PWC Power BI Virtual Work Experience

by Vicky Tanamal

Projects

01

Call Centre Trends
Visualizing customer and agent behavior.

02

Customer Retention
Customer demographics and insights.

03

Diversity & Inclusion
Gender Balance in the executive suite.

1. Call Centre Trends

Problem Statement

In this project, we should Create a dashboard in Power BI for the call centre manager that reflects all relevant Key Performance Indicators (KPIs) and metrics in the dataset.

Possible KPIs include (but not limited to):
- Overall customer satisfaction (our target is 4.5)
- Overall calls answered/abandoned
- Calls by time
- Average speed of answer
- Agent's performance quadrant -> average handle time (talk duration) vs calls answered

Dataset: Call Centre Trends

Call Centre Trends

Created by Vicky Tanamal

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Avg Satisfaction Rating

3.40

Total Calls Received

5000

Avg Speed of Answer (s)

67.52

Call Answered

0.95K (18.92%)

4.05K (81.08%)

- Y
- N

Issue Resolved

1.35K (27.08%)

3.65K (72.92%)

- Y
- N
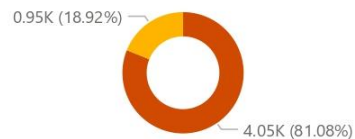
Number of Calls per Month

Answered N Y

Month	N	Y
January	317	1455
February	318	1298
March	311	1301
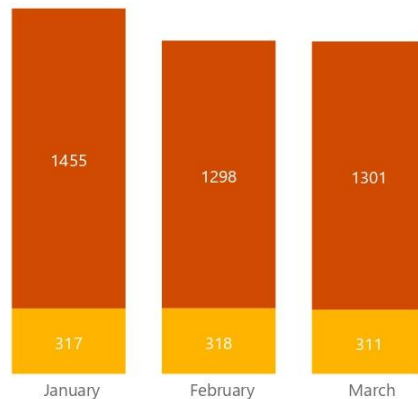
Topics

Streaming	Technical Support	Payment related	Admin Support	Contract related
1,022	1,019	1,007	976	976

Agent Performance

Agent	Answered Call	Resolved Call	Average of Talk Duration	Average of Satisfaction rating
Martha	514	461	59.44	3.47
Dan	523	471	62.91	3.45
Diane	501	452	59.47	3.41
Greg	502	455	58.47	3.40
Stewart	477	424	60.71	3.40
Jim	536	485	60.63	3.39
Becky	517	462	59.83	3.37
Joe	484	436	61.92	3.33

1. Call Centre Trends

Insights

As shown by the Dashboard, it can be deducted that:

- Average of Satisfaction Rating from customer is 3.4 while our target is 4.5.

- 81.08% Call answered and 72.92% Issue Resolved.

- The highest call answered is in January.

- The most topics that is talked is Streaming.

- The highest average of satisfaction by agent is Martha with 3.47 rating and Joe is the lowest with 3.3 rating.

- The shortest average of Talk Duration by agent is Greg with 58.47 seconds.

- Agent Jim has the most answered call (536) and resolved call (485).

2. Customer Retention

Problem Statement

In this project, we should Create a dashboard in Power BI for the Retention Manager because they need to know more about their customers and they want to know the customer who at risk to terminate the contract.

Possible KPIs include (but not limited to):
- Define proper KPI's.
- Demographic info about customers – gender, age range, and if they have partners and dependents.
- Customer account information: subscription time, contract type, payment method, paperless billing, monthly charges, and total charges.
- Services each customer has signed up for: phone, multiple lines, internet, online security, online backup, device protection, tech support, and streaming TV and movies.

Dataset: Customer Retention

Customer Retention

Created by Vicky Tanamal

Churn
All

$456.12K
Monthly Charges

$16.06M
Total Charges

73.46%
Retention Rate

7043
Total Customer

1869
Customer at Risk

Demographics

- Male
- Female

49.52% — 50.48%

16.21%
Senior Citizen

48.30%
Partner

29.96%
Dependents

Internet Service
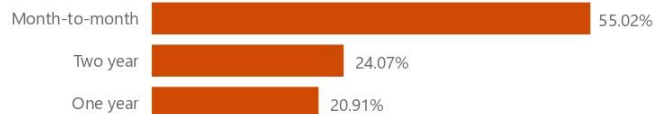
- Fiber optic
- DSL
- No

