

A photograph of a modern building's exterior. The left portion of the building features a blue-tinted glass facade with a grid of windows. The right portion has a white, textured wall with several dark rectangular recesses. The sky above is clear and light blue.

TELECOM COMPANY

SQL PROJECT – CUSTOMER CHURN ANALYSIS (TELECOM)



Problem Statement

**Why are customers leaving and
how can churn be reduced?**



Active vs Churned Customers

Objective :

Understand how many customers left vs stayed

```
SELECT  
    Churn,  
    COUNT(*) AS customer_count  
FROM telecom  
GROUP BY Churn;
```

This shows how many customers stayed
and how many left

- Churn = Yes → Customer left
- Churn = No → Customer is active

	Churn	customer_count
▶	No	8813
	Yes	3187

CHURN RATE
Percentage of
customers who left.

SELECT

```
COUNT(*) * 100.0 / (SELECT COUNT(*) FROM telecom) AS churn_rate  
FROM telecom  
WHERE Churn = 'Yes';
```



Result Grid

churn_rate
26.55833



```
SELECT Contract, COUNT(*)  
FROM telecom  
WHERE Churn = "Yes"  
GROUP BY Contract;
```

Result Grid | Filter Rows:

	Contract	COUNT(*)
▶	One year	1058
▶	Two year	1018
▶	Month-to-month	1111

CHURN BY TENURE

Check when customers leave (early or late).

```
SELECT
    CASE
        WHEN tenure <= 12 THEN '0-1 Year'
        WHEN tenure BETWEEN 13 AND 24 THEN '1-2 Years'
        WHEN tenure BETWEEN 25 AND 48 THEN '2-4 Years'
        ELSE '4+ Years'
    END AS tenure_group,
    COUNT(*) AS total_customers,
    SUM(CASE
        WHEN Churn = 'Yes' THEN 1
        ELSE 0
    END) AS churned_customers
FROM telecom
GROUP BY tenure_group
ORDER BY churned_customers DESC;
```

Result Grid | Filter Rows:

	tenure_group	total_customers	churned_customers
▶	4+ Years	3881	1038
	2-4 Years	3923	1025
	0-1 Year	2202	577
	1-2 Years	1994	547

CHURN BY INTERNET SERVICE

Identify risky services.



```
SELECT InternetService, COUNT(*)  
FROM telecom  
WHERE Churn = "Yes"  
GROUP BY InternetService;
```

Result Grid | Filter Rows:

	InternetService	COUNT(*)
▶	DSL	1076
	Fiber optic	1067
	No	1044

Churn by Payment Method

See which payment type loses customers.

SELECT

```
PaymentMethod,  
COUNT(*) AS churned_customers  
FROM telecom  
WHERE Churn = "Yes"  
GROUP BY PaymentMethod  
ORDER BY churned_customers DESC;
```

Result Grid



Filter Rows:

	PaymentMethod	churned_customers
▶	Credit card	844
	Mailed check	793
	Electronic check	787
	Bank transfer	763

Average Monthly Charges

Are expensive plans causing churn?



SELECT

```
Churn,  
ROUND(AVG(MonthlyCharges), 2) AS avg_monthly_charge  
FROM telecom  
GROUP BY Churn;
```

Result Grid | Filter Rows:

	Churn	avg_monthly_charge
▶	No	68.8
	Yes	68.69

JOIN query

Join customer data with risk level table.

Result Grid | Filter Rows:

	InternetService	risk_level	churned_customers
▶	DSL	Medium Risk	1076
	Fiber optic	High Risk	1067
	No	Low Risk	1044

```
CREATE TABLE service_risk (
    InternetService VARCHAR(50),
    risk_level VARCHAR(20)
);
INSERT INTO service_risk VALUES
('Fiber optic', 'High Risk'),
('DSL', 'Medium Risk'),
('No', 'Low Risk');
SELECT
    t.InternetService,
    r.risk_level,
    COUNT(*) AS churned_customers
FROM telecom t
JOIN service_risk r
ON t.InternetService = r.InternetService
WHERE t.Churn = 'Yes'
```



After doing analysis

The churn analysis identified high-risk customer segments based on contract type, tenure, service usage, and pricing. By implementing targeted retention strategies such as long-term contract incentives, early customer engagement, service quality improvements, and bundled support services, the organization can significantly reduce potential churn and improve customer retention.

Targeted Retention Strategies (Recommendations)

- Promote Long-Term Contracts
- Early-Stage Customer Engagement
- Improve Fiber Optic Service Experience
- Pricing Optimization
- Bundle Support Services