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-- BUSINESS QUERIES
/*OVERALL CHURN RATE*/
SELECT COUNT(*) AS TOTAL_CUSTOMER,
SUM(CASE WHEN CHURN = 'YES' THEN 1 ELSE 0 END) AS CHURNED_CUSTOMERS,
ROUND((SUM(CASE WHEN CHURN = 'YES' THEN 1 ELSE 0 END) *100.0 / COUNT(*)),1)AS CHURNED_PERCENTAGE
FROM telco_datasets;

-- CHURN BY CONTRACT TYPE
SELECT
    COUNT(*) AS total_customers,

    SUM(CASE WHEN Contract = 'Month-to-month' AND Churn = 'Yes' THEN 1 ELSE 0 END) AS monthly_churned,
    SUM(CASE WHEN Contract = 'One year' AND Churn = 'Yes' THEN 1 ELSE 0 END) AS oneyear_churned,
    SUM(CASE WHEN Contract = 'Two year' AND Churn = 'Yes' THEN 1 ELSE 0 END) AS twoyear_churned,

    ROUND((SUM(CASE WHEN Contract = 'Month-to-month' AND Churn = 'Yes' THEN 1 ELSE 0 END) * 100.0 /
        SUM(CASE WHEN Contract = 'Month-to-month' THEN 1 ELSE 0 END)), 2) AS monthly_churn_rate,

    ROUND((SUM(CASE WHEN Contract = 'One year' AND Churn = 'Yes' THEN 1 ELSE 0 END) * 100.0 /
        SUM(CASE WHEN Contract = 'One year' THEN 1 ELSE 0 END)), 2) AS oneyear_churn_rate,

-- revenue by churn status
select churn,
count(*) as customers,
round(sum(monthlycharges),2) as monthly_revenue,
round(sum(totalcharges),2) as total_revenue
from telco_datasets
group by churn;

-- revenue by contract typec [cant use total_revenue because of monthly subscribers]
SELECT
    Contract,
    ROUND(SUM(MonthlyCharges), 2) AS monthly_revenue,
    ROUND(SUM(CASE WHEN Churn = 'Yes' THEN MonthlyCharges END), 2) AS monthly_revenue_at_risk
FROM telco_datasets
GROUP BY Contract;

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114
115 -- REVEUE BY PAYMENT METHOD
116 • select
117     paymentmethod,
118     round(sum(totalcharges),2) as Total_revenue,
119     round(sum(case when churn = 'yes' then totalcharges else 0 end),2) as revenue_at_risk,
120     count(*) as total_customers,
121     sum(case when churn = 'yes' then 1 else 0 end) as churned_customers,
122     round((sum(case when churn = 'yes' then 1 else 0 end) * 100.0 / count(*)),2) as churn_rate_percent
123 from telco_datasets
124 group by PaymentMethod
125 order by churn_rate_percent desc;
126
127
128 • SELECT * FROM telco_datasets;
129
130 -- monthly recurring revenue -
131 • select
132     count(*) as total_customer_charged_monthly,
133     round(sum(MonthlyCharges),2) as total_monthly_revenue,
134     round((sum(case when churn = 'yes' then monthlycharges else 0 end)),2) as month_month_revenue_at_risk,
135     round((sum(case when churn = 'no' then monthlycharges else 0 end)),2) as month_month_revenue_not_at_risk
136 from telco_datasets;
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-- churned * 100/ total customer [FOR PERCENTAGES]

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/* CHURN RATE BY SPECIFIC SERVICE COMBINATIONS */

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1 SELECT
1     internetervice,
1     phoneservice,
1     multiplelines,
1     OnlineBackup, OnlineSecurity, DeviceProtection, TechSupport, StreamingMovies, StreamingMovies,
1     COUNT(customerID) AS total_customers,
1     ROUND((SUM(CASE WHEN churn = 'Yes' THEN 1 ELSE 0 END) * 100.0 / COUNT(customerID)), 2) AS Churned_percentage
1 FROM
1     telco_datasets
1 GROUP BY
1     phoneservice, multiplelines, internetervice, OnlineBackup, OnlineSecurity, DeviceProtection, TechSupport, StreamingMovies, StreamingMovies
1 ORDER BY
1     Churned_percentage DESC;
1
1 select* from telco_datasets;

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ROUND((SUM(CASE WHEN Contract = 'Two year' AND Churn = 'Yes' THEN 1 ELSE 0 END) * 100.0 /
      SUM(CASE WHEN Contract = 'Two year' THEN 1 ELSE 0 END)), 2) AS twoyear_churn_rate

FROM telco_datasets;

-- CHURN BY TENURE GROUPS
-- 0-5, 6-11, 12-23, 24-above[new,early,1year,loyal]
• SELECT
  COUNT(*) AS total_customers,

  SUM(CASE WHEN tenure < 6 AND Churn = 'Yes' THEN 1 ELSE 0 END) AS Below_6months_churned,

  SUM(CASE WHEN tenure >= 6 AND tenure < 12 AND Churn = 'Yes' THEN 1 ELSE 0 END) AS Between_6_12months_churned,

  SUM(CASE WHEN tenure >= 12 AND tenure < 24 AND Churn = 'Yes' THEN 1 ELSE 0 END) AS Between_12_24months_churned,

  SUM(CASE WHEN tenure >= 24 AND Churn = 'Yes' THEN 1 ELSE 0 END) AS Above_24months_churned,

  -- Churn rates per group
  ROUND((SUM(CASE WHEN tenure < 6 AND Churn = 'Yes' THEN 1 ELSE 0 END) * 100.0 /
        SUM(CASE WHEN tenure < 6 THEN 1 ELSE 0 END)), 2) AS Below_6months_churn_rate,

  ROUND((SUM(CASE WHEN tenure >= 6 AND tenure < 12 AND Churn = 'Yes' THEN 1 ELSE 0 END) * 100.0 /
        SUM(CASE WHEN tenure >= 6 AND tenure < 12 THEN 1 ELSE 0 END)), 2) AS Between_6_12months_churn_rate,

  ROUND((SUM(CASE WHEN tenure >= 12 AND tenure < 24 AND Churn = 'Yes' THEN 1 ELSE 0 END) * 100.0 /
        SUM(CASE WHEN tenure >= 12 AND tenure < 24 THEN 1 ELSE 0 END)), 2) AS Between_12_24months_churn_rate,

  ROUND((SUM(CASE WHEN tenure >= 24 AND Churn = 'Yes' THEN 1 ELSE 0 END) * 100.0 /
        SUM(CASE WHEN tenure >= 24 THEN 1 ELSE 0 END)), 2) AS Above_24months_churn_rate

FROM telco_datasets;

-- REVENUE ANALYSIS [5 stages]
-- total revenue vs lost revenue
SELECT
  round(sum(totalcharges),2) as total_revenue,
  round(sum(case when churn = 'yes' then TotalCharges else 0 end),2) as churned_revenue
from telco_datasets;

-- revenue by churn status
select churn,
count(*) as customers,
round(sum(monthlycharges),2) as monthly_revenue,
round(sum(totalcharges),2) as total_revenue
from telco_datasets;

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23
24 * UPDATE telco_datasets
25 SET
26     multiplelines= 'No'
27 where multiplelines = 'No phone service';
28
29 -- RENAMED COLUMN CAUSED BY BOM
30 * ALTER TABLE telco_datasets -- renamed BOM caused by utf-8 csv import, would use notepad+++ OR GOOGLE SHEET to change it to normal csv to avoid BOM
31 RENAME COLUMN 'i\customerID' TO 'customerID';
32
33 * SELECT * FROM telco_datasets;
34 * SET SQL_SAFE_UPDATES = 1; -- TO TURN ON PREVENTATIVE UNINTENDED DATA UPDATE
35

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1 SELECT * FROM telco_datasets;

-- DATA CLEANING
1 SELECT TRIM(gender), TRIM(MultipleLines), TRIM(InternetService), TRIM(OnlineSecurity), TRIM(OnlineBackup), TRIM(DeviceProtection),
    TRIM(TechSupport), TRIM(StreamingTV), TRIM(StreamingMovies), TRIM(Contract), TRIM(PaymentMethod)
FROM telco_datasets;

1 SET SQL_SAFE_UPDATES = 0; -- TO TURN OFF PREVENTATIVE UNINTENDED DATA UPDATE

-- UPDATED COLUMN VALUES
1 UPDATE telco_datasets
SET
    phoneservice= 'No',
    multiplelines = 'No',
    OnlineSecurity = 'No',
    OnlineBackup = 'No',
    DeviceProtection = 'No',
    TechSupport = 'No',
    StreamingTV = 'No',
    StreamingMovies = 'No'
WHERE OnlineSecurity = 'No internet service';

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