

PANAMA LIMITED HR EMPLOYEE ATTRITION ANALYSIS 2024

ABSTRACT

This project analyzes employee attrition at Panama Limited, a Financial Technology Company facing high employee turnover. Key factors driving high attrition rates are identified and strategic recommendations are given. The analysis reveals employees who joined Panama limited as under-aged (below 18 years) have the highest attrition rate of 13.25%, Auditing Department has the highest attrition rate at 17.07%, Job Titles Sales Associate, Statistician IV and Executive Secretary have the highest attrition rate of 50%, Female gender has the highest attrition rate of 11.35%, Native Hawaiian or Other Pacific Islander have the highest attrition rate of 11.41%, Employees who work at the Headquarters have the highest attrition rate of 11.02%, Michigan Employees have the highest attrition rate of 11.72%.

To address these issues, the project recommends several strategic changes, including discontinuing the hiring of underage workers, investigating departments, job titles, locations with high turnover, borrowing strategies from departments and job titles with high retention rates and increasing remote work opportunities. By creating a more supportive work environment and actively seeking employee feedback, Panama Limited can improve retention rates, enhance employee satisfaction, and foster a more engaged workforce.

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INTRODUCTION

Employee attrition is defined as the natural process by which employees leave the workforce – for example, through resignation for personal reasons or retirement – and are not immediately replaced.

In this project I'm conducting an Employee Attrition Analysis for Panama Limited, a Financial Technology Company, which is facing high employee turnover. The HR department has provided me with a dataset containing information on employee demographics, job roles, races and tenure with the company in order task is to analyze it and identify key factors contributing to employee attrition and to provide recommendations to reduce turnover.

For this project I'll be using SQL for Data Cleaning & Analysis and Microsoft Excel for Visualization.

PROJECT OBJECTIVES

My primary Objectives for this project are :

- 1.To understand Panama Limited Employee demographics
- 2.To analyze the Employee data to find factors contributing to high attrition in the company
3. To give recommendations to reduce attrition rate

PROBLEM STATEMENT

1. What are the factors contributing to employee attrition in Panama Limited?
- 2.Which departments, Job titles, Gender, Race, Age and Locations are affected by attrition and what are their attrition rates?
- 3.At what ages were the employees hired? Could there be any under aged employees?
- 4.Which departments and job titles have underage employees(below 18years) and how many are they?
- 5.What is the attrition rate comparison between underage employees and normal aged employees?
- 6.What are the departments and job titles with highest retention rates?
- 7.What is the average tenure?

8.How many employees in each job title have a tenure of less than 1 year? What are the issues causing that?

9.Which current employees have stayed the longest in the company and what departments and job titles are they in? What can we learn from them?

10.What measures to take to reduce employee attrition?

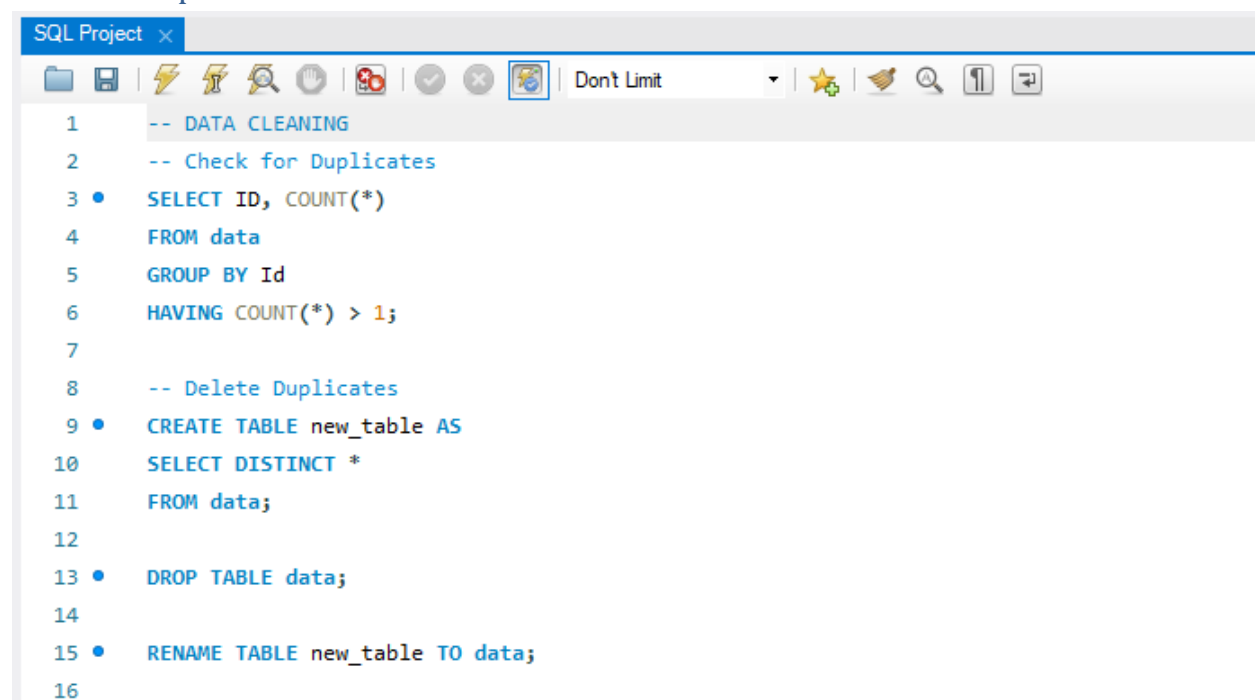
DATA IMPORT AND DATABASE SETUP

I imported the Employee Data into MySQL Workbench using the Import Table Wizard for cleaning and analysis.

DATA CLEANING AND TRANSFORMATION

Here I removed duplicates in the data and then standardized it.

Remove duplicates.

A screenshot of the MySQL Workbench SQL Editor window. The title bar says "SQL Project". The toolbar includes icons for file operations, execution, and a "Don't Limit" button. The SQL editor contains the following code:

```
1  -- DATA CLEANING
2  -- Check for Duplicates
3  • SELECT ID, COUNT(*)
4    FROM data
5    GROUP BY Id
6    HAVING COUNT(*) > 1;
7
8  -- Delete Duplicates
9  • CREATE TABLE new_table AS
10 SELECT DISTINCT *
11    FROM data;
12
13 • DROP TABLE data;
14
15 • RENAME TABLE new_table TO data;
16
```


Standardize Data

- Checked if any trim is required or misspelt words and Modified
- Merged First and Last Name into a new column - Full Name
- Modified the Gender Column
- Converted data type to date for column Hire_date
- Converted data type to date for column Birthdate
- Converted data type to date for column Termdate

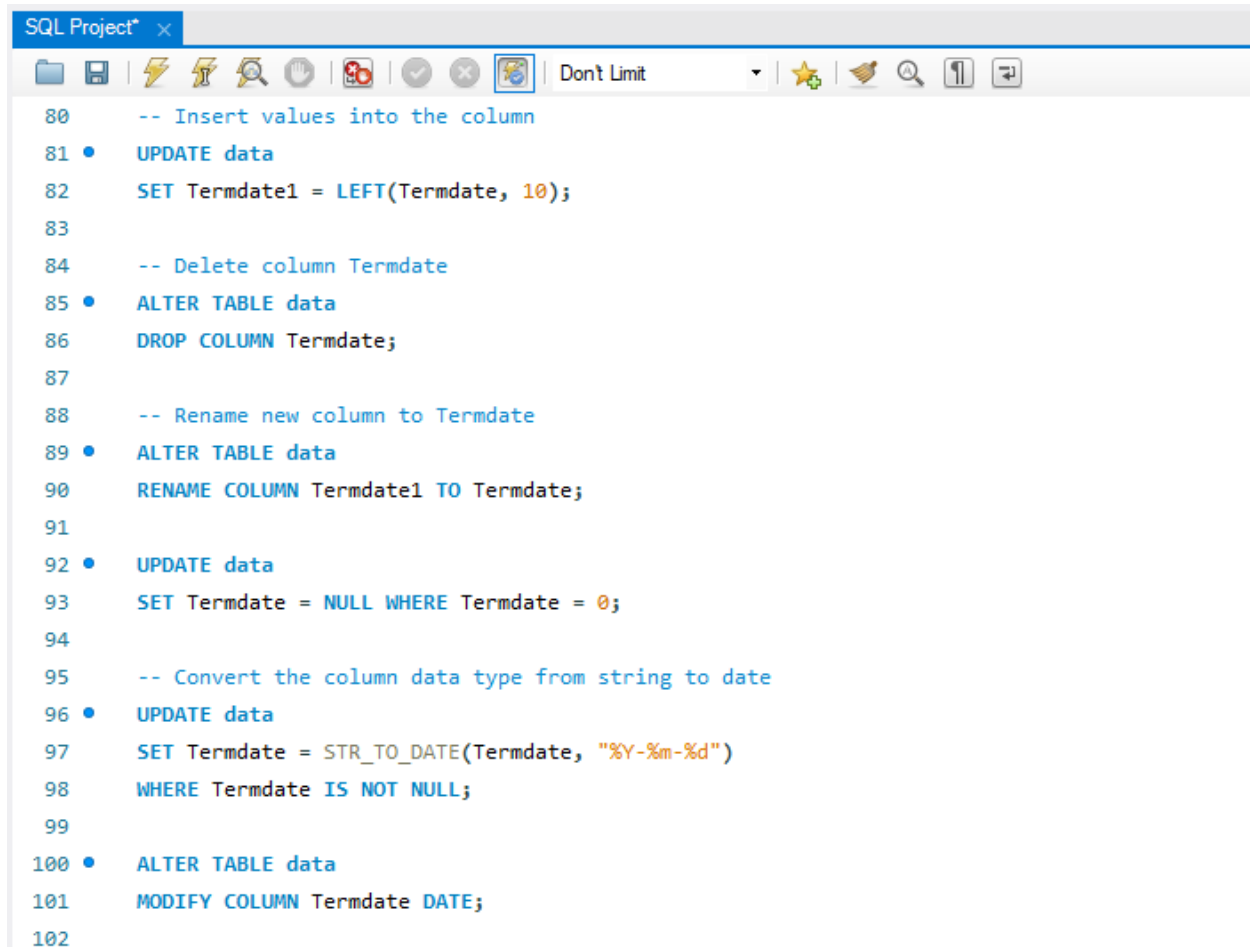
```
17  -- STANDARDIZE DATA
18  -- Check if any trim is required or misspelt words and Modify
19  • SELECT DISTINCT Location_city
20    FROM data
21    Order by 1;
22
23  • SELECT DISTINCT Jobtitle
24    FROM data
25    Order by 1;
26
27  -- Modify Misspelt words
28  • UPDATE data
29    SET Location_city = 'Jeffersonville'
30    WHERE Location_city = 'JefFrsonville';
31
32  • UPDATE data
33    SET Jobtitle = 'Assistant Professor'
34    WHERE Jobtitle = 'Assistant ProFssor';
35
36  • UPDATE data
37    SET Jobtitle = 'Associate Professor'
38    WHERE Jobtitle = 'Associate ProFssor';
39
```

```
40      -- Modify Gender Column
41      • UPDATE data
42      ○ SET Gender = CASE
43          WHEN Gender = 'M' THEN 'Male'
44          WHEN Gender = 'FM' THEN 'Female'
45          ELSE 'Non-Conforming'
46      END;
47
48      -- Merge First and Last Name into a new column - Full Name
49      • ALTER TABLE data
50      ADD Full_Name VARCHAR (200) AFTER Id;
51
52      • UPDATE data
53      SET Full_Name = CONCAT(First_Name, ' ', Last_Name);
54
55      • ALTER TABLE data
56      DROP COLUMN First_name,
57      DROP COLUMN Last_name;
58
```

SQL Project* x



```
59 -- Convert data type to date for column Hire_date
60 • SELECT *
61 FROM data;
62
63 • UPDATE data
64 SET Hire_date = STR_TO_DATE(Hire_date, "%d-%m-%Y");
65
66 • ALTER TABLE data
67 Modify Hire_date DATE;
68
69 -- Convert data type to date for column Birthdate
70 • UPDATE data
71 SET Birthdate = STR_TO_DATE(Birthdate, "%d-%m-%Y");
72
73 • ALTER TABLE data
74 Modify Birthdate DATE;
75
76 -- First create a new termdate column, Insert values then Convert data type to date for column Termdate
77 • ALTER TABLE data
78 ADD Termdate1 TEXT AFTER Termdate ;
79
80 -- Insert values into the column
81 • UPDATE data
82 SET Termdate1 = LEFT(Termdate, 10);
--
```

A screenshot of a SQL Project IDE window. The title bar says "SQL Project" with a close button. The toolbar includes icons for file operations (folder, save, copy, paste, undo, redo), execution (lightning bolt, play), and other utilities (search, zoom, etc.). The code editor shows the following SQL script:

```
80 -- Insert values into the column
81 • UPDATE data
82 SET Termdate1 = LEFT(Termdate, 10);
83
84 -- Delete column Termdate
85 • ALTER TABLE data
86 DROP COLUMN Termdate;
87
88 -- Rename new column to Termdate
89 • ALTER TABLE data
90 RENAME COLUMN Termdate1 TO Termdate;
91
92 • UPDATE data
93 SET Termdate = NULL WHERE Termdate = 0;
94
95 -- Convert the column data type from string to date
96 • UPDATE data
97 SET Termdate = STR_TO_DATE(Termdate, "%Y-%m-%d")
98 WHERE Termdate IS NOT NULL;
99
100 • ALTER TABLE data
101 MODIFY COLUMN Termdate DATE;
102
```

DATA ANALYSIS AND QUERYING

I used SQL to conduct the following Analysis of the data:

1. **Total Number of Employees (22214), Department(13), Job title(184), Race(7)**

```
SQL Project x
[Icons] | Don't Limit
103 -- ANALYSIS
104 -- