



pwc

Name: Srikrishnan Shankar

Organisation: PWC Virtual Internship

Telecom Industry Analytics

- 1) Call Trend Analytics**
 - 2) Customer Churn & Retention
Analytics**
 - 3) HR Diversion & Inclusion Analytics**
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- 1) Introduction
 - 2) Abstract of The Project
 - 3) Tools and Programming Used
 - 4) Exploratory Data Analysis (Dashboard)
 - 5) End Credits
-

1) Introduction

- 1) This is a Virtual Internship Project from the Company PwC, in this project I will be helping the company to solve an important problem.
 - 2) Fiddling around in Excel sheets just doesn't suit a digital Jedi. The PwC's Digital Upskilling Academy helps people move from zero to digital hero. PwC is upskilling 284,000 people because the right digital skills make us agile, adaptable and fit for the future.
 - 3) We use powerful Data Analytics tools to help solve business problems for our clients. Learning to master Power BI is a good first step. By empowering you to identify patterns, risks and opportunities in data, you will work more efficiently. You will be able to clearly visualise the value of data and turn it into convincing, actionable insights.
-

2) Abstract of the Project

- 1) Create a Dashboard in Power Bi for Visualizing relevant KPI's and Metrics in the Datasets provided.
 - 2) Utilize the resources provided, including Podcasts and Articles, to enhance the understanding of Data Visualization and Upskilling.
 - 3) Respond to the client requests by providing a well-designed Power Bi Dashboard reflecting to the KPI's.
-

3) Tools and Software used

- 1) SQL – SQL Server Management Studio
 - 2) Data Visualization – Power Bi
-

4) Exploratory Data Analysis

- 1) Data analysis is the process of inspecting, cleansing, transforming, and modeling data with the goal of discovering useful information, informing conclusions, and supporting decision-making.
 - 2) Data analysis has multiple facets and approaches, encompassing diverse techniques under a variety of names, and is used in different business, science, and social science domains.
 - 3) In today's business world, data analysis plays a role in making decisions more scientific and helping businesses operate more effectively.
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Dashboard 1 : Call Trends

