Summary of Queries and Results

SQL Portfolio Project

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Class: Data analytics (gray 1)

1.Total Records:

SQL code:

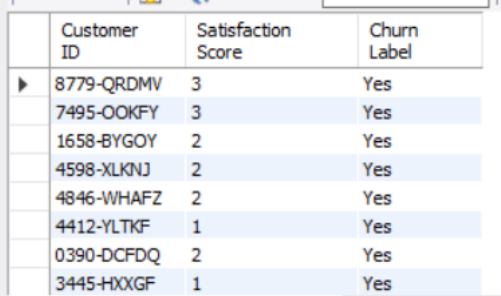SELECT COUNT (*) FROM `ibm telco customer churn dataset`;

Result: 7043 records in the dataset.

2.Sample Customer Data:

SQL code:

SELECT `Customer ID`, `Satisfaction Score`, `Churn Label` FROM `ibm telco customer churn dataset` LIMIT 0, 10;

This provides a snapshot of customer IDs, their satisfaction scores, and churn labels, indicating which customers have churned.

Customer ID	Satisfaction Score	Churn Label
8779-QRDMV	3	Yes
7495-OOKFY	3	Yes
1658-BYGOY	2	Yes
4598-XLKNJ	2	Yes
4846-WHAFZ	2	Yes
4412-YLTKF	1	Yes
0390-DCFDQ	2	Yes
3445-HXXGF	1	Yes

3.Detailed Sample Data:

SQL code:

SELECT * FROM `ibm telco customer churn dataset` LIMIT 0, 10;

Sample data shows various reasons for churn, such as offers from competitors, dissatisfaction with service, or pricing issues.

Customer ID	Count	Quarter	Satisfaction Score	Customer Status	Churn Label	Churn Value	Churn Score	CLTV	Churn Category	Churn Reason
8779-QRDMV	1	Q3	3	Churned	Yes	1	91	5433	Competitor	Competitor offered more data
7495-OOKFY	1	Q3	3	Churned	Yes	1	69	5302	Competitor	Competitor made better offer
1658-BYGOY	1	Q3	2	Churned	Yes	1	81	3179	Competitor	Competitor made better offer
4598-XLKNJ	1	Q3	2	Churned	Yes	1	88	5337	Dissatisfaction	Limited range of services
4846-WHAFZ	1	Q3	2	Churned	Yes	1	67	2793	Price	Extra data charges
4412-YLTKF	1	Q3	1	Churned	Yes	1	95	4638	Competitor	Competitor had better devices
0390-DCFDQ	1	Q3	2	Churned	Yes	1	76	3964	Other	Don't know
3445-HXXGF	1	Q3	1	Churned	Yes	1	91	5444	Dissatisfaction	Service dissatisfaction

4.Average Satisfaction Score by Customer Status:

SQL code:

SELECT `Customer Status`, AVG(`Satisfaction Score`) AS `AverageSatisfactionScore`

FROM `ibm telco customer churn dataset`

WHERE `Churn Label` = 'Yes'

GROUP BY `Customer Status`

ORDER BY `AverageSatisfactionScore` DESC

LIMIT 5;

Result: For churned customers, the average satisfaction score is approximately **1.7362** for the "Churned" status.

Insight: This suggests that churned customers had relatively low satisfaction levels, which is critical information for developing retention strategies.

5.Churn Reasons:

Sql code:

SELECT DISTINCT `Churn Reason` FROM `ibm telco customer churn dataset` WHERE `Churn Label` = 'Yes';

Result: Multiple reasons for churn were identified, including:

➢ Competitor offered more data
➢ Limited range of services
➢ Extra data charges
➢ Service dissatisfaction

Insight: Understanding these reasons can help the company address specific issues that lead to customer loss.

	Churn Reason
▶	Competitor offered more data
	Competitor made better offer
	Limited range of services
	Extra data charges
	Competitor had better devices
	Don't know
	Service dissatisfaction
	Lack of affordable download/upload speed
	Product dissatisfaction

6.Churn by Category:

SQL code

```
SELECT `Churn Category`, COUNT(*) AS `ChurnedCustomers`

FROM `ibm telco customer churn dataset`

WHERE `Churn Label` = 'Yes'

GROUP BY `Churn Category`;
```

Result:

➢ Competitor: 841
➢ Dissatisfaction: 303
➢ Price: 211
➢ Other: 200
➢ Attitude: 314

Insight: The largest category of churn is due to competitors, highlighting the need for competitive pricing and services.

Churn Category	ChurnedCustomers
▶ Competitor	841
Dissatisfaction	303
Price	211
Other	200
Attitude	314

7.customer satisfaction vary across different churn categories:

SELECT `Churn Category`, AVG(`Satisfaction Score`) AS `AvgSatisfactionScore`, COUNT(*) AS `TotalChurnedCustomers`

FROM `ibm telco customer churn dataset`

WHERE `Churn Label` = 'Yes'

GROUP BY `Churn Category`

ORDER BY `AvgSatisfactionScore` DESC;

Insight: Customers churning due to competitors are the least satisfied, while those churning due to attitude issues, despite relatively higher satisfaction, still contribute significantly to overall churn.

Churn Category	AvgSatisfactionScore	TotalChurnedCustomers
Attitude	2.0414	314
Other	2.0050	200
Price	1.8199	211
Dissatisfaction	1.7096	303
Competitor	1.5470	841

8. Common reasons for customer churn, and how many customers cited each reason for leaving:

SELECT `Churn Reason`, COUNT(*) AS `ChurnedCustomers`

FROM `ibm telco customer churn dataset`

WHERE `Churn Label` = 'Yes'

GROUP BY `Churn Reason`

ORDER BY `ChurnedCustomers` DESC;

Insight: Competitor-related reasons, such as better devices and offers, drive the highest churn, while issues like network reliability and pricing have a relatively lower impact.

Churn Reason	ChurnedCustomers
Competitor had better devices	313
Competitor made better offer	311
Attitude of support person	220
Don't know	130
Competitor offered more data	117
Competitor offered higher download speeds	100
Attitude of service provider	94
Price too high	78
Product dissatisfaction	77
Network reliability	72

Recommendations Based on Findings

1. **Improve Customer Satisfaction**: Since churned customers had low satisfaction scores, focus on improving customer service, addressing common complaints, and enhancing service offerings.

2. **Competitive Analysis**: Since a significant number of customers churned due to competitor offers, consider benchmarking against competitors to ensure your offerings are attractive.

3. **Targeted Marketing Campaigns**: Use the insights from churn reasons to tailor marketing campaigns aimed at retaining at-risk customers or winning back churned customers.

4. **Follow-Up Surveys**: Implement follow-up surveys for churned customers to gather more detailed insights into their reasons for leaving and how you might win them back.

5. **Focus on Retention Strategies**: Develop personalized retention strategies based on the specific needs and dissatisfaction areas identified in the churn analysis.

Conclusion

This analysis provides a valuable insight into customer behavior and churn dynamics within the telecommunications sector. By focusing on the reasons for churn and customer satisfaction levels, the telco company can implement strategies to improve retention and overall customer experience.