21.67%
43.96%
34.37%

Paperless Billing

- Yes
- No

40.78%
59.22%

Type of Contract

Month-to-month	55.02%
Two year	24.07%
One year	20.91%

Payment Method

Electronic check	33.58%
Mailed check	22.89%
Bank transfer (aut...	21.92%
Credit card (auto...	21.61%

Service Choosen by Customers

Phone Service	90.32%
Streaming TV	38.44%
Streaming Movies	38.79%
Online Back Up	34.49%
Device Protection	34.39%
Tech Support	29.02%
Online Security	28.67%

Subscription Time

< 1 Year	31.04%
< 6 Years	19.98%
< 2 Years	14.54%
< 3 Years	11.81%
< 5 Years	11.81%
< 4 Years	10.82%

Customer Retention

Created by Vicky Tanamal

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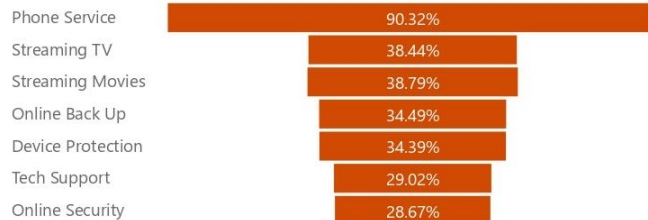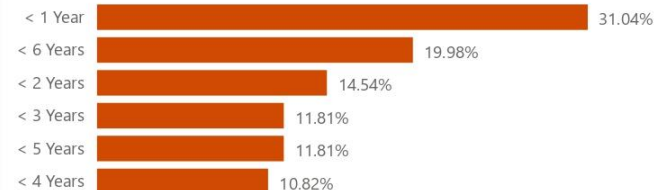
Churn
Yes

$139.13K
Monthly Charges

$2.86M
Total Charges

73.46%
Retention Rate

1869
Total Customer

1869
Customer at Risk

Demographics

● Female ● Male

49.76% — 50.24%

25.47%
Senior Citizen

35.79%
Partner

17.44%
Dependents

Internet Service

● Fiber optic ● DSL ● No

24.56%

69.4%

Paperless Billing

● Yes ● No

25.09%

74.91%

Type of Contract

Month-to-month	88.55%
One year	8.88%
Two year	2.57%

Payment Method

Electronic check	57.30%
Mailed check	16.48%
Bank transfer (aut...	13.80%
Credit card (auto...	12.41%

Service Choosen by Customers

Phone Service	90.32%
Streaming TV	38.44%
Streaming Movies	38.79%
Online Back Up	34.49%
Device Protection	34.39%
Tech Support	29.02%
Online Security	28.67%

Subscription Time

< 1 Year	55.48%
< 2 Years	15.73%
< 3 Years	9.63%
< 4 Years	7.76%
< 5 Years	6.42%
< 6 Years	4.98%
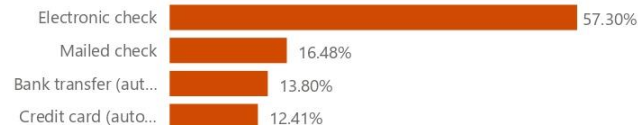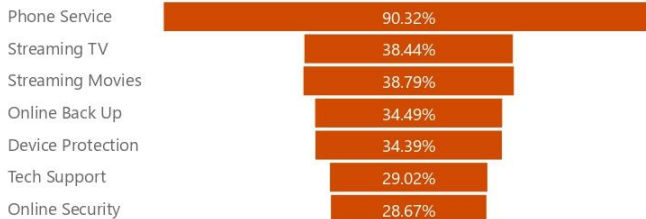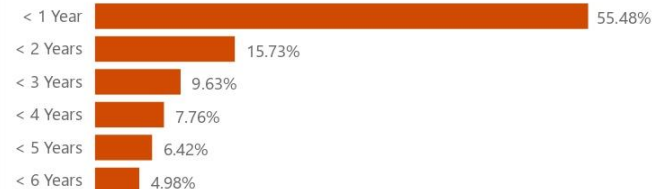
Customer Retention

Created by Vicky Tanamal

Churn

No

$316.99K
Monthly Charges

$13.19M
Total Charges

73.46%
Retention Rate

5174
Total Customer

1869
Customer at Risk

Demographics

● Male ● Female

49.27% — 50.73%

12.87%
Senior Citizen

52.82%
Partner

34.48%
Dependents

Internet Service

● DSL ● Fiber optic ● No
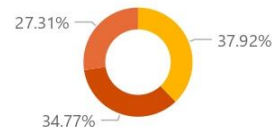
27.31% — 37.92%

