

## EMPLOYEES DATA ANALYSIS PROJECT

### Overview

The Employer Data Analysis project was all about digging deep into company's data using tools like Excel, pivot tables, and Dashboards. The main goal was to understand this data better so we could make smarter decisions for business.

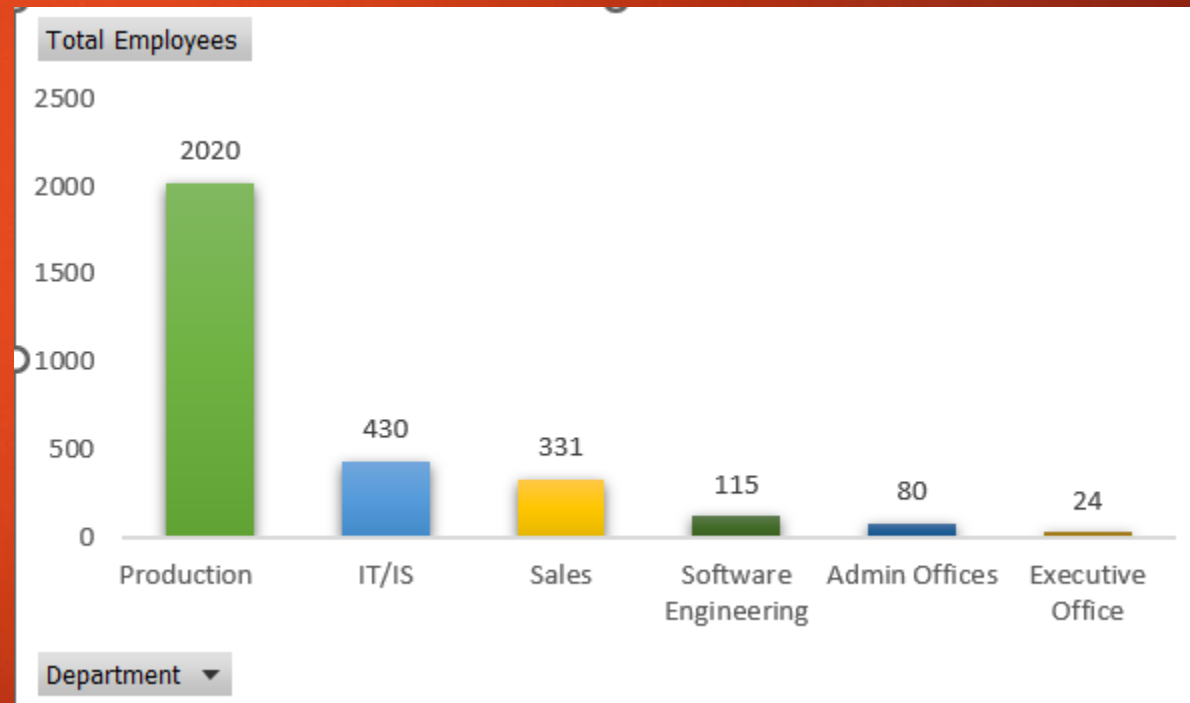
We looked at things like who works for us, how well they're doing, and whether they stick around. By doing this, we hoped to find trends that could help us manage our team better.

In the end, we came up with some cool charts and suggestions to help us improve productivity, keep our employees happy, and make our company even better.

**AAKASH SHARMA**

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

Department	Total Employees
Production	2020
IT/IS	430
Sales	331
Software Engineering	115
Admin Offices	80
Executive Office	24
Grand Total	3000



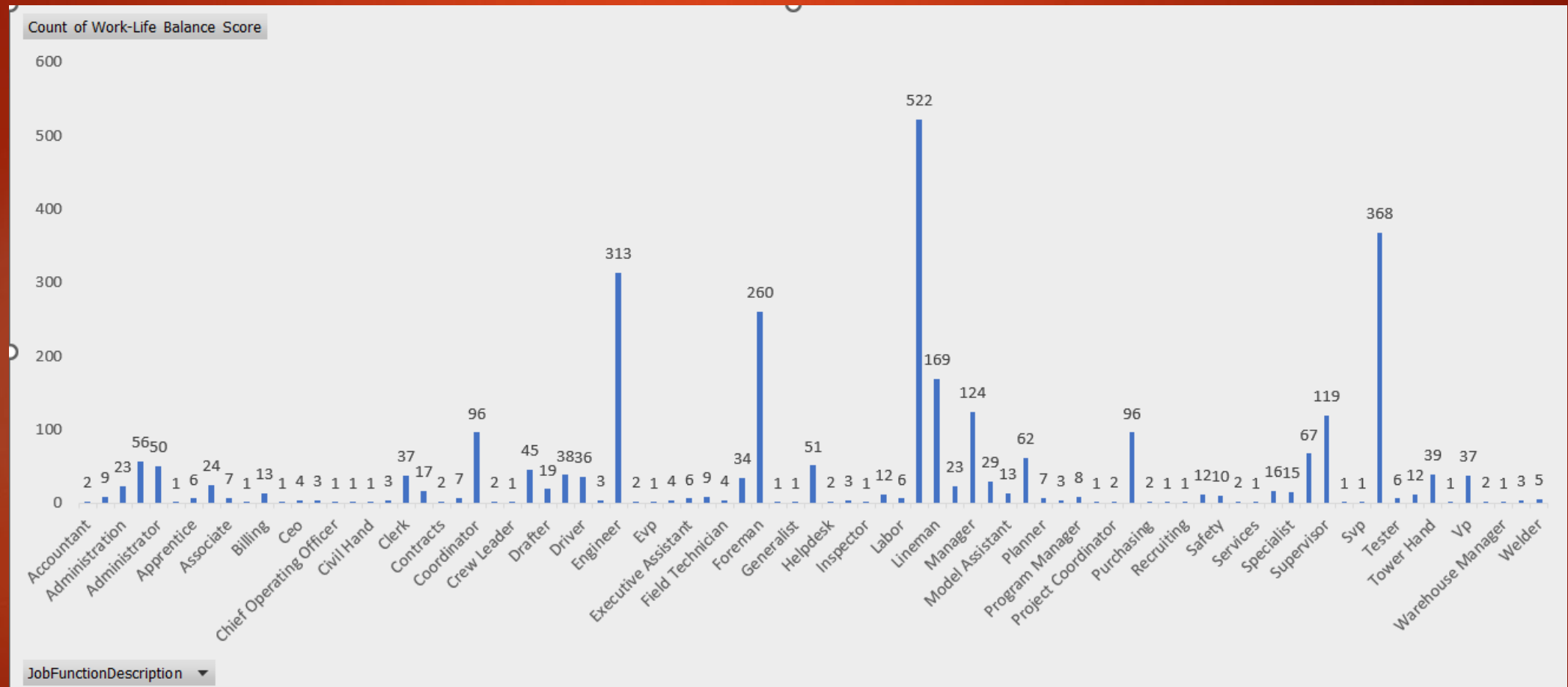
## 2. Apply conditional formatting to highlight employees with a "Performance Score" below 3 in red.

1	EmployeeClassificationType	TerminationType	TerminationDescription	DepartmentType	Division	DOB	State	JobFunctionDescription	GenderCode	LocationCode	RaceDesc	MaritalDesc	Performance Score	Current Employee Rating	Performance Score Status
378	Full-Time	Resignatio	Current bu	Admin Off	General - C	18-05-1968	MA	Technician	Female	67773	White	Divorced	Exceeds	3	3
379	Part-Time	Unk		Admin Off	Fielders	6/3/1975	MA	Engineer	Female	12640	White	Married	PIP	3	1
380	Temporary	Unk		Admin Off	General - C	21-10-1984	MA	Supervisor	Male	64384	White	Widowed	Exceeds	3	3
381	Temporary	Unk		Admin Off	Field Oper	4/5/1953	MA	Laborer	Male	3676	Hispanic	Single	Exceeds	3	3
382	Temporary	Unk		IT/IS	Aerial	1/11/2000	MA	Foreman	Female	71974	Other	Single	PIP	3	1
383	Part-Time	Unk		Admin Off	Field Oper	16-03-1968	MA	Supervisor	Female	27614	White	Widowed	Exceeds	3	3
384	Part-Time	Resignatio	Affect bar	Admin Off	General - C	10/10/1994	MA	Technician	Female	88549	Hispanic	Divorced	Exceeds	3	3
385	Full-Time	Resignatio	Thousand	Admin Off	Field Oper	12/3/1956	MA	Groundma	Female	14083	Other	Single	PIP	3	1
386	Part-Time	Unk		Admin Off	Field Oper	9/5/1966	MA	Laborer	Female	37965	Hispanic	Divorced	PIP	3	1
387	Full-Time	Involuntar	Realize vie	Admin Off	General - C	19-08-1976	MA	Technician	Female	13405	White	Married	Exceeds	3	3
388	Full-Time	Voluntary	Training ru	Admin Off	General - C	27-08-1951	MA	Laborer	Male	63614	Hispanic	Divorced	PIP	3	1
389	Full-Time	Resignatio	Approach	Admin Off	Field Oper	23-12-1970	MA	Constructi	Female	31721	Black	Single	Exceeds	3	3
390	Full-Time	Unk		Productior	Isp	11/11/1962	MA	Manager	Male	2128	Hispanic	Widowed	Exceeds	3	3
391	Part-Time	Unk		Productior	General - C	21-12-1955	MA	Lineman	Male	2108	Asian	Married	Exceeds	3	3
392	Temporary	Unk		Productior	Wireless	18-11-1941	MA	Supervisor	Female	2093	Other	Single	Needs Improvement	3	2
393	Part-Time	Involuntar	Because w	Productior	Field Oper	25-02-1955	MA	Operator	Female	2093	Hispanic	Widowed	Exceeds	3	3
394	Part-Time	Voluntary	On beyond	Productior	General - C	20-03-1947	MA	Flagger	Female	1775	Other	Single	Exceeds	3	3
395	Part-Time	Unk		Productior	Field Oper	13-05-1943	MA	Laborer	Male	2134	Black	Married	Exceeds	3	3
396	Part-Time	Resignatio	Father cha	Productior	General - C	14-11-1960	MA	Laborer	Male	2045	Black	Divorced	Exceeds	3	3
397	Full-Time	Resignatio	Vote look	Productior	General - E	7/9/1956	MA	Engineer	Female	1810	Hispanic	Married	Exceeds	3	3
398	Part-Time	Voluntary	Science fal	Productior	General - C	26-02-1981	MA	Laborer	Male	1801	Other	Single	Exceeds	3	3
399	Full-Time	Involuntar	Mr chair si	Productior	Splicing	12/12/1972	MA	Runner	Female	2451	White	Single	Needs Improvement	3	2
400	Full-Time	Unk		Productior	General - C	15-12-1977	MA	Foreman	Female	2031	Other	Widowed	Needs Improvement	3	2

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

Gender	Average of Satisfaction Score
Male	3.022
Female	3.022
Grand Total	3.022

#### 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."

Row Labels	Count of Employee ID
Terminated for Cause	66
Involuntary	21
Resignation	22
Retirement	10
Voluntary	13
Grand Total	66

- **Resignation** is the most common TerminationType.

EmployeeStatus	EmployeeType	PayZone	EmployeeClassificationType	TerminationType	TerminationDescription
Terminated for Cause	Full-Time	Zone B	Temporary	Involuntary	Manage brother himself deal.
Terminated for Cause	Full-Time	Zone B	Full-Time	Resignation	Door hear include off.
Terminated for Cause	Contract	Zone A	Temporary	Resignation	Model candidate worker writer.
Terminated for Cause	Part-Time	Zone A	Full-Time	Resignation	Threat high fine everyone out.
Terminated for Cause	Part-Time	Zone C	Temporary	Resignation	Professor now audience lay box.
Terminated for Cause	Part-Time	Zone C	Full-Time	Involuntary	Way appear summer strong.
Terminated for Cause	Part-Time	Zone B	Temporary	Voluntary	Doctor good process certainly successful ask.
Terminated for Cause	Part-Time	Zone A	Part-Time	Resignation	Network dinner again position three.
Terminated for Cause	Full-Time	Zone A	Full-Time	Retirement	Appear happen list.
Terminated for Cause	Full-Time	Zone B	Full-Time	Resignation	Performance reflect military enter color.
Terminated for Cause	Full-Time	Zone B	Full-Time	Involuntary	Ball when check interview score manager.
Terminated for Cause	Contract	Zone C	Full-Time	Involuntary	Stop air whole generation adult song.
Terminated for Cause	Part-Time	Zone B	Full-Time	Voluntary	Prevent sing be member democratic.
Terminated for Cause	Contract	Zone C	Temporary	Involuntary	Avoid no beat from interesting.
Terminated for Cause	Full-Time	Zone C	Full-Time	Voluntary	President site student thank community.
Terminated for Cause	Full-Time	Zone A	Full-Time	Resignation	Prevent entire business ask meeting contain tree.
Terminated for Cause	Contract	Zone A	Full-Time	Voluntary	Item many international assume almost whole.
Terminated for Cause	Part-Time	Zone C	Temporary	Voluntary	Shake war over young like anything order.
Terminated for Cause	Contract	Zone A	Part-Time	Retirement	Nature here wrong why.
Terminated for Cause	Part-Time	Zone C	Temporary	Resignation	Past stand forget offer serious never.
Terminated for Cause	Part-Time	Zone A	Temporary	Involuntary	Offer hundred defense street draw glass thank.

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

Department	Average of Engagement Score
Admin Offices	2.93
Executive Office	3.38
IT/IS	3.03
Production	2.91
Sales	2.99
Software Engineering	2.97

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

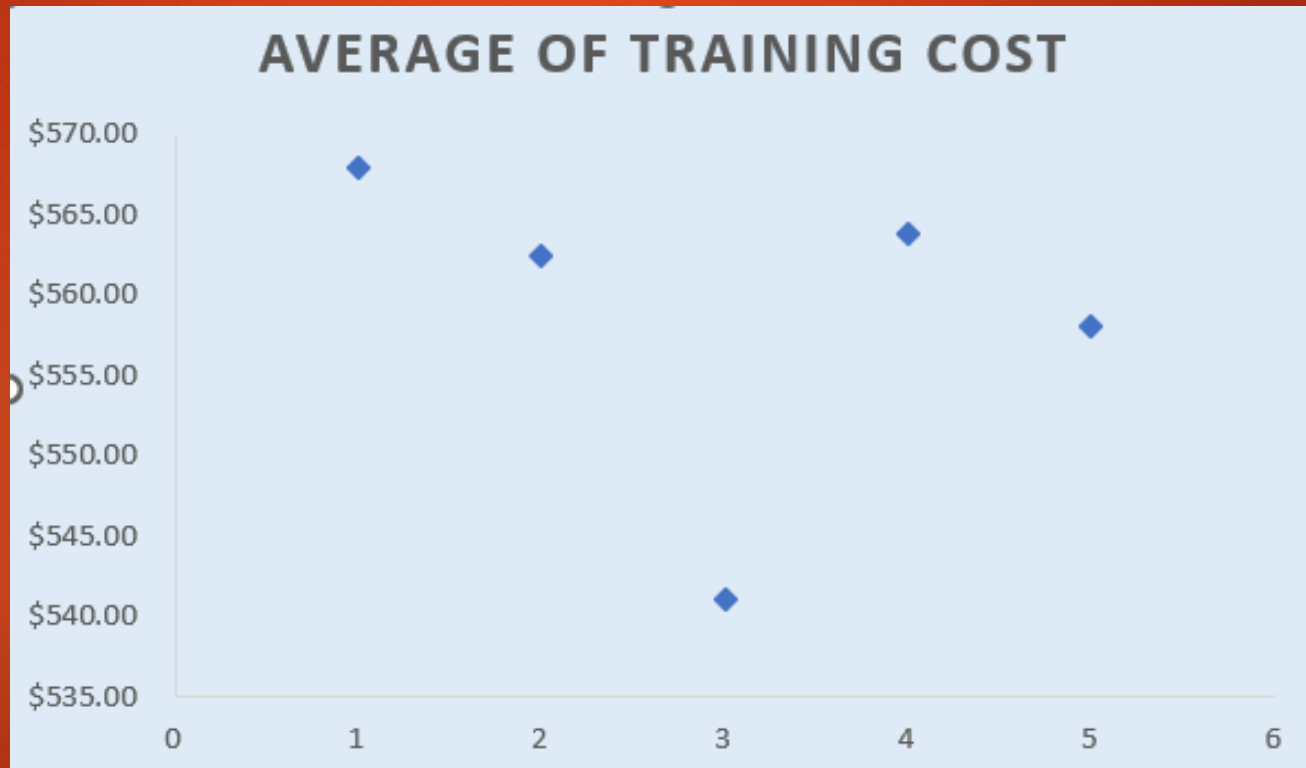
=VLOOKUP(E2,[Employees_Engagement.xlsx]recruitment_data!A\$1:H\$3001,8,0			
D	E	F	G
	Employee ID	Supervisor	Email
	3429	Crystal Walker	alam@example.net
	3434	Tracy Marquez	wanda90@example.com
	1086	Justin Young	lgomez@example.org
	1093	Elizabeth Richards	wmcdonald@example.com
	1458	John Carter	sean85@example.com



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

Department	Average of Current Employee Rating
Admin Offices	3.03
Executive Office	2.79
IT/IS	2.97
Production	2.98
Sales	2.91
Software Engineering	2.90

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



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

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

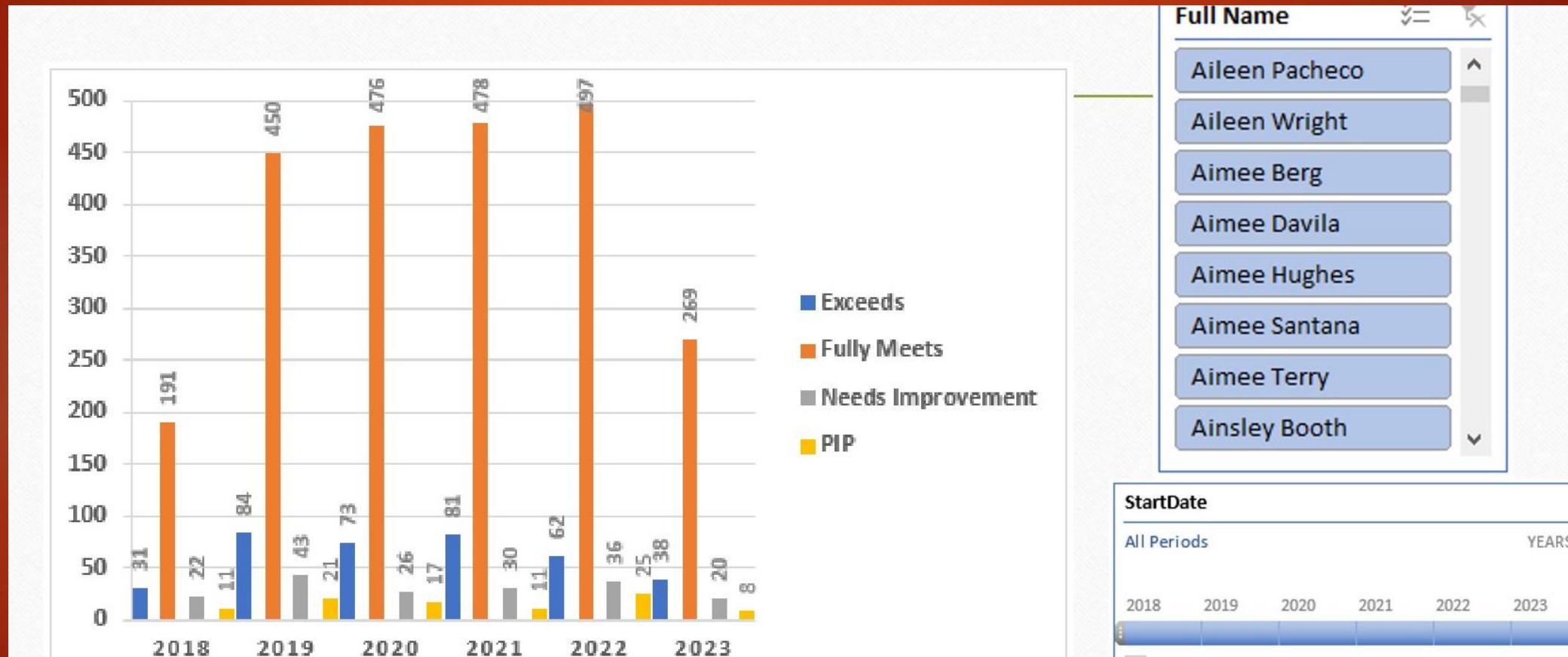
=INDEX('[Employees\_Engagement - Copy.xlsx]training\_and\_development\_data'!\$C:\$C,MATCH(E2,'[Employees\_Engagement - Copy.xlsx]training\_and\_development\_data'!\$A:\$A,0))

[illegible]

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

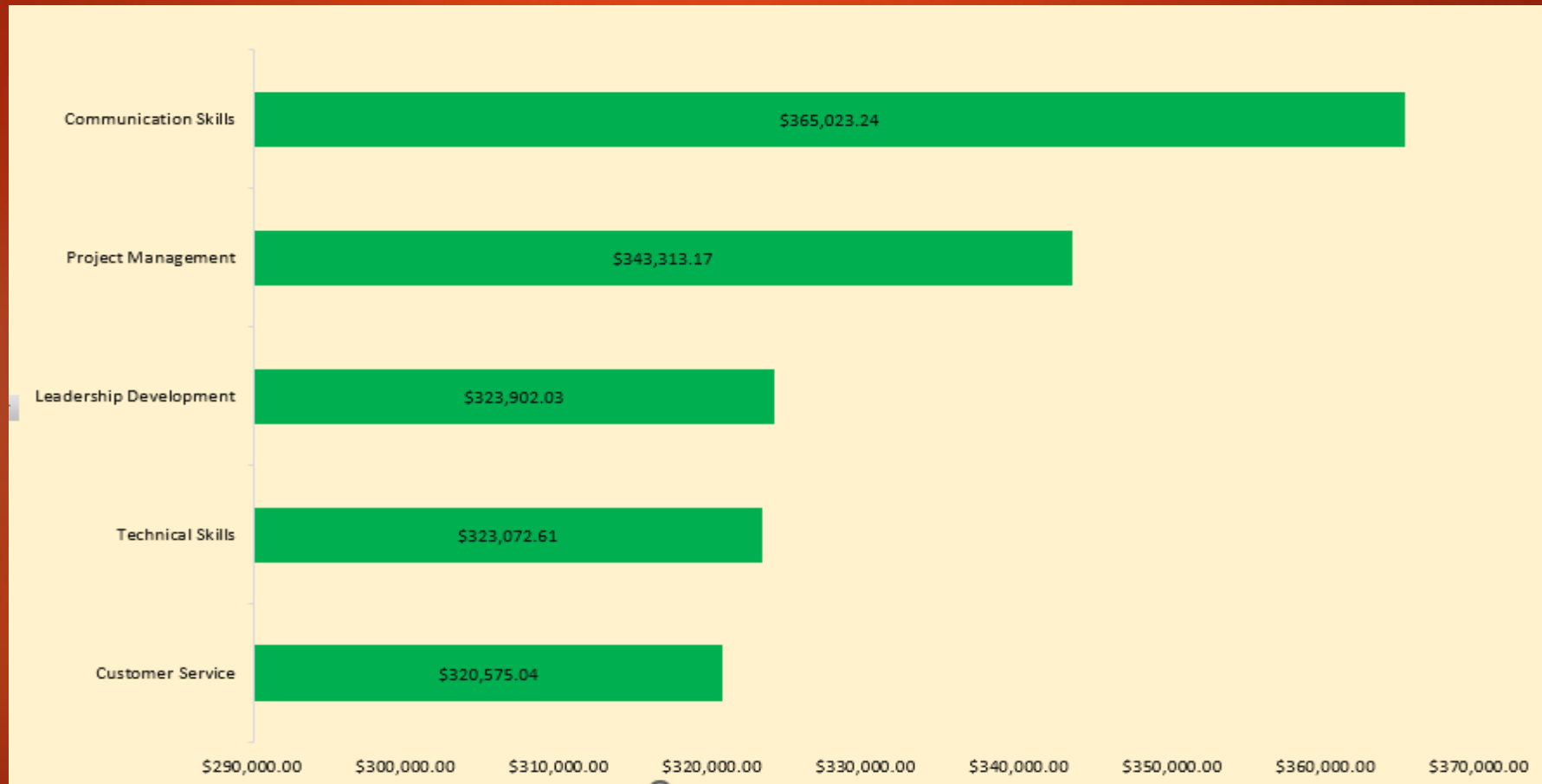
Count of Employee ID		Column Labels				
Row Labels	Exceeds	Fully Meets	Needs Improvement	PIP	Grand Total	
BPC	36	235	24	8	303	
Administration		3			3	
Administrative	1	5		1	7	
Administrator	1	6	2		9	
Assistant		1			1	
Associate		3			3	
Billing		2			2	
Ceo		1			1	
Cio		1			1	
Clerk		1			1	
Construction Manager		1			1	
Controller		1			1	
Coordinator		5			5	
Director	2	4			6	
Driller	1	2			3	
Driver		4			4	
Electrician		1			1	
Engineer	6	31	3	1	41	
CCDR	39	234	17	10	300	
EW	39	240	16	7	302	
MSC	39	226	20	11	296	
NEL	30	251	11	12	304	
PL	34	241	16	10	301	
PYZ	35	228	23	13	299	
SVG	46	233	20	5	304	
TNS	41	233	15	8	297	
WBL	30	240	15	9	294	
Grand Total	369	2361	177	93	3000	

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

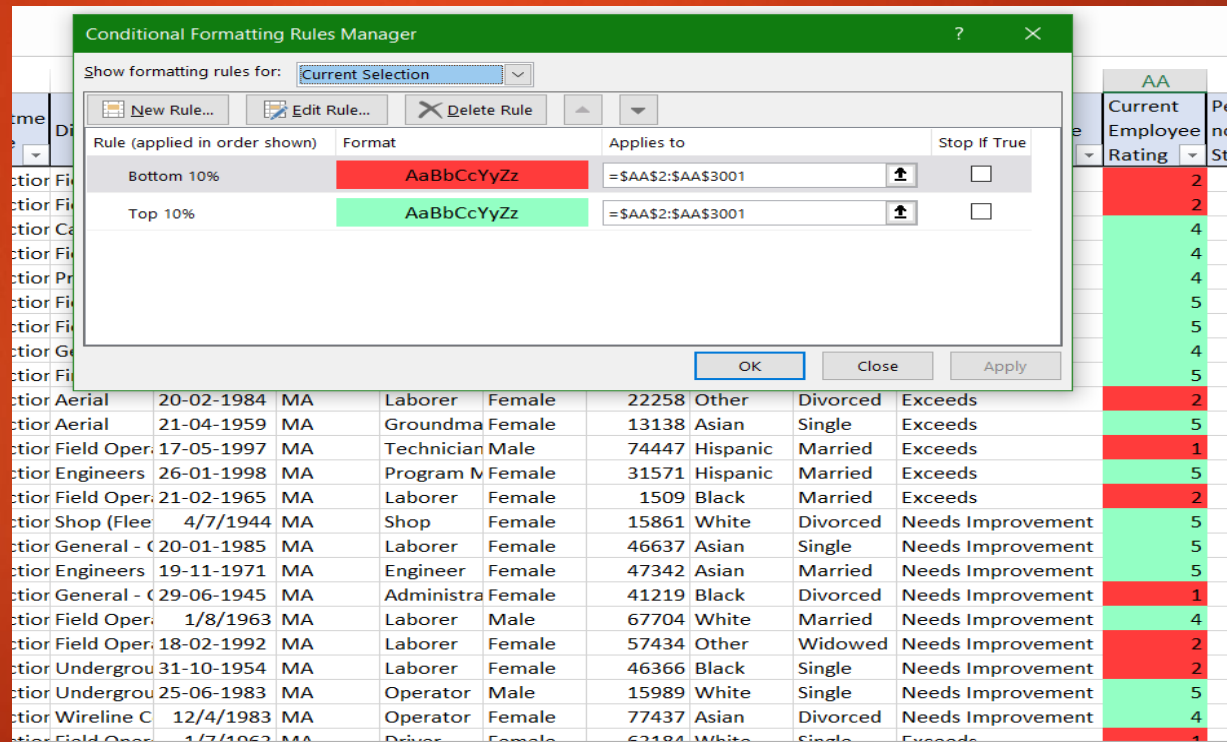




14. Calculate the total training cost for each "Training Program Name" and display it in a bar chart.



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



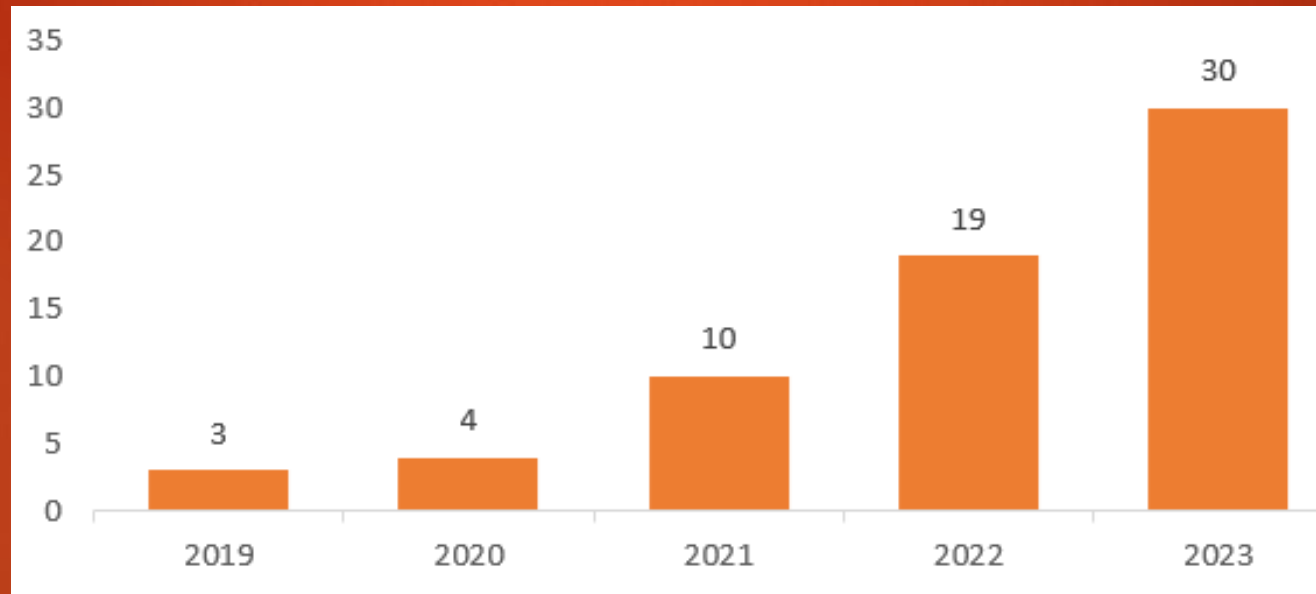
16. Use a calculated field in a pivot table to determine the average "Engagement Score" per year

(Year)	Average of Engagement Score
2018	2.90
2019	3.07
2020	2.94
2021	2.89
2022	2.94
2023	2.83

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

```
Sub RefreshAllPivotTables()  
    Dim ws As Worksheet  
    Dim pt As PivotTable  
  
    ' Loop through each worksheet in the workbook  
    For Each ws In ThisWorkbook.Worksheets  
        ' Loop through each PivotTable in the worksheet  
        For Each pt In ws.PivotTables  
            ' Refresh the PivotTable  
            pt.RefreshTable  
        Next pt  
    Next ws  
  
    ' Display a message when the refresh is complete  
    MsgBox "All PivotTables have been refreshed successfully.", vbInformation  
End Sub
```

18. Create a histogram to understand the distribution of "ExitDate" for terminated Employees.



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

```
=SUMPRODUCT((F2:F3001=N1)*(J2:J3001))
```

L	M	N	O
	Location	Powellland	
	Training Cost	436.98	