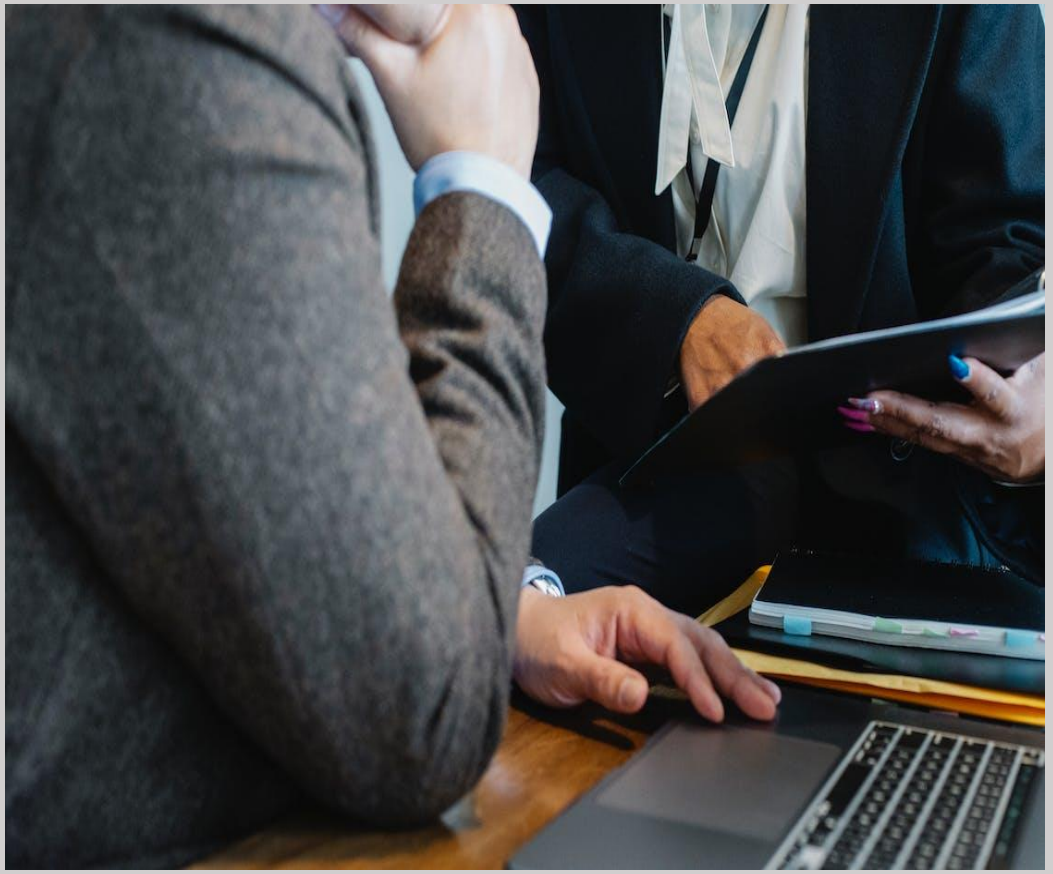
EMPLOYEE DATASET ANALYSIS



JESSICA ATARI-ATA

Data Acquisition

- This Analysis was conducted using a comprehensive dataset provided by **PSYLIQ.**

Project Highlights

- A detailed analysis was conducted to identify the following Employee parameters:
- Employee Demographics
- Employee Welfare
- Key Performance Indicators
- Personnel Training & Development
- Other General Employee Data

Data Cleaning Process

- Sorted the “Employee ID” Column from Smallest to Largest
- Checked for Duplicates, Non was found.
- Formatted the “Date of Birth”, ”Start Date”, ”Exit Date” columns for consistency.
- Filtered out “blanks” from the Dataset.
- Under Termination Type column changed ‘Unk’ to ‘Unknown’

Project Tool

- Excel

Business Questions

1) Can you create a pivot table to summarize the total number of employees in each department?