34.77%

Paperless Billing

● Yes ● No

46.44% — 53.56%

Type of Contract

Month-to-month	42.91%
Two year	31.83%
One year	25.26%

Payment Method

Mailed check	25.20%
Electronic check	25.01%
Credit card (auto...	24.93%
Bank transfer (aut...	24.86%

Service Choosen by Customers

Phone Service	90.32%
Streaming TV	38.44%
Streaming Movies	38.79%
Online Back Up	34.49%
Device Protection	34.39%
Tech Support	29.02%
Online Security	28.67%

Subscription Time

|	
< 6 Years	25.40%
< 1 Year	22.21%
< 2 Years	14.11%
< 5 Years	13.76%
< 3 Years	12.60%
< 4 Years	11.93%
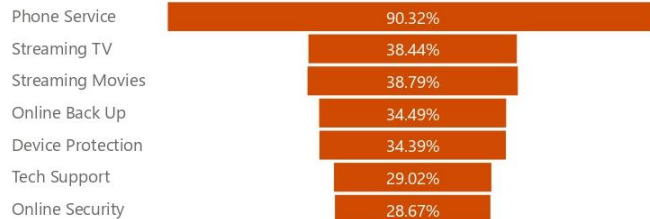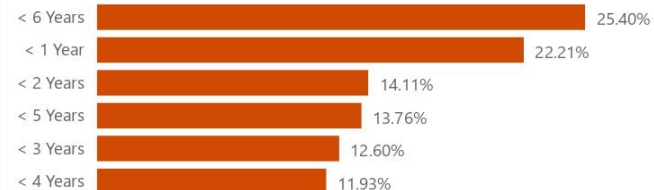
2. Customer Retention

Insights

As shown by the Dashboard, it can be deducted that:

- Churn rate is 23.54% which means there are 1869 customer at risk (Churn) from 7043 total customer.
- Most of churn customers choose Month-to-Month contract, using Fiber Optic for the internet service, subscription time less than 1 year and total lost from customer churn is $2.85 M.
- The longer the subscription time, the smaller the possibility of customer churn.
- Phone service is the most chosen service by customer while online security is the least.
- Gender is not the major factor of churning customer

3. Diversity & Inclusion

Problem Statement

Human Resources at our telecom client is highly into diversity and inclusion. They have been working hard to improve gender balance at the executive management level, but they're not seeing any progress.

Companies need a workforce of diverse talents and backgrounds to succeed in an increasingly complex and heterogeneous world. They're reaching out to us for help.

We have to:
• Define proper KPIs in hiring, promotion, performance and turnover
• Create a visualisation for the HR manager that reflects all relevant Key Performance indicators(KPIs) and metrics in the dataset.

Dataset: Diversity & Inclusion

# Diversity & Inclusion

Created by Vicky Tanamal

KPI 1 - Hiring

Gender ● Female ● Male

Level	Female	Male
1 - Executive	13%	88%
2 - Director	14%	86%
3 - Senior M...	18%	82%
4 - Manager	37%	63%
5 - Senior Of...	47%	53%
6 - Junior Off...	53%	47%

Employees by Gender

205 (41%)
295 (59%)
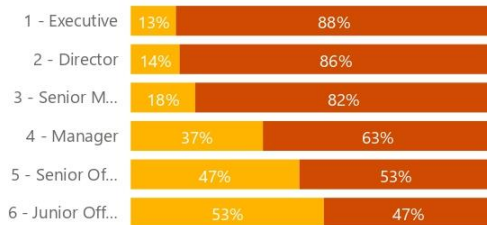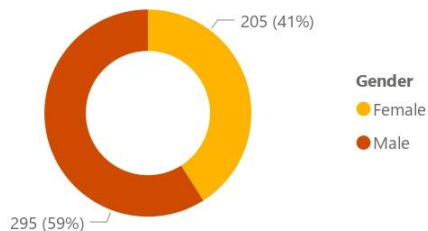
Gender
● Female
● Male

KPI 2 - Promotion (FY21)

Gender ● Female ● Male ● Female Promote

Female Promote line: 15.8%, 12.1%, 19.3%, 31.6%, 52.1%, 53.8%

Categories: 1 - Executive, 2 - Director, 3 - Senior M..., 4 - Manager, 5 - Senior O..., 6 - Junior O...
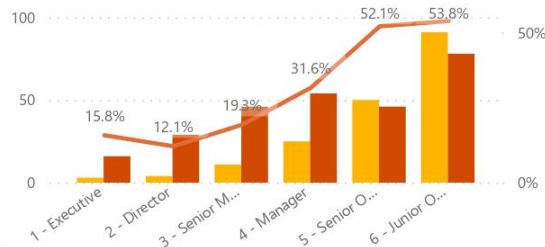
Avg. Time in Grade of Employee Promoted (in years)

Gender ● Female ● Male

Level	Female	Male
1 - Executive	3.00	1.86
2 - Director	3.40	3.09
3 - Senior M...	1.80	2.33
4 - Manager	2.37	
5 - Senior O...	2.29	2.68
6 - Junior Of...		2.13
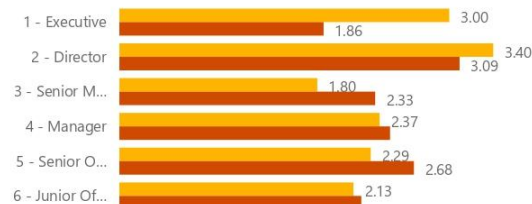
KPI 3 - Turnover Rate (FY20)

Avg. Performance Rating of Leavers vs non-Leavers (Male)

FY20 leaver? ● No ● Yes

8.81% % Turnover Male

Yes line: 3.00, 3.67, 3.25, 3.00, 2.77
No line: 2.44, 2.52, 2.43, 2.39, 2.41, 2.89

Categories: 1 - Executi..., 2 - Director, 3 - Senior ..., 4 - Manager, 5 - Senior ..., 6 - Junior ...

Avg. Performance Rating of Leavers vs non-Leavers (Female)

FY20 leaver? ● No ● Yes

10.24% % Turnover Female

Values: 2.00, 2.33, 3.00, 2.67, 2.65, 2.50, 2.75, 2.32, 3.00, 2.59

Categories: 1 - Executi..., 2 - Director, 3 - Senior ..., 4 - Manager, 5 - Senior ..., 6 - Junior ...
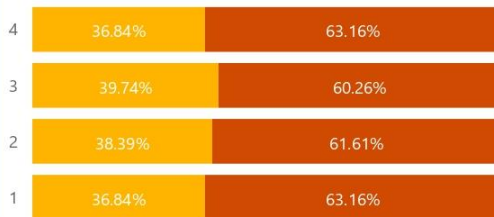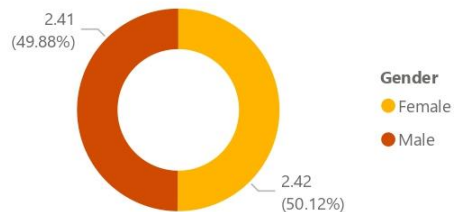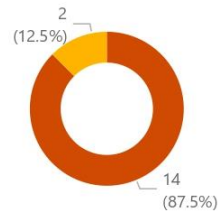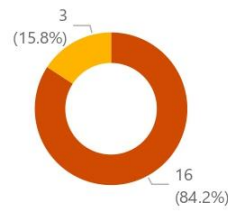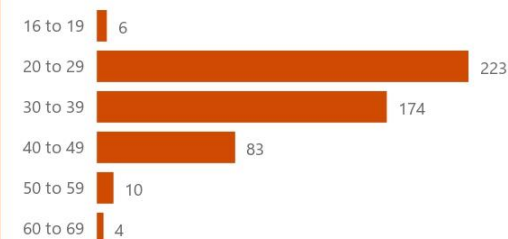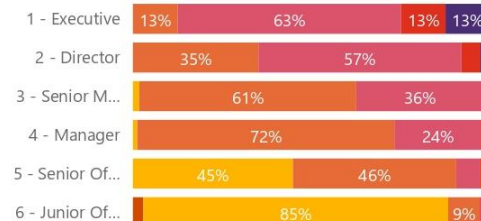
3. Diversity & Inclusion

Insights

As shown by the Dashboard, it can be deducted that:

- The composition of the company is 59% of Male and 41% of Female on the company.

- 53.8% of promoted were Female in the Junior Officer category, the highest for the year.

- Average performance rating of Female is 2.42 and 2.41 for Male.

- Turnover for male is 8.81% and the turnover employee has higher performance rating than non-turnover employee.

- Turnover for female is 10.24% and most of them has higher performance rating than non-turnover employee except in Manager position.

- On the Executive Position, Male is dominating. For the new hire and promotion and all of them are men.

- The most common age group is 20-29.

Thank you

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