. This reinforces that even a small number of losses in this group can have a significant impact on the bottom line.
- Critical Save Window: Because these renewals are occurring within two weeks, these customers should be moved to the front of the outreach queue for immediate, high-priority retention actions or personalized offers.

6.Break down the recommended retention actions and discount tiers across all four segments.

This breakdown summarizes the retention strategies, specialized offers, and discount tiers tailored for each of the four customer segment**.**

abcd_segment	**retention_action**	**offer_type**	**discount_pct**	**customer_count**
A — VIP Loyalists	VIP loyalty activation — maintain & grow	VIP programme enrolment + family health bundle 25% off	15	3,811
B — Budget Loyalists	Bundle offer — grow value	Motor + Home bundle 25% combined discount	20	1,189
C — At-Risk Low Value	Automated digital retention — low priority	Price lock — 2-year rate guarantee	10	3811
D — At-Risk High Value	URGENT — assign retention specialist within 48 hours	25% loyalty discount + service upgrade + deductible waiver	25	1189

Insights:

Tiered Discount Structure: The discount strategy is directly correlated with risk and value. Segment D (At-Risk High Value) receives the highest discount (25%) along with service upgrades to mitigate the significant churn risk, while Segment C (At-Risk Low Value) receives the lowest (10%).

Action Prioritization:

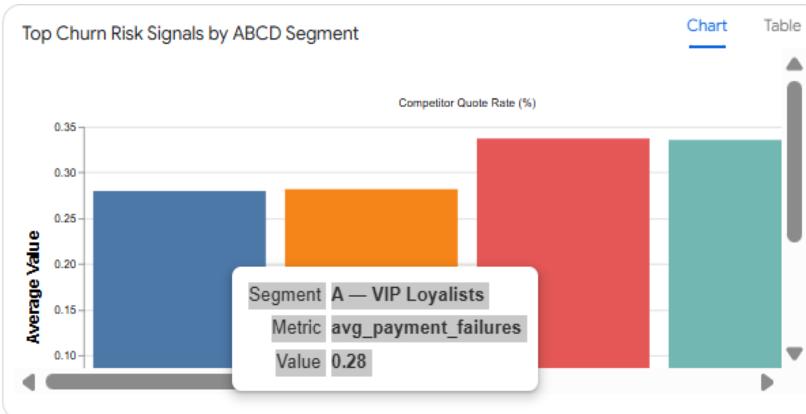
- Segment D is flagged for URGENT manual intervention by a retention specialist within 48 hours, reflecting its high financial impact.
- Segment C uses Automated digital retention, allowing for high-volume management without heavy manual resource allocation.
  - Growth Focus: For Segment B (Budget Loyalists), the strategy focuses on upselling/bundling (Motor + Home) to grow the lifetime value of currently stable customers.
  - Loyalty Maintenance: Segment A (VIP Loyalists) focuses on maintaining status through exclusivity (VIP programme enrolment) rather than aggressive price competition, using a moderate 15% discount.

7.What are the top churn risk signals across the portfolio show average premium change YoY, payment failures, and competitor quote rate by segment?

The analysis identifies three critical risk signals—Premium Hikes, Payment Failures, and Competitive Quoting—that differentiate our at-risk customers from our loyal base. High-value customers in Segment D are particularly sensitive to significant year-over-year premium increases, which correlates with higher rates of shopping for competitor quotes

Here's the query result for Churn Risk Signals By Segment.

	abcd_segment	avg_premium_change_yoy	avg_payment_failures	competitor_quote_e_
1	A — VIP Loyalists	1.655	0.279717	9.4726
2	B — Budget Loyalists	-3.424	0.281749	8.9992
3	C — At-Risk Low Value	7.330	0.337182	9.6825
4	D — At-Risk High Value	15.615	0.335576	11.7746



Insights:

- Price Sensitivity in High-Value Segments: Segment D (At-Risk High Value) has experienced a staggering average premium increase of 15.6% YoY. This appears to be a primary catalyst for their "at-risk" status, as it significantly exceeds the increases seen in loyal segments.
- Active Shopping Behavior: Reflecting the price pressure, Segment D also shows the highest competitor quote rate at 11.8%. These customers are actively looking for alternatives, making them a high flight risk if retention initiatives are not prioritized.
- Financial Friction: Both Segment C and Segment D show elevated payment failure counts (avg. 0.34) compared to loyal segments. Billing issues often serve as an early warning sign of potential churn across both value tiers.
- The Loyalty Buffer: Segment A (VIP Loyalists) has maintained a manageable average premium increase of just 1.7%. Keeping price changes stable for this group is likely a major factor in maintaining their low quoting activity and high retention.