Department	Count of Employee Type
Admin Offices	80
Executive Office	24
IT/IS	430
Production	2020
Sales	331
Software Engineering	115
Grand Total	**3000**

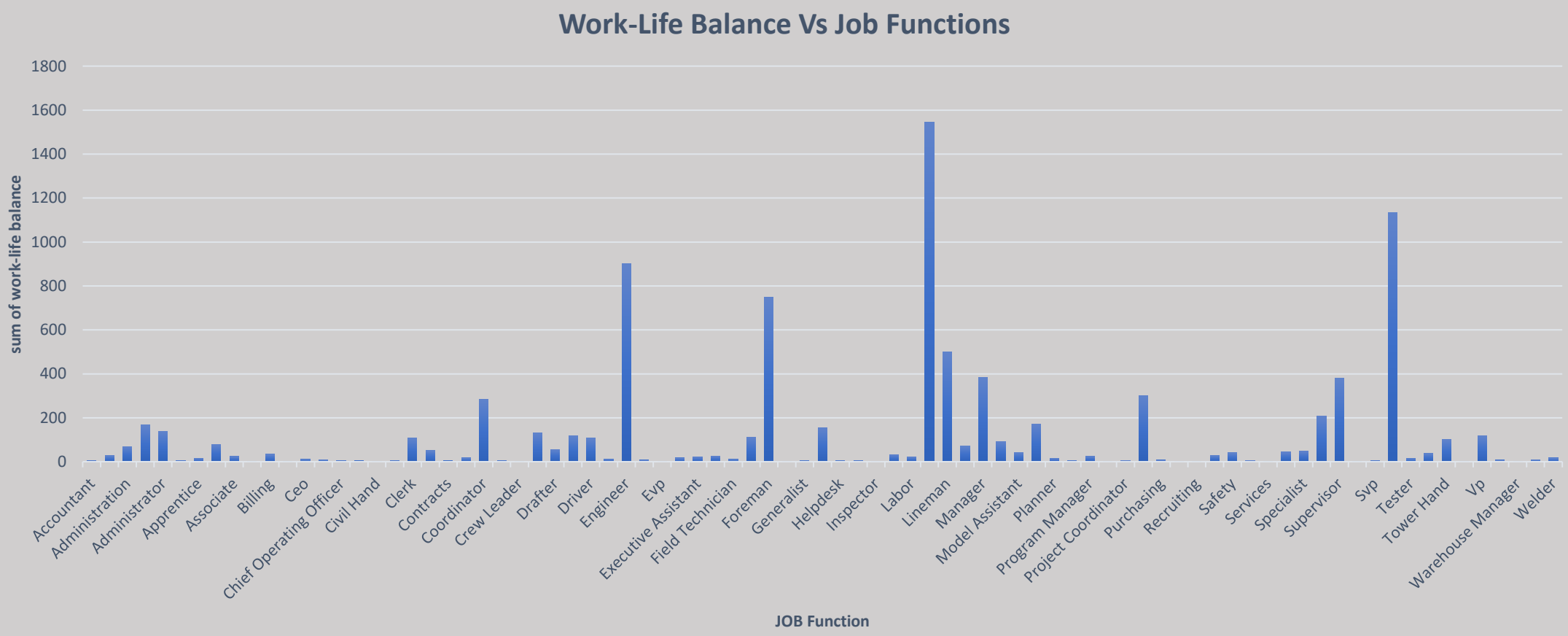
2) Apply conditional formatting to highlight employees with a "Performance Score" below 3 in red.

Satisfaction Score	Work-Life Balance Score	Engagement Score	Training Duration(Days)	Training Cost
5	3	4	3	615.84
3	5	3	1	767.49
1	1	3	5	136.33
4	1	1	5	614.4
4	1	4	3	450.94
4	5	2	4	980.41
5	5	4	2	933.39
4	1	1	3	133.88
1	4	1	3	606.76
1	5	1	2	717.16
2	2	1	3	762.23
3	3	1	5	458.81
5	5	4	4	957.12
1	2	2	3	726.88
3	4	5	5	166.08
5	1	4	4	667.54
2	1	4	1	501.92
4	2	5	1	786.71
1	4	5	3	353.21
3	5	1	1	246.16

3) Calculate the average "Satisfaction Score" for male and female employees separately using a pivot table.

Gender	Average of Satisfaction Score
Female	3.03
Male	3.01
Grand Total	**3.02**

4) Create a chart to visualize the distribution of "Work-Life Balance Score" for different job functions



5) Filter the data to display only terminated employees and find out the most common "Termination Type."

The Most common Termination Type is “Unknown”

Termination Type	Count of Termination Type
Involuntary	388
Resignation	380
Retirement	377
Unknown	1467
Voluntary	388
Grand Total	3000

6) Calculate the average "Engagement Score" for each department using a pivot table.

Department Type	Average of Engagement Score
Admin Offices	3.13
Executive Office	2.92
IT/IS	2.99
Production	2.92
Sales	2.93
Software Engineering	2.94

7) Use VLOOKUP to find the supervisor's email address for a specific employee.

```
=VLOOKUP(A2, New_Employee_data!$A$2:$H$3001,8,FALSE)
```

AI	AJ	AK	AL
on	Trainer		
Daniel	James Pearson	**Employee ID**	**Supervisor's Email**
llebury	Julia Smith	1001	susan.exantus@bilearner.com
ouglas	Beth Ryan	1014	kole.quinn@bilearner.com
shire	Charles Jones	1024	kasey.boyer@bilearner.com
Javierview	Emily Henderson	1029	brittany.hurley@bilearner.com
nland	James Peck	1009	adell.saada@bilearner.com
ewchester	Lynn Green		
ort	Sean Johnson		
icki	Theresa Martin		
eside	Martin Ross		
nton	Kimberly Doyle		
sside	Jared Martin		

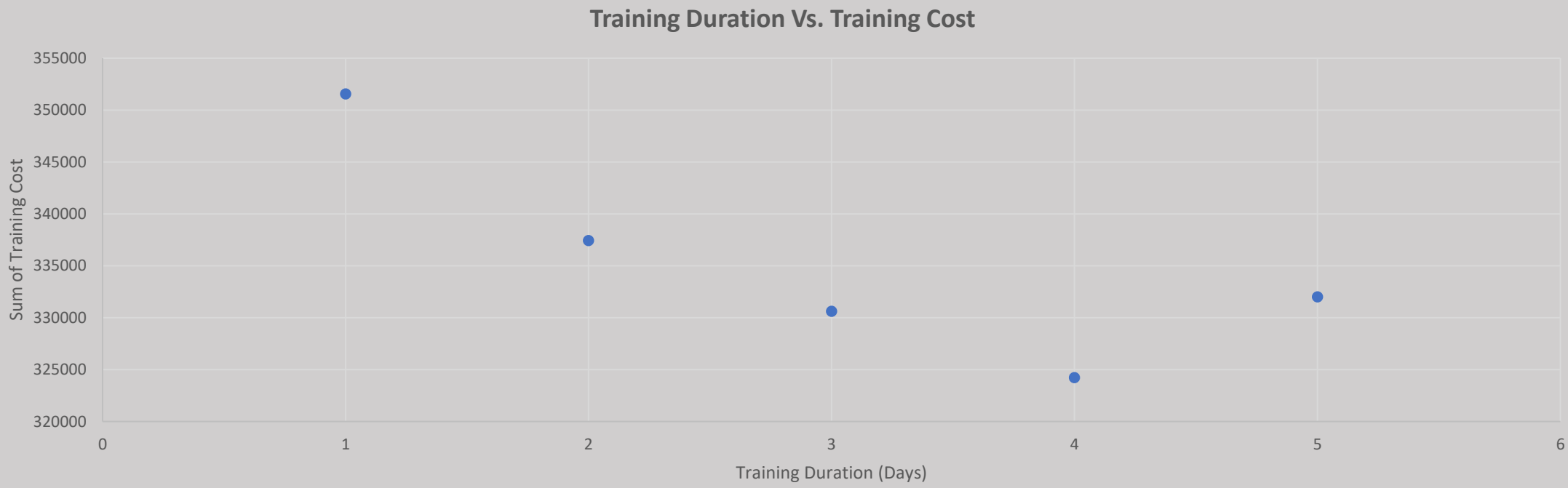
8) Can you identify the department with the highest average "Employee Rating?"

The Department with the Highest Employee Rating is “Admin Offices”.

Department	**Average of Current Employee Rating**
Admin Offices	3.025
Executive Office	2.791666667
IT/IS	2.969767442
Production	2.982178218
Sales	2.909365559
Software Engineering	2.904347826
Grand Total	**2.969**

9) Create a scatter plot to explore the relationship between "Training Duration (Days)" and "Training Cost."

Training Duration(Days)	Sum of Training Cost
1	351565
2	337447
3	330620
4	324231
5	332023
Grand Total	**1675886**



10) Build a pivot table that shows the count of employees by "RaceDesc" and "GenderCode."

Count of RaceDesc	Female	Male	Grand Total
Asian	346	283	**629**
Black	346	272	**618**
Hispanic	325	247	**572**
Other	318	264	**582**
White	347	252	**599**
Grand Total	**1682**	**1318**	**3000**

11) Use INDEX and MATCH functions to find the "Training Program Name" for an employee with a specific ID.

=INDEX($AF$2:$AF$3001,MATCH($A$25,$A$2:$A$3001,0))

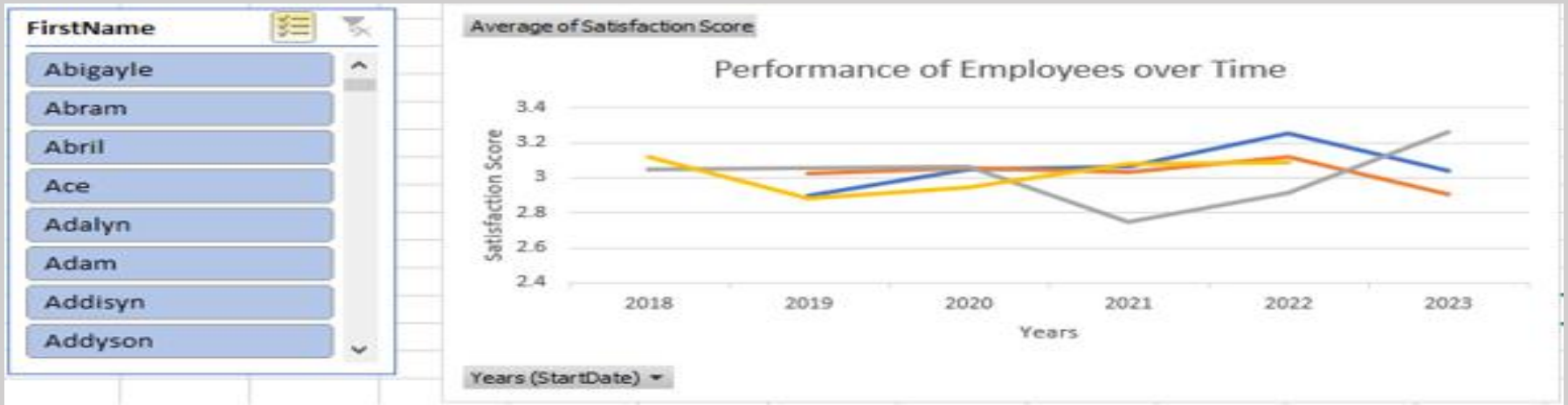
=INDEX($AF$2:$AF$3001,MATCH($A$25,$A$2:$A$3001,0))

AI	AJ	AK	AL	AM
on	Trainer		**Employee ID**	**Training Program Name**
erborough	Kelly Thompson DDS		1024	Communication Skills
Seanberg	Sharon Park		1009	Leadership Development
Christopher	Gregory Woodward		1006	Customer Service
evinland	Anna Dennis		1014	Technical Skills
rland	Nicholas Wallace			

12) Create a multi-level pivot table to analyze the "Performance Score" by "BusinessUnit" and "JobFunctionDescription."

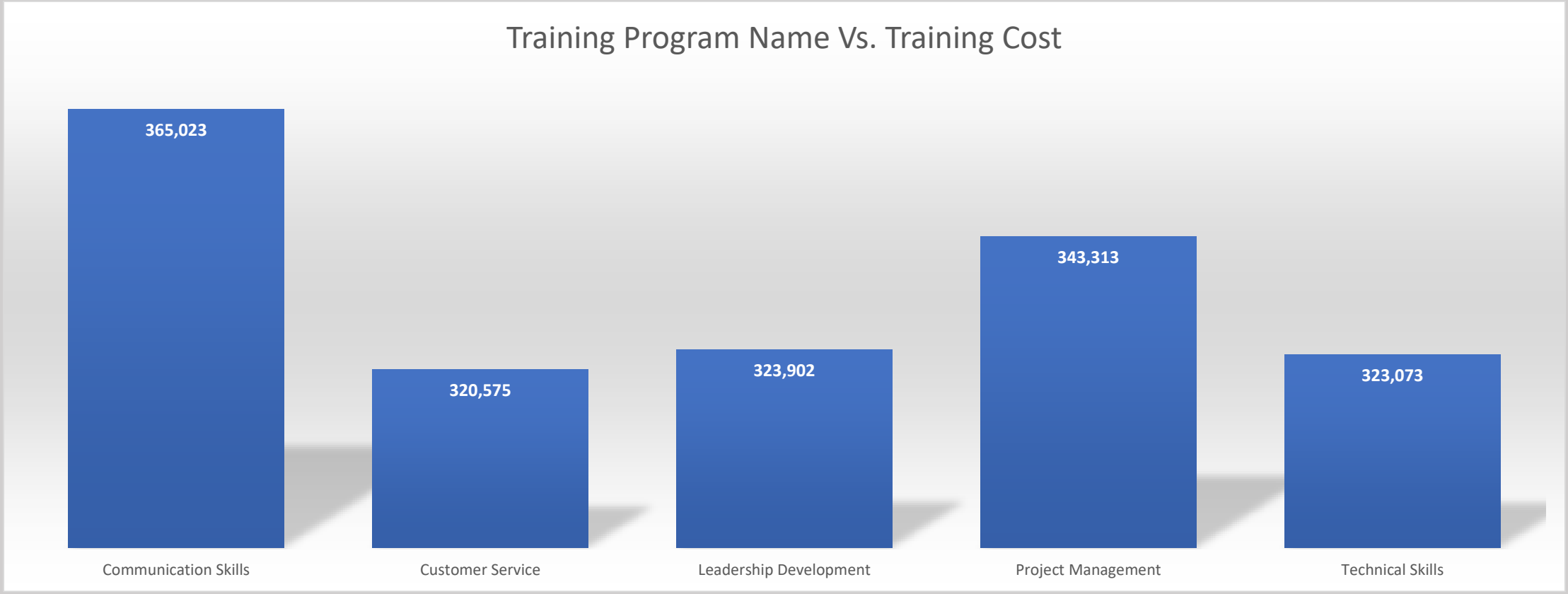
Business Unit with Job Function	Count of Performance Score
⊞ BPC	303
⊞ CCDR	300
⊞ EW	302
⊞ MSC	296
⊞ NEL	304
⊞ PL	301
⊞ PYZ	299
⊞ SVG	304
⊞ TNS	297
⊟ WBL	294
Accountant	2
Administration	3
Administrative	7
Administrator	6
Apprentice	1
Billing	2
Civil Hand	1
Clerical	1
Clerk	4
Construction Manager	2

13) Design a dynamic chart that allows users to select and visualize the performance of any employee over time.



14) Calculate the total training cost for each "Training Program Name" and display it in a bar chart.

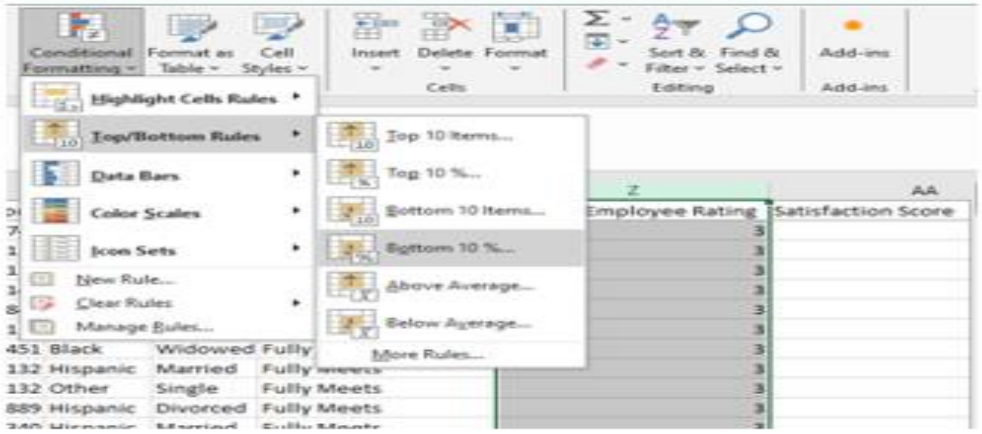
Training Program Name	Sum of Training Cost
Communication Skills	365,023
Customer Service	320,575
Leadership Development	323,902
Project Management	343,313
Technical Skills	323,073
Grand Total	**1,675,886**



15) Apply advanced conditional formatting to highlight the top 10% and bottom 10% of employees based on "Current Employee Rating."

Top 10%

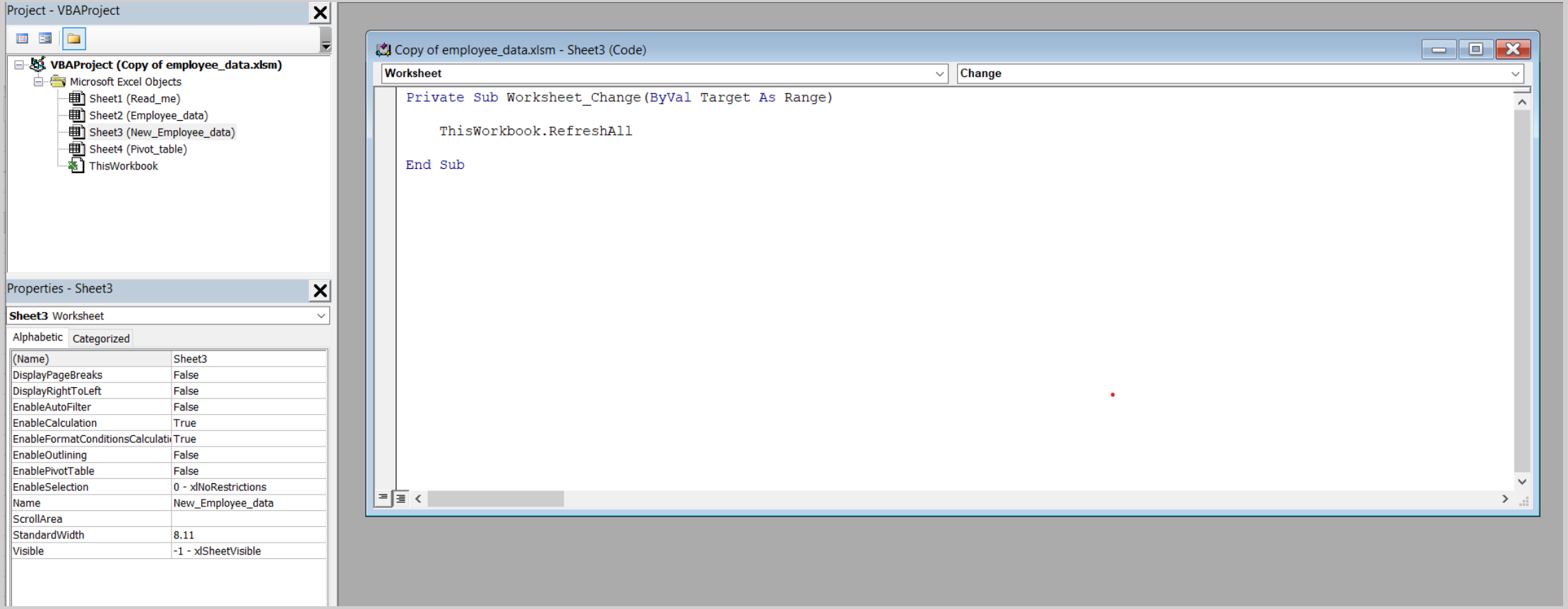
Bottom 10%



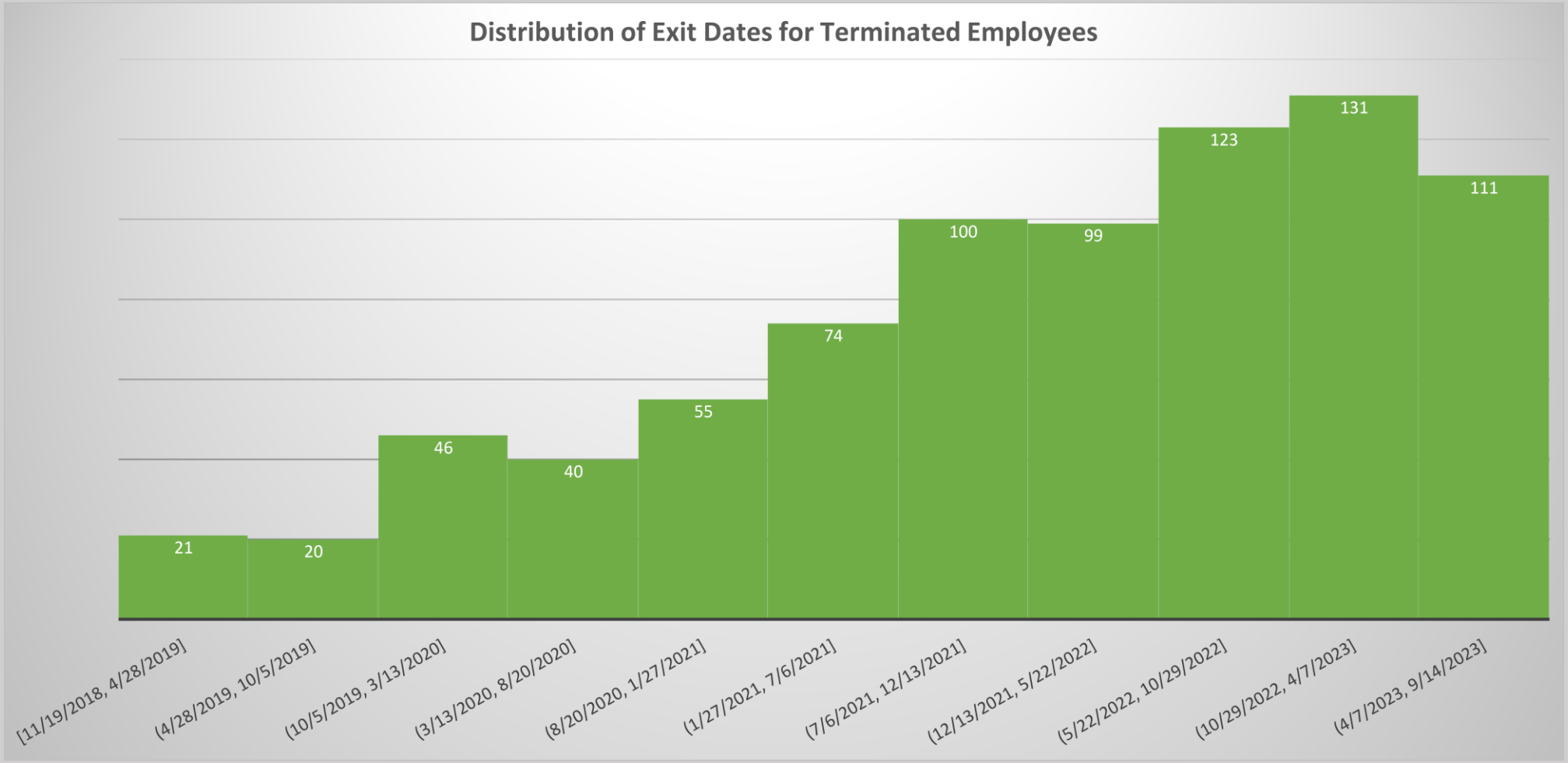
16) Use a calculated field in a pivot table to determine the average "Engagement Score" per year.

Year	Average of Engagement Score
2018	3.07
2019	2.88
2020	2.85
2021	2.99
2022	2.92
2023	3.05
Grand Total	**2.94**

17) Can you build a macro that automates the process of updating and refreshing all pivot tables in the workbook?



18) Create a histogram to understand the distribution of "Exit Date" for terminated employees.



19) Utilize the SUMPRODUCT function to calculate the total training cost for employees in a specific location.

Formula
=SUMPRODUCT((F2:F3001=K2)*(I2:I3001))
Where F=Location
k= Value of Location
I= Training Cost.

Location	Total Training Cost
PortGreg	510.83
Petersville	442.56
Aaronborough	841.22
Adamsberg	962.45

EMPLOYEE ANALYSIS DASHBOARD

PSYLIQ

State
- AL
- AZ
- CA
- CO

Training Pr...
- Communication Sk...
- Customer Service
- Leadership Develo...
- Project Management

Job Title by Gender

Satisfaction Score by Marital Status

Average of Work-Life Balance Score

Avg. Desired Salary

65,079.06

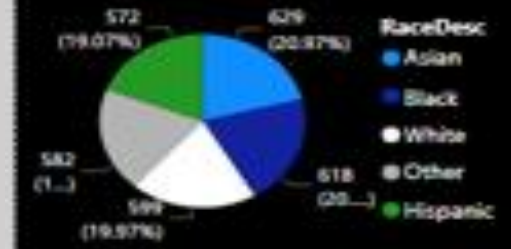
Employee Count

3000

Avg. Engagement Score

2.94

Count of Employee ID by RaceDesc



Employee ID by Country

Sum of Training Cost by Training Program Name

Thank You