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Customer Call Trends

Topic
All

Agent
All

Time Hours
All

Total Calls Received

5,000

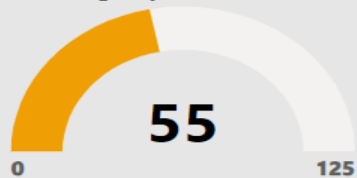
Total Calls Answered

4054

Total Resolved

3646

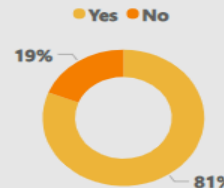
Average Speed of Answer



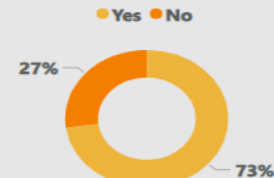
Average Satisfactory Rating



Calls Answered and Abandoned

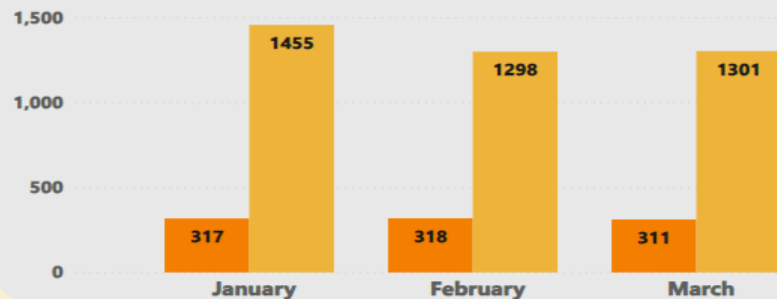


Calls Resolved and Unresolved



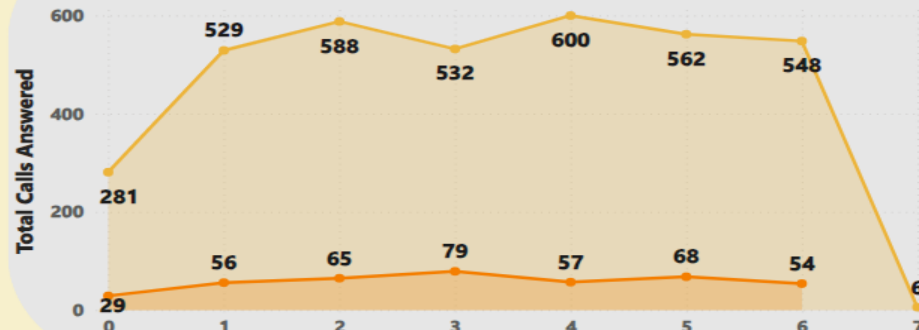
Total Calls Received by Month

Answered No Yes



Average Talk Duration by Calls Answered

Resolved No Yes



Dashboard 2 : Customer Churn & Retention



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Customer Churn Retention Dashboard

Demographic
Segment

Service
Segment 1

Service
Segment 2

Service
Segment 3

Account Type
Segment

Tenure

0-1 Year

1-2 Year

2-3 Year

3-4 Year

4-5 Year

5-6 Year

Within 1 Month

Churned

No

Yes

Total Customers

7043

Churn Rate (%)

27%

Total Admin Tickets

3632

Total Tech Tickets

2955

Avg Monthly Charges

64.8

Total Revenue

16.1M

Customers by Demographic Segment

Male Count
3555

Female Count
3488

Senior Citizen Count

1142

Partners Count

3402

Dependents Count

2110

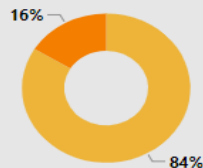
Customers by Gender

Male Female



Customers by Senior Citizen

No Yes



Customers by Partners

No Yes



Customers by Dependents

No Yes



Revenue by Demographic Segment

Male Revenue Rate
50%

Female Revenue Rate
50%

Senior Citizen
Revenue Rate

20%

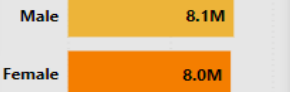
Partners Revenue
Rate

64%

Dependents Revenue
Rate

33%

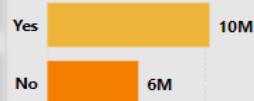
Revenue by Gender



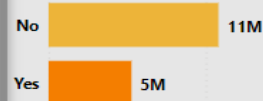
Revenue by Senior Citizen



Revenue by Partners



Revenue by Dependents



Dashboard 2 : Customer Churn & Retention



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Customer Churn Retention Dashboard

Demographic
Segment

Service
Segment 1

Service
Segment 2

Service
Segment 3

Account Type
Segment

Tenure

0-1 Year

1-2 Year

2-3 Year

3-4 Year

4-5 Year

5-6 Year

Within 1 Month

Churned

No

Yes

Total Customers

7043

Churn Rate (%)

27%

Total Admin Tickets

3632

Total Tech Tickets

2955

Avg Monthly Charges

64.8

Total Revenue

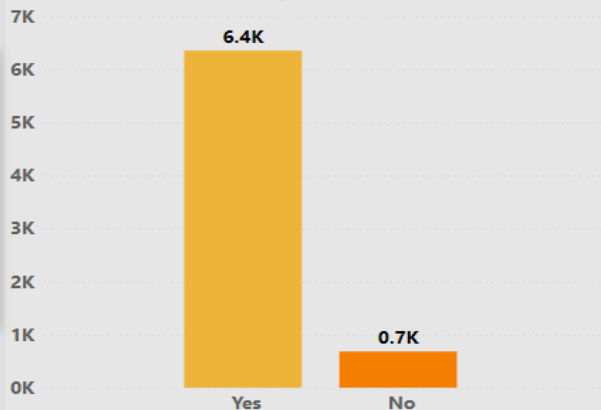
16.1M

Customers by Service Segment 1

Phone Service
Customer Rate

90%

Customer by Phone Service

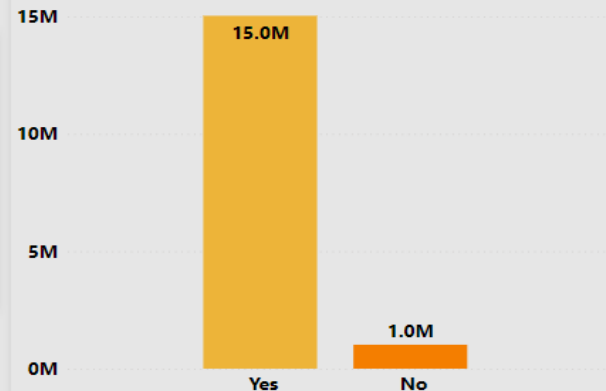


Revenue by Service Segment 1

Phone Service
Revenue Rate

94%

Revenue by Gender



Dashboard 2 : Customer Churn & Retention



Customer Churn Retention Dashboard

Demographic
Segment

Service
Segment 1

Service
Segment 2

Service
Segment 3

Account Type
Segment

Tenure

0-1 Year

1-2 Year

2-3 Year

3-4 Year

4-5 Year

5-6 Year

Within 1 Month

Churned

No

Yes

Total Customers

7043

Churn Rate (%)

27%

Total Admin Tickets

3632

Total Tech Tickets

2955

Avg Monthly Charges

64.8

Total Revenue

16.1M

Customers by Service Segment 2

Fiber Optic Customer Rate

44%

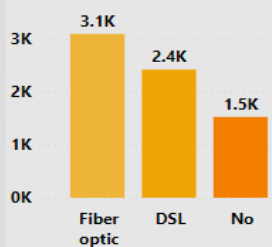
DSL Customer Rate

34%

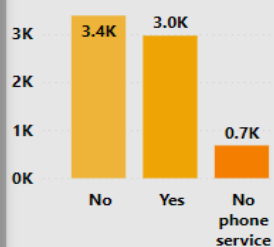
Multiple Lines Customer
Rate

42%

Customer by Internet Service



Customers by Multiple Lines



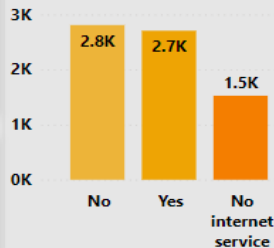
Streaming TVs
Customer Rate

38%

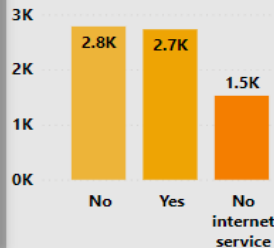
Streaming Movies
Customer Rate

39%

Customers by Streaming TVs



Customers by Streaming Movies



Revenue by Service Segment 2

Fiber Optic Revenue Rate

62%

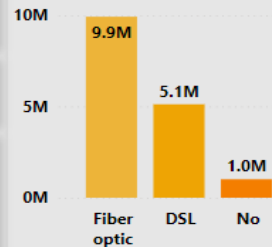
DSL Revenue Rate

32%

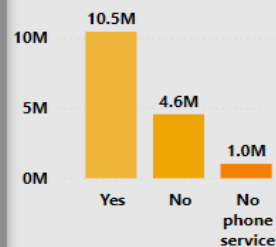
Multiple Lines Revenue
Rate

65%

Revenue by Internet Service



Revenue by Multiple Lines



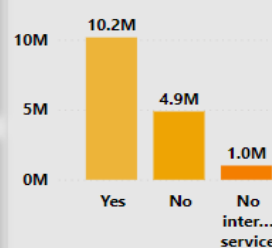
Streaming TVs Revenue
Rate

63%

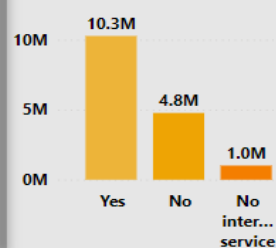
Streaming Movies
Revenue Rate

64%

Revenue by Streaming TVs



Revenue by Streaming Movies



Dashboard 2 : Customer Churn & Retention



Customer Churn Retention Dashboard

Demographic
Segment

Service
Segment 1

Service
Segment 2

Service
Segment 3

Account Type
Segment

Tenure

0-1 Year

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5-6 Year

Within 1 Month

Churned

No

Yes

Total Customers

7043

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27%

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3632

Total Tech Tickets

2955

Avg Monthly Charges

64.8

Total Revenue

16.1M

Customers by Service Segment 1

Online Security
Customer Rate

29%

Online Backup
Customer Rate

34%

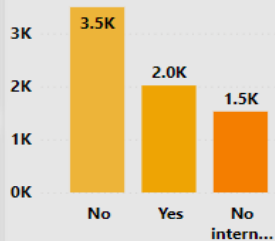
Device Protection
Customer Rate

34%

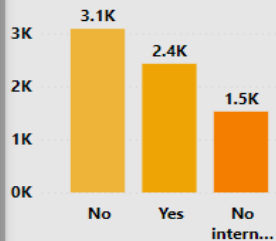
Tech Support
Customer Rate

29%

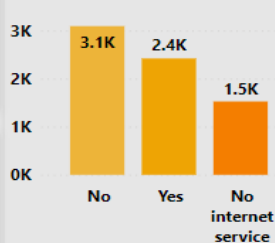
Customers by Online Security



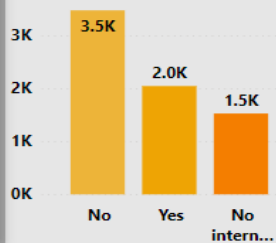
Customers by Online Backup



Customers by Device Protection



Customers by Tech Support



Revenue by Service Segment 1

Online Security
Revenue Rate

47%

Online Backup
Revenue Rate

59%

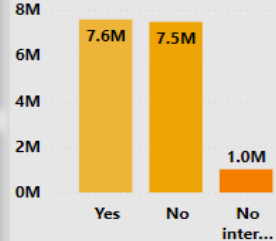
Device Protection
Revenue Rate

59%

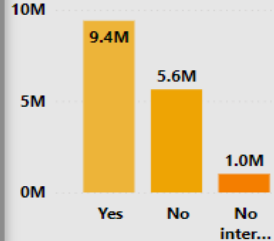
Tech Support
Revenue Rate

49%

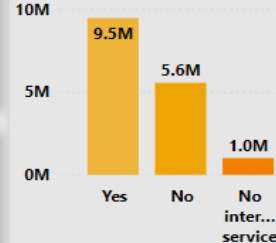
Revenue by Online Security



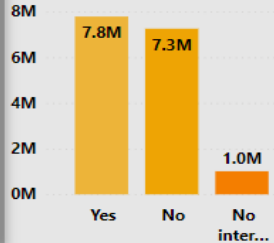
Revenue by Online Backup



Revenue by Device Protection



Revenue by Tech Support



Dashboard 2 : Customer Churn & Retention



Customer Churn Retention Dashboard

Demographic
Segment

Service
Segment 1

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Segment 2

Service
Segment 3

Account Type
Segment

Tenure

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Within 1 Month

Churned

No

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Total Revenue

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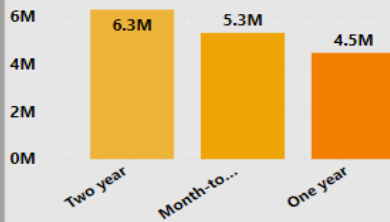
Customers by Account Type Segment

Customers by Paperless Billing

Yes No

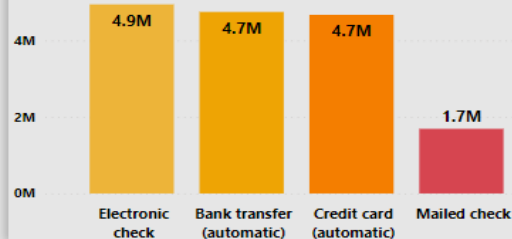


Customers by Contract Type

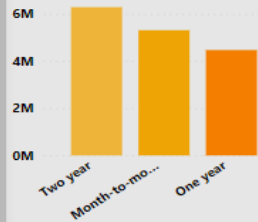


Revenue by Account Type Segment

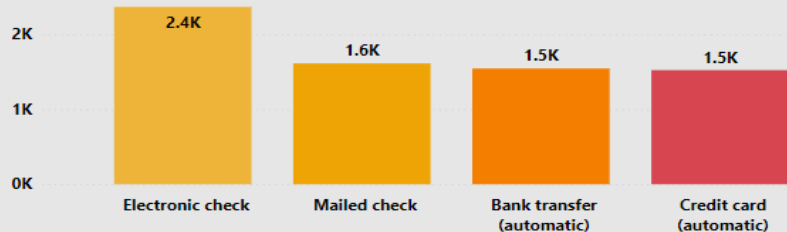
Total Revenue by Payment Method



Total Revenue by Contract Type



Customers by Payment Method



Customer List

| customerID | gender | PhoneService | InternetService | Sum of MonthlyCharges | Churn |
|------------|--------|--------------|-----------------|-----------------------|-------|
| 0002-ORFBO | Female | Yes | DSL | 65.60 | No |
| 0003-MKNFE | Male | Yes | DSL | 59.90 | No |
| 0004-TLHLJ | Male | Yes | Fiber optic | 73.90 | Yes |
| 0011-IGKFF | Male | Yes | Fiber optic | 98.00 | Yes |
| 0013-EXCHZ | Female | Yes | Fiber optic | 83.90 | Yes |
| 0013-MHZWF | Female | Yes | DSL | 69.40 | No |
| 0013-SMEOE | Female | Yes | Fiber optic | 109.70 | No |
| 0014-BMAQU | Male | Yes | Fiber optic | 84.65 | No |
| 0015-UOCOL | Female | Yes | DSL | 48.20 | No |
| Total | | | | 4,56,116.60 | |

Dashboard 3 : HR Analytics



HR Analytics Dashboard (Diversity & Inclusion) - FY20 vs FY21



1) Hiring Rate & Turn-Over

Employee in FY20

500

Employee in FY21

453

Hiring Rate FY20

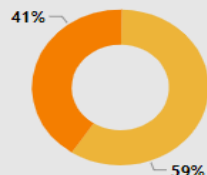
14%

Exit Rate FY 20

10%

Employees in FY20 by Gender

Male Female



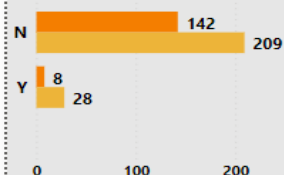
Employees in FY21 by Gender

Male Female



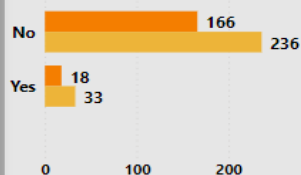
Promotion in FY20

Female Male



Promotion in FY21

Female Male



2) Job Level & Promotion

Promotion Rate FY20

8%

Male

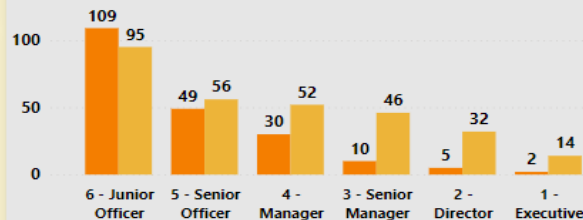
78%

Female

22%

Promotion by Job Level After FY20

Female Male



Promotion Rate FY21

14%

Male

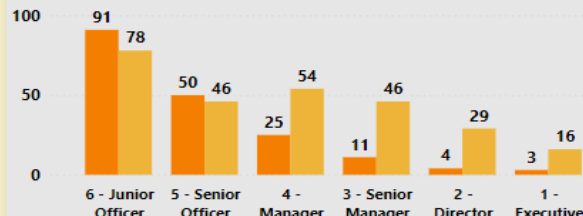
65%

Female

35%

Promotion by Job Level After FY21

Female Male



3) Performance Ratings

Average Rating FY19

2.29

Male

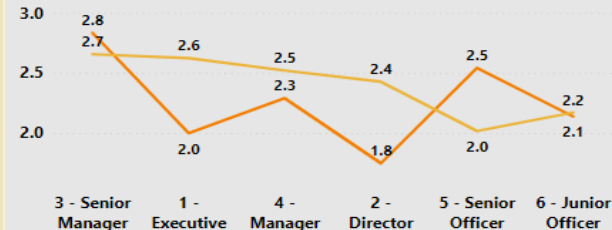
2.31

Female

2.26

Performance Rating of FY19

Female Male



Average Rating FY20

1.99

Male

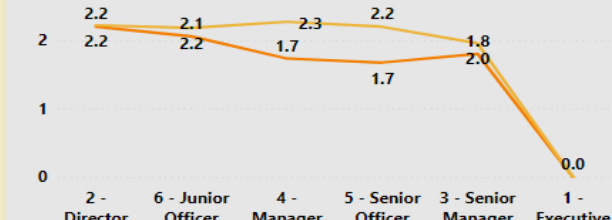
2.06

Female

1.89

Performance Rating of FY20

Female Male



Dashboard 3 : HR Analytics



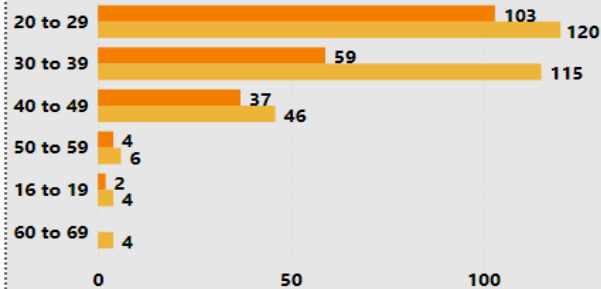
HR Analytics Dashboard (Diversity & Inclusion)-FY20 Demographics



4) Age Group

Age Group by Gender

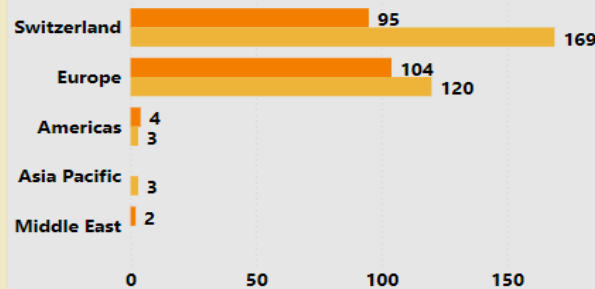
Female Male



5) Region & Nationality

Region by Gender

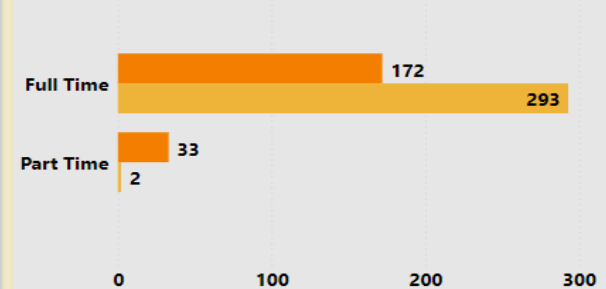
Female Male



6) Employment Type

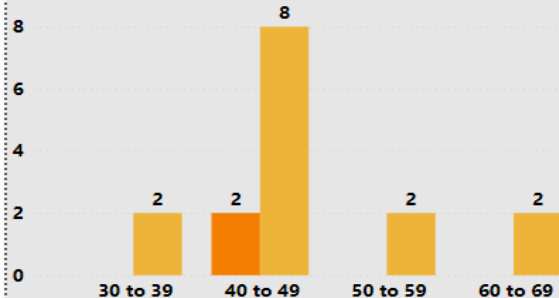
Job Type by Gender

Female Male



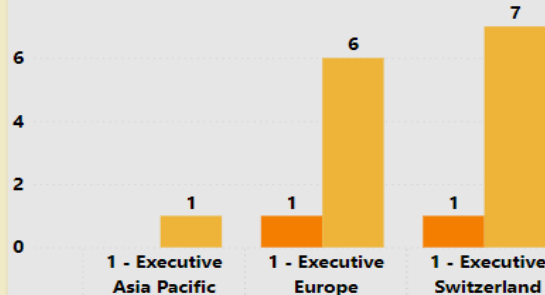
Age Group by Executive Level

Female Male



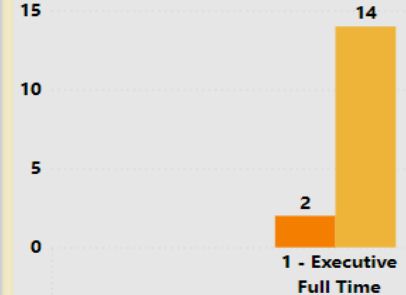
Region by Executive Level

Female Male



Job Type by Executive Level

Female Male



THANK YOU

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