Cost Cutting Through People Analytics
&
IBM Employee Retention
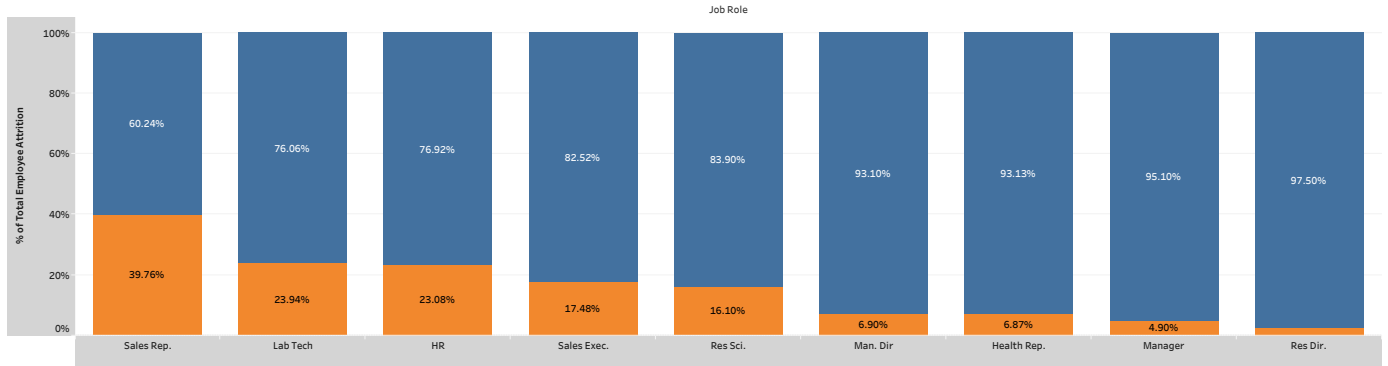
STAT-T680: Data Visualization & Analytics

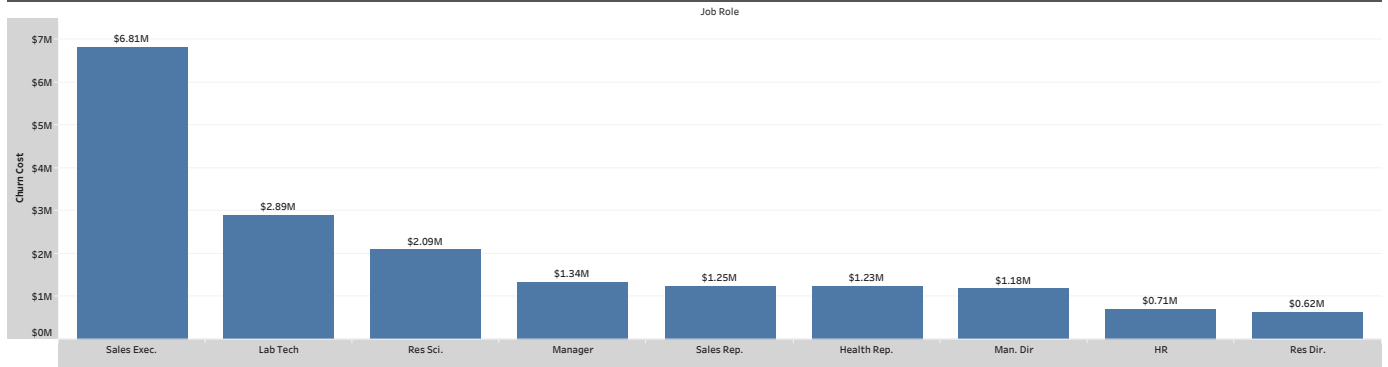### Sunita Barik

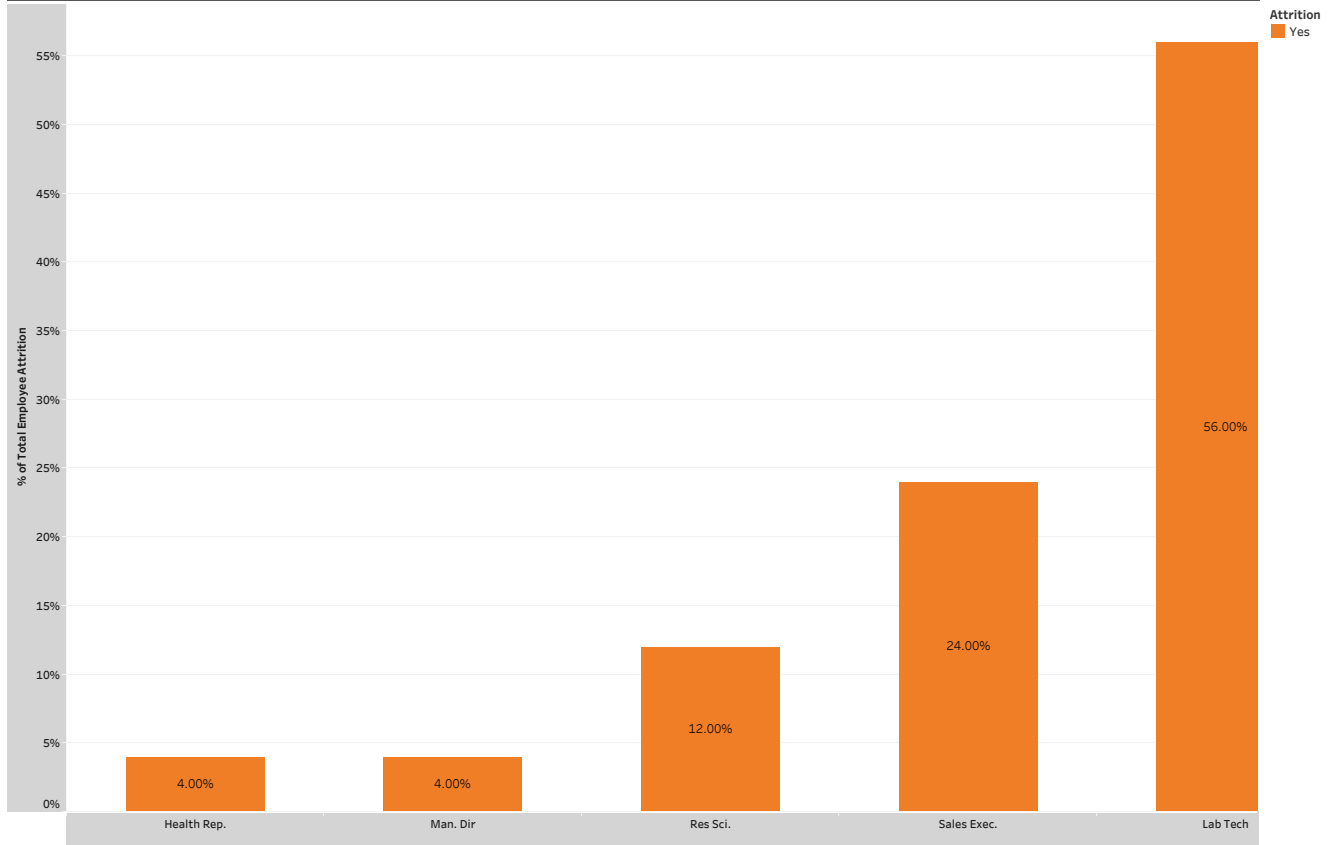## Percent of Attrition Based on Job Roles

Job Role

% of Total Employee Attrition

Sales Rep.	Lab Tech	HR	Sales Exec.	Res Sci.	Man. Dir	Health Rep.	Manager	Res Dir.
60.24%	76.06%	76.92%	82.52%	83.90%	93.10%	93.13%	95.10%	97.50%
39.76%	23.94%	23.08%	17.48%	16.10%	6.90%	6.87%	4.90%	2.50%

Total Churn Cost From Attrition One Year

Job Role

Churn Cost

Sales Exec.	Lab Tech	Res Sci.	Manager	Sales Rep.	Health Rep.	Man. Dir	HR	Res Dir.
$6.81M	$2.89M	$2.09M	$1.34M	$1.25M	$1.23M	$1.18M	$0.71M	$0.62M

