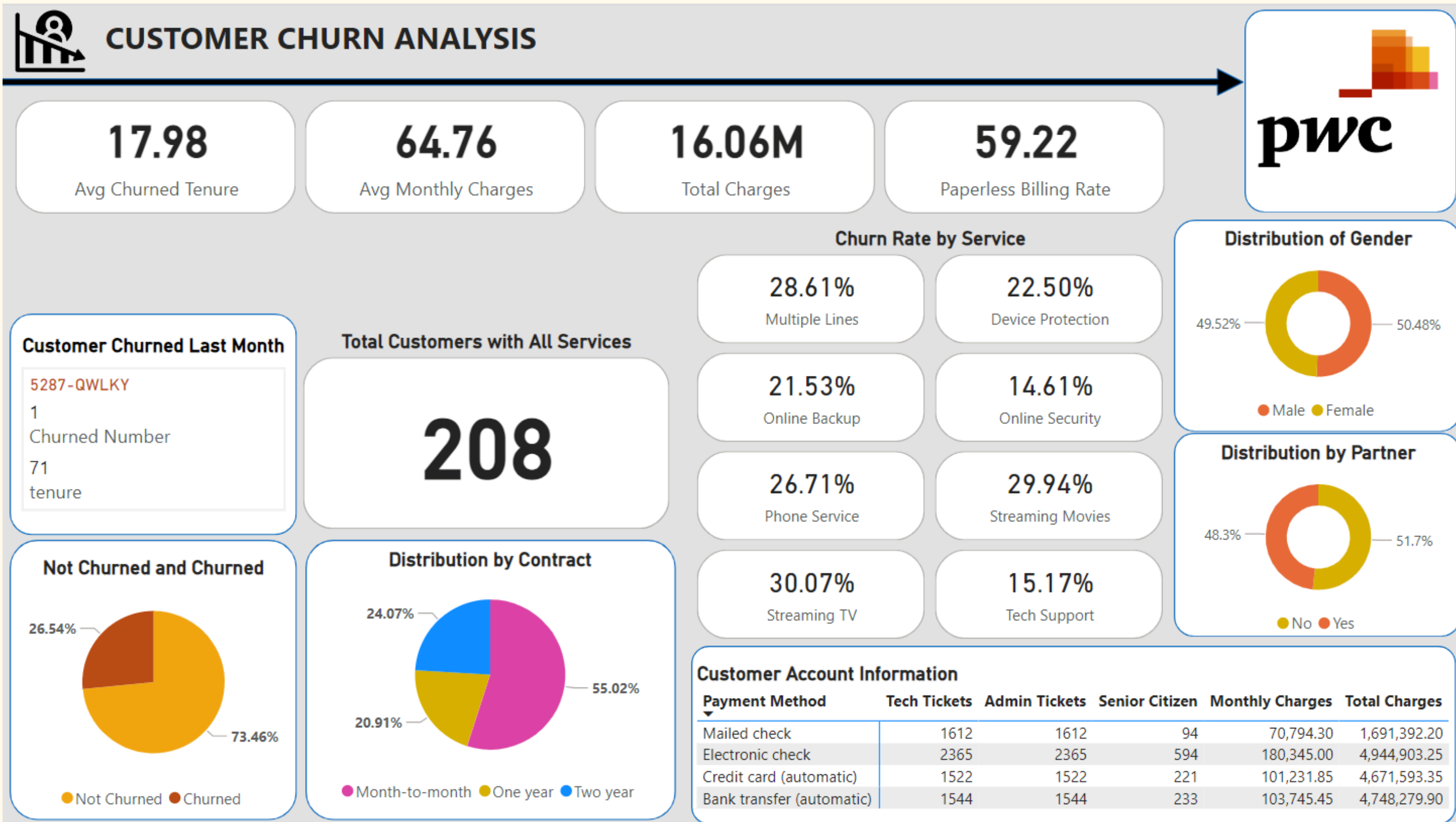




# CUSTOMER CHURN ANALYSIS

Presented by: Bidhan Pant







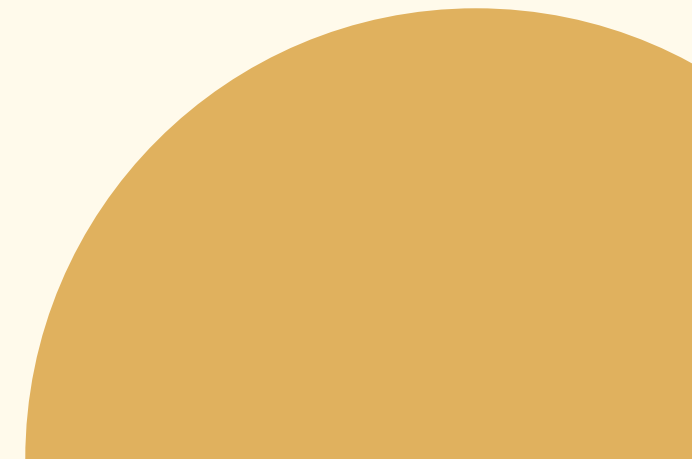
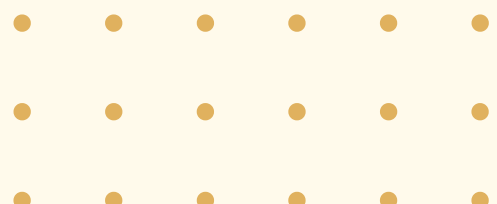
## Task Overview

### What you'll learn

- How to define key performance indicators (KPIs) related to customer retention.
- How to create a dashboard that visualizes customer demographics and insights.

### What you'll do

- Create a dashboard using the defined KPIs to reflect customer demographics and insights.
- Write a concise email to the engagement partner explaining your findings and providing suggestions for necessary changes based on the dashboard you've created.





## Background information on your task

A few weeks after presenting your dashboard to the management, the Retention Manager from the telecom reaches out to you directly. He was impressed by your work and asked if you can put together a dashboard about customer retention.

In addition, to better understand the data, the telecom Retention Manager has scheduled a meeting with the engagement partner at PwC to cover these points:

- Customers in the telecom industry are hard-earned: we don't want to lose them
- The retention department is here to get customers back in case of termination
- Currently, we get in touch after they have terminated the contract, but this is reactionary: it would be better to know in advance who is at risk
- We have done customer analysis with Excel: it has always ended in a dead-end
- We would like to know more about our customers: visualized clearly so that it's self-explanatory for our management

The Retentions Manager has provided some information in the resources.



# Mail from Retention Manager

## PhoneNow inputs

PhoneNow: Inputs for PowerBI request



Janet (PhoneNow)  
To ● You

Reply Reply All Forward ...

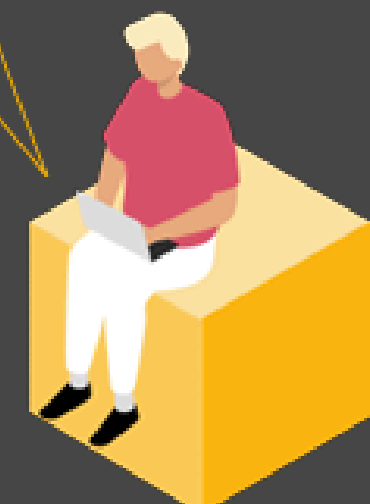
Hi Digital Accelerator,

I'm Janet, Retention Manager here at PhoneNow. Before you start working on our dashboard, let me provide you with some inputs

- Customers who left within the last month
- Services each customer has signed up for: phone, multiple lines, internet, online security, online backup, device protection, tech support, and streaming TV and movies
- Customer account information: how long as a customer, contract, payment method, paperless billing, monthly charges, total charges and number of tickets opened in the categories administrative and technical
- Demographic info about customers – gender, age range, and if they have partners and dependents

Looking forward to hearing from you.

Best regards,  
Janet



# Model View

In this model you can see I have three different table.

- First one is the main table where all the data about customers are present.
- Second table is calculation table where I have created all the measures
- Last table is created only to calculate the measures for service.

data	mesures	service_measure
Churn	Σ Column	Σ Column
ChurnedLastMonth	⌘ Avg Churned Tenure	⌘ ChurnedDeviceProtection
Contract	⌘ Avg Monthly Charges	⌘ ChurnedMultipleLines
customerID	⌘ Churn Rate	⌘ ChurnedOnlineBackup
Dependents	⌘ Churned	⌘ ChurnedOnlineSecurity
DeviceProtection	⌘ Churned Number	⌘ ChurnedPhoneService
gender	⌘ Not Churned	⌘ ChurnedStreamingMovies
InternetService	⌘ Paperless Billing Rate	⌘ ChurnedStreamingTV
Σ MonthlyCharges	⌘ Total Charges	⌘ ChurnedTechSupport
MultipleLines	⌘ TotalAllServices	⌘ DeviceProtection
Σ numAdminTickets		⌘ MultipleLines
Σ numTechTickets		⌘ OnlineBackup
OnlineBackup		⌘ OnlineSecurity
OnlineSecurity		⌘ PhoneService
PaperlessBilling		⌘ rataOnlineBackup
Partner		⌘ rateDeviceProtection
PaymentMethod		⌘ rateMultipleLines
PhoneService		⌘ rateOnlineSecurity
Σ SeniorCitizen		⌘ ratePhoneService
StreamingMovies		⌘ rateStreamingMovies
StreamingTV		⌘ rateStreamingTV
TechSupport		⌘ rateTechSupport
Σ tenure		⌘ StreamingMovies
Σ TotalCharges		⌘ StreamingTV
		⌘ TechSupport

# Customer Churn KPIs



## Total Churned Customers (Last Month)

This custom column displays the customers who left just before a month of their final tenure. Here the highest tenure is 72 months so we need to find the customers who left month ago i.e. in 71 months.

Here we only have one customer who left just before a month.

Churned Last Month

5287-QWLKY

1

Churned Number

71

tenure

Bank transfer (automatic)

42.3

1840.73

Custom Column

×

Add a column that is computed from the other columns.

New column name

ChurnedLastMonth

Custom column formula ⓘ

```
= if [Churn] = "Yes" and
[Contract] = "Month-to-month" and
[tenure] = 71 then
"Churned Last Month"
else
"Not Churned"
```

Available columns

customerID

gender

SeniorCitizen

Partner

Dependents

tenure

PhoneService

...

<< Insert

Learn about Power Query formulas

✓ No syntax errors have been detected.

OK

Cancel

Bank transfer (automatic)

55.3

1530.6

# Customer Churn KPIs



## Average Tenure of Churned Customers

The average length of time (tenure) customers stayed before leaving.

- **Formula:** Average of [Tenure] for churned customers

```
1 Average Churned Tenure = CALCULATE(AVERAGE(data[tenure]), data[Churn]="Yes")
```

Average Churned Tenure

17.98



# Customer Churn KPIs



## Total Churned and Not Churned ratio

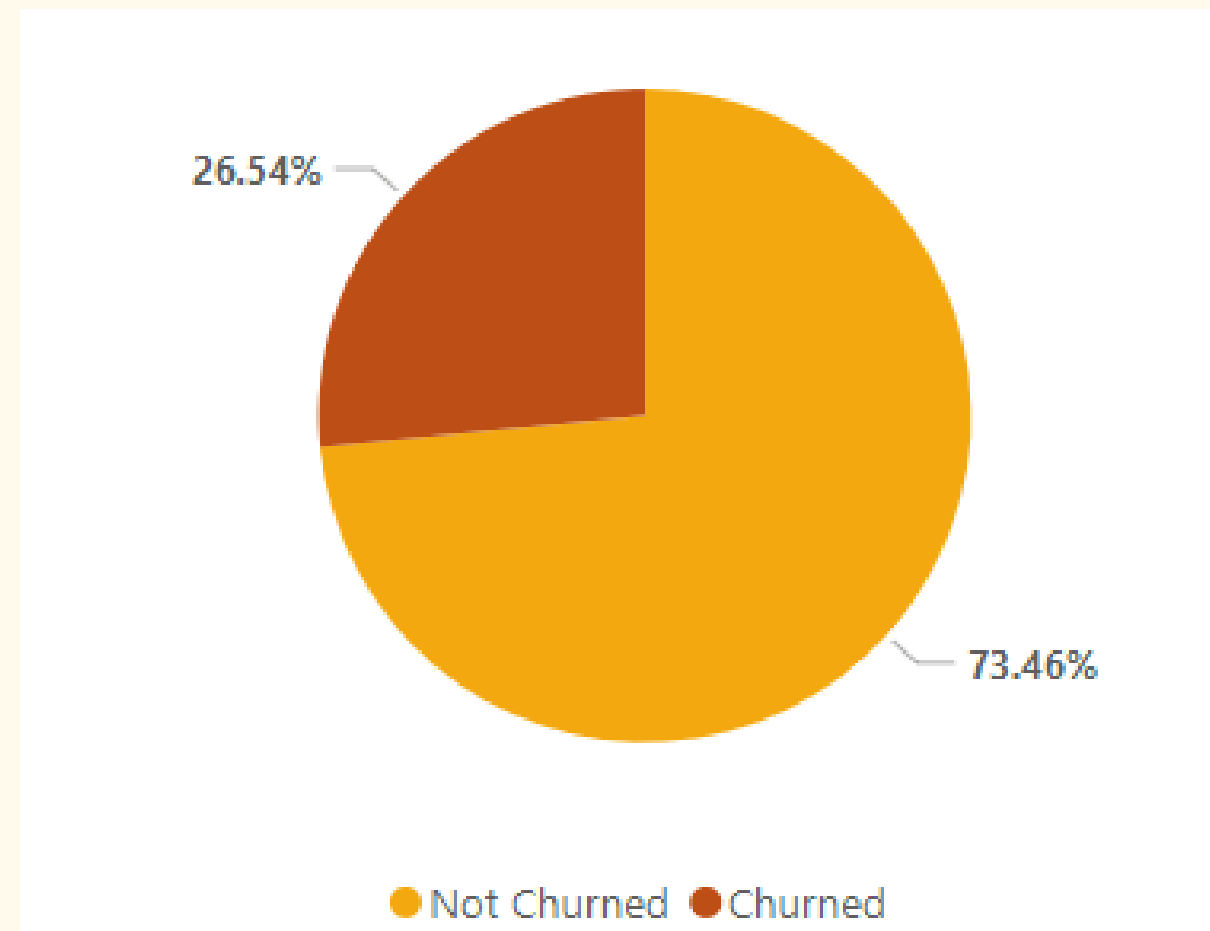
Measure:

- Churned

```
1 Churned = CALCULATE(COUNTROWS('data'), 'data'[Churn]="Yes")
```

- Not Churned

```
1 Not Churned = CALCULATE(COUNTROWS(data), data[Churn]="No")
```



# Service Subscription KPIs



## Churn Rate by Services

### Idea behind the analysis:

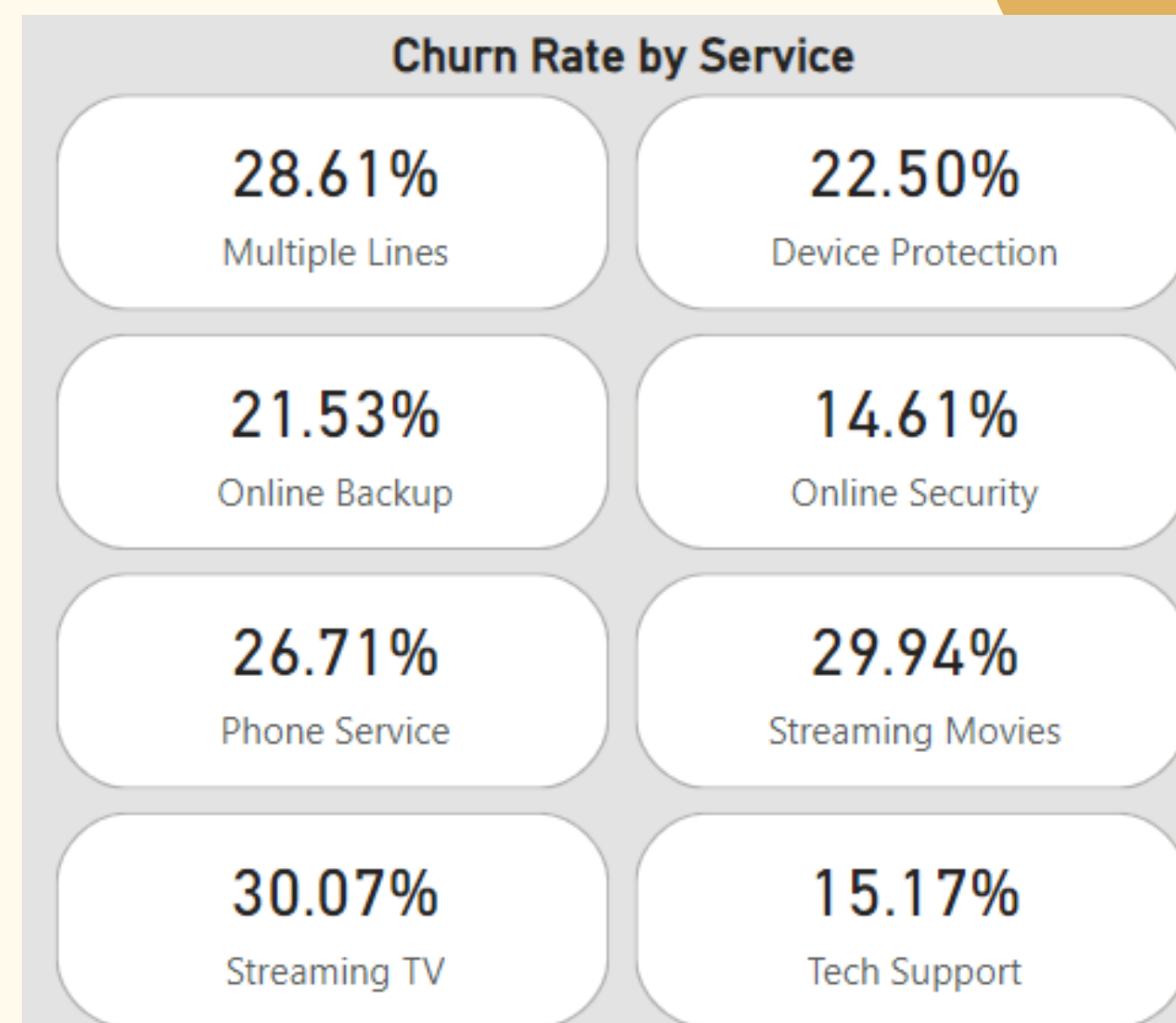
First let's find out the People who have taken phone service then we will find out people who have taken phone service but churned. To do this we can create a measure to find out this situation together. Measure is given below:

```
1 ChurnedPhoneService =
2 CALCULATE(
3     COUNTROWS('data'),
4     'data'[PhoneService] = "Yes",
5     'data'[Churn]="Yes"
6 )
7
```

After finding that I didn't stop there I wanted to find the rate of churned people who has take phone service so then I calculated the churn rate of people taken phone services. The measure is given below:

```
1 ratePhoneService = DIVIDE(
2     [ChurnedPhoneService],
3     [PhoneService],
4     0
5 )
```

Likewise, I have calculate the churn rate for every services and the results are as follows:



# Distribution by Contract



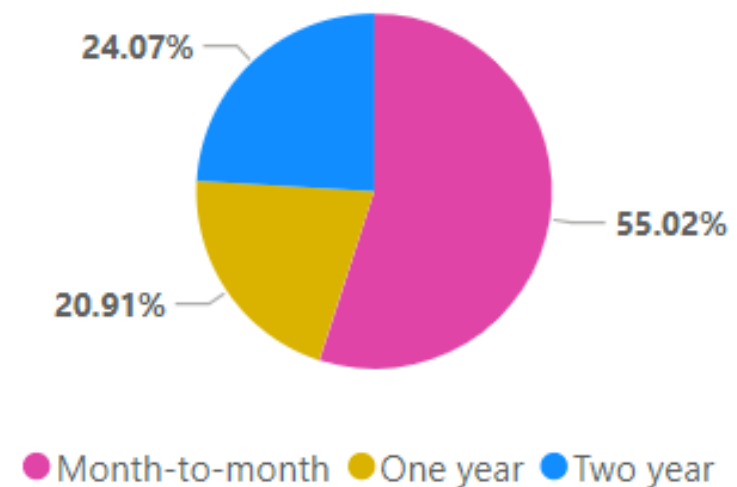
## Customers and their Contract

First picture shows how many customers have taken all the services. And second picture shows the distribution of the customers based on their contract type. As we can see from the picture 208 customers have taken all the services and we have highest number of month-to-month contracted customers.

### Total Customers with All Services

208

### Distribution by Contract



# Output



## Findings

Based on my findings, here are some key insights:

### **Churn Rate by Services:**

- Services like Streaming TV (30.07%) and Multiple Lines (28.61%) show the highest churn rates, indicating that customers who sign up for multiple services or entertainment packages are more likely to leave.
- Online Security (14.61%) has a relatively low churn rate, which suggests that this service retains customers better.

### **Total Customers with All Services:**

- A total of 208 customers have signed up for all available services, but we should analyze further if bundling services is effective in retaining customers.

### **Customer Tenure and Churn:**

- The Average Churned Tenure is 17.98 months, meaning that customers who have stayed for nearly 1.5 years tend to churn. This could be a good point to introduce loyalty programs.

### **Distribution Insights:**

- Gender and Partner distribution seem balanced, but it's important to consider how these demographics influence churn, especially since the churn among non-partnered customers seems slightly higher.



## Recommendations

- **Focus on High-Churn Services:** Services like Streaming TV and Multiple Lines should be evaluated for improvement in value or pricing to prevent further churn.
- **Loyalty and Retention Programs:** Introducing a loyalty program around the 12–18 month tenure mark could help retain long-term customers.
- **In-depth Customer Feedback:** It would be helpful to gather more customer feedback on why they churned after subscribing to multiple services, especially entertainment options.



THANK YOU