Attrition by Work Life Balance in Job Roles

Attrition
■ Yes

% of Total Employee Attrition (y-axis): 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 55%

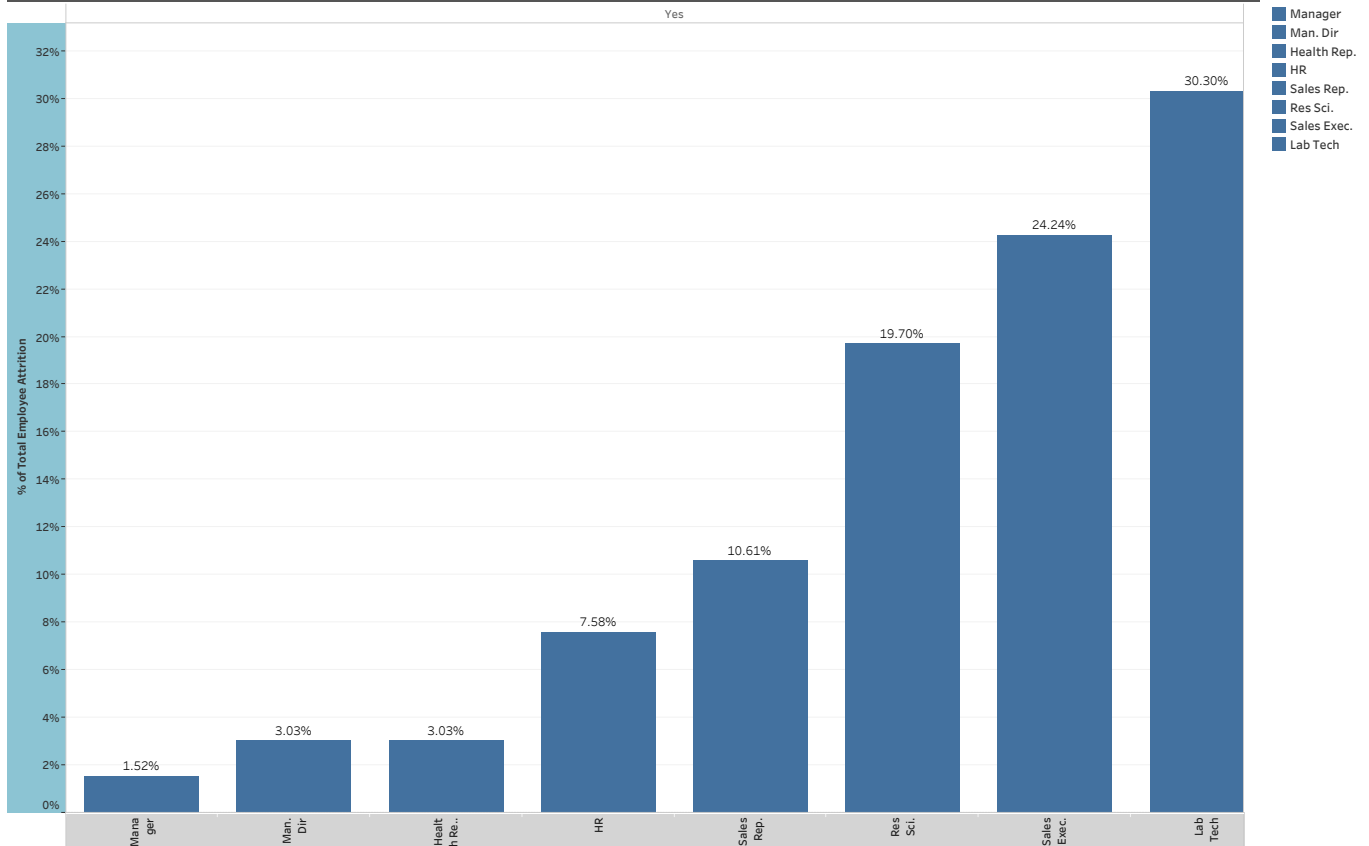| Job Role	%
Health Rep.	4.00%
Man. Dir	4.00%
Res Sci.	12.00%
Sales Exec.	24.00%
Lab Tech	56.00%

% of Total Count of Hr_Employee_Attrition.csv for each Job Role. Color shows details about Attrition. The data is filtered on Work Life Balance, which keeps Bad. The view is filtered on Job Role and Attrition. The Job Role filter keeps 9 of 9 members. The Attrition filter keeps Yes. Percents are based on each row of the table.

Attrition by Work Life Balance in Job Roles

% of Total Employee Attrition

55%
50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%

% of Total Count of Hr_Employee_Attrition.csv for each Job Role. Color shows details about Attrition. The data is filtered on Work Life Balance, which keeps Bad. The view is filtered on Job Role and Attrition. The Job Role filter keeps 9 of 9 members. The Attrition filter keeps Yes. Percents are based on each row of the table.

Attrition by Job Satisfaction in Job Roles

Yes

% of Total Employee Attrition (y-axis)

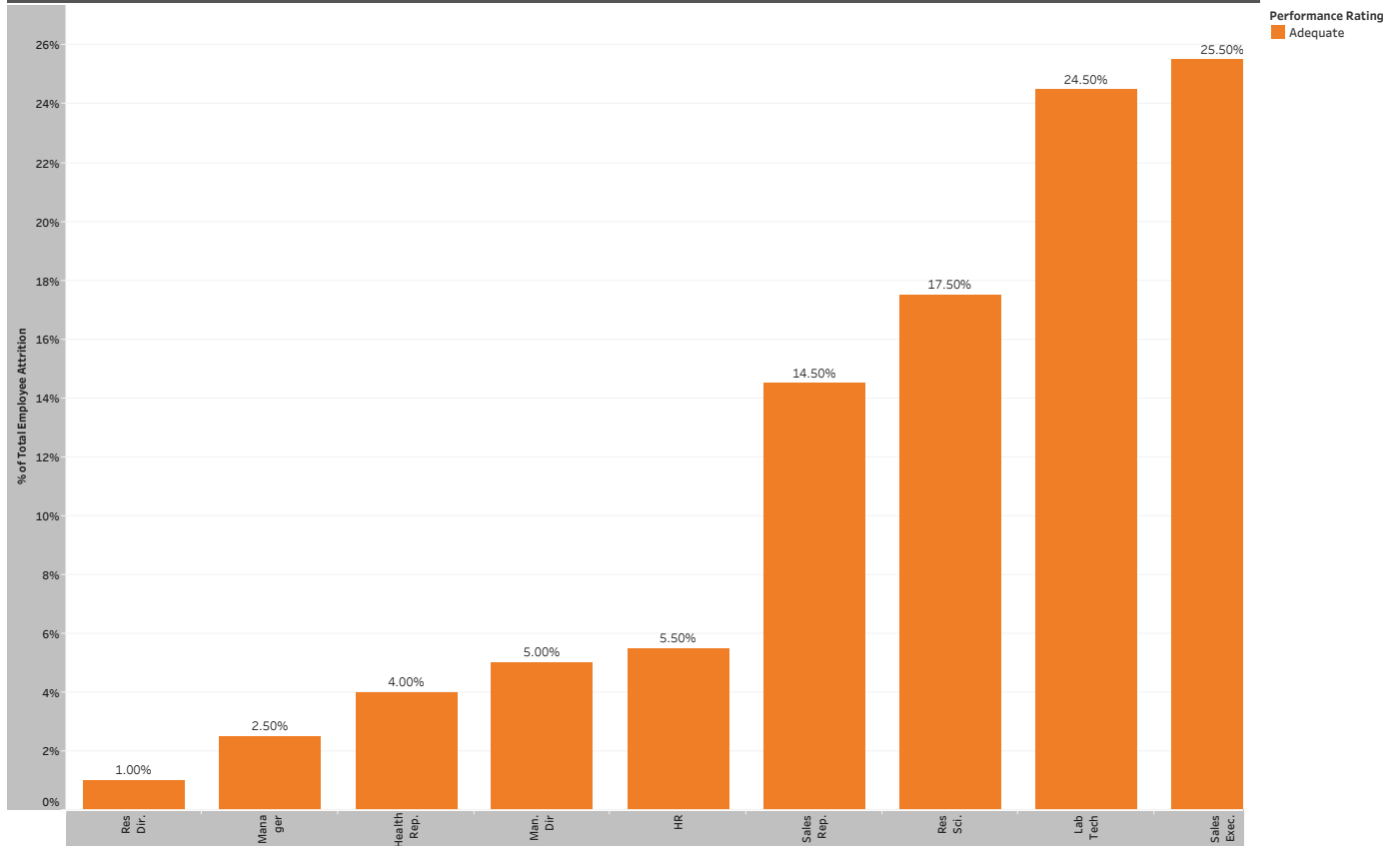| Job Role	%
Manager	1.52%
Man. Dir	3.03%
Health Rep.	3.03%
HR	7.58%
Sales Rep.	10.61%
Res Sci.	19.70%
Sales Exec.	24.24%
Lab Tech	30.30%

% of Total Count of Hr_Employee_Attrition.csv for each Job Role broken down by Attrition. Color shows details about Job Role. The data is filtered on Job Satisfaction, which keeps 1 Rating. The view is filtered on Attrition and Job Role. The Attrition filter keeps Yes. The Job Role filter keeps 9 of 9 members. Percents are based on each row of the table.

Attrition by Job Satisfaction in Job Roles

Yes

% of Total Employee Attrition

32%
30%
28%
26%
24%
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%

Manager
Man. Dir
Health Rep.
HR
Sales Rep.
Res Sci.
Sales Exec.
Lab Tech

% of Total Count of Hr_Employee_Attrition.csv for each Job Role broken down by Attrition. Color shows details about Job Role. The data is filtered on Job Satisfaction, which keeps 1 Rating. The view is filtered on Attrition and Job Role. The Attrition filter keeps Yes. The Job Role filter keeps 9 of 9 members. Percents are based on each row of the table.

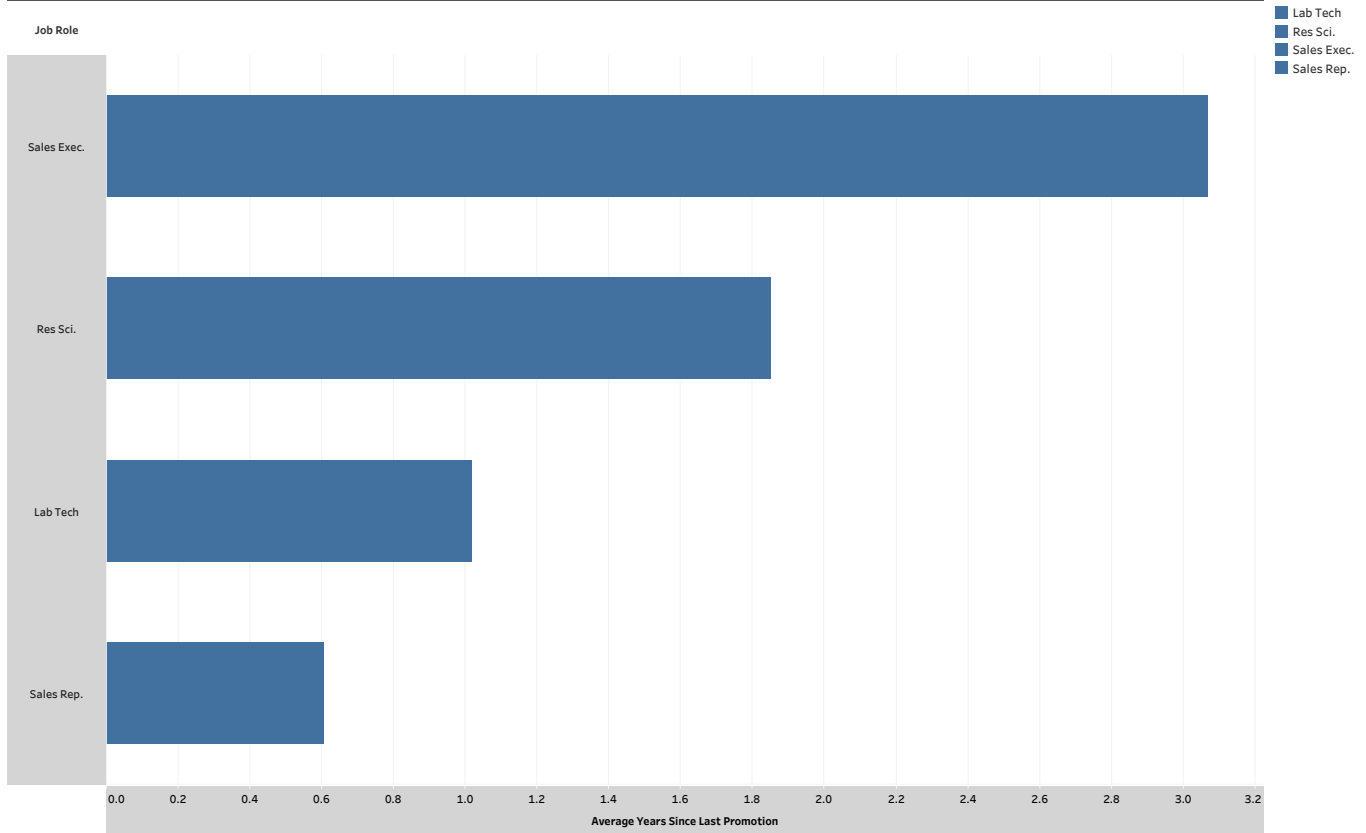# Attrition By Low Performance Rating in Job Roles

% of Total Count of Hr_Employee_Attrition.csv for each Job Role. Color shows details about Performance Rating. The data is filtered on Attrition, which keeps Yes. The view is filtered on Performance Rating and Job Role. The Performance Rating filter keeps Adequate. The Job Role filter keeps 9 of 9 members. Percents are based on each row of the table.

Attrition By Low Performance Rating in Job Roles

% of Total Employee Attrition

26%
24%
22%
20%
18%
16%
14%
12%
10%
8%
6%
4%
2%
0%

% of Total Count of Hr_Employee_Attrition.csv for each Job Role. Color shows details about Performance Rating. The data is filtered on Attrition, which keeps Yes. The view is filtered on Performance Rating and Job Role. The Performance Rating filter keeps Adequate. The Job Role filter keeps 9 of 9 members. Percents are based on each row of the table.

Attrition by Years Since Last Promotion

Job Role

Legend:
- Lab Tech
- Res Sci.
- Sales Exec.
- Sales Rep.

Horizontal bar chart showing Average Years Since Last Promotion by Job Role:
- Sales Exec.: ~3.07
- Res Sci.: ~1.85
- Lab Tech: ~1.02
- Sales Rep.: ~0.60

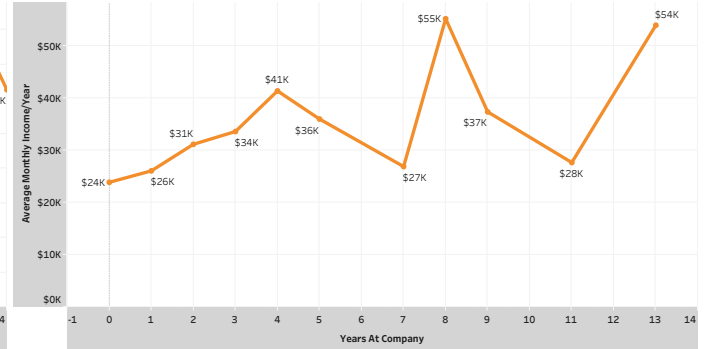**Average Years Since Last Promotion** (x-axis: 0.0 to 3.2)

Average of Years Since Last Promotion for each Job Role. Color shows details about Job Role. The data is filtered on Attrition, which keeps Yes. The view is filtered on Job Role, which keeps Lab Tech, Res Sci., Sales Exec. and Sales Rep..

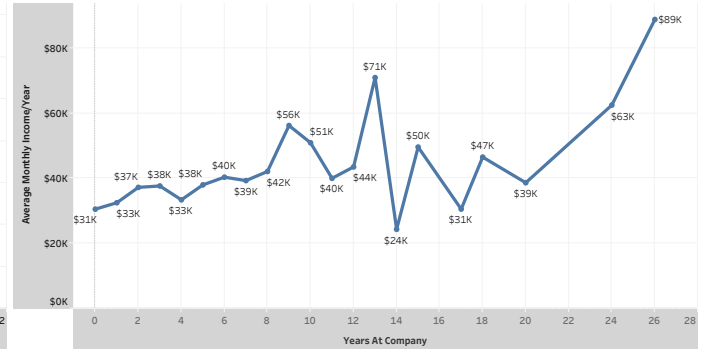# Yearly Income Based on Years at the company

Sales Executive
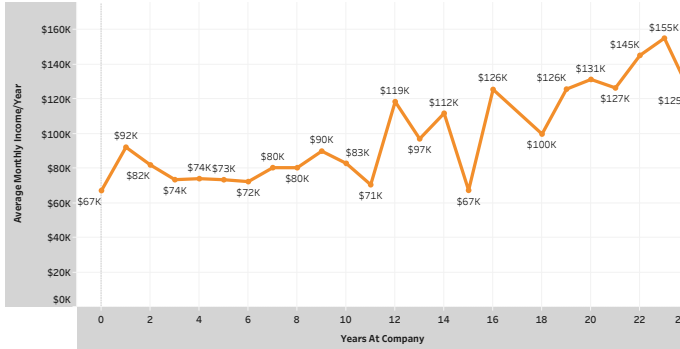
Sales Representative

Research Scientist

Lab Technician

Recommendations

❖ **Improve work-life balance for employees**
- Offer more opportunities for remote work
- Offer employee perks such as gym-memberships, discounts on goods and services or "summer hours"
- Improve learning and networking opportunities outside of training.

❖ **Focus on employee satisfaction**
- More attention to setting clear goals and attaching performance incentives to goals.
- More opportunities for long term growth and promotion.
- Share feedback frequently.
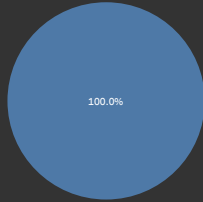- Hold exit interviews.

❖ **Utilize HR Dashboard to measure and monitor employee metrics**
- Create surveys and employee net promoter scorers to give employees an anonymous way to provide feedback.
- Have frequent touchpoints with ELT and managers to provide real time feed back for HR changes.
- Continuously utilize the dashboard to be able to understand the current employee climate.

Human Resource Dashboard
Employee Attrition

Attrition (Y/N)
- No
- Yes

Select Attrition
No

100.0%

Select Gender
All

Select Age Group
All

Job Satisfaction
All

Department

Human Resources	Research & Development	Sales
4.14%	67.15%	28.71%

Sales Exec.

Res Sci.

Lab Tech

Man. Dir

Healthcare Rep.

Res Dir.

Sales Rep.

Manager

HR

Income by Job Role

Job Role		Income
Healthcare Rep.	$0.0K	$13.5K
HR	$0.0K	$10.7K
Lab Tech	$0.0K	$7.4K
Man. Dir	$0.0K	$13.6K
Manager	$0.0K	$19.9K
Res Dir.	$0.0K	$19.5K
Res Sci.	$0.0K	$9.7K
Sales Exec.	$0.0K	$13.5K
Sales Rep.	$0.0K	$6.6K

$0K · 0 · $0K $5K $10K $15K $20K $25K

Job Satisfaction

Low	18.09%
Medium	18.98%
High	29.93%
Very High	33.01%

0% · 0 · 0% 10% 20% 30%

Work Life Balance

Low	4.5%
Medium	23.2%
High	62.1%
Very High	10.2%

0% · 0 · 0% 20% 40% 60% 80%

Work Experience

0

5

10

15

20

25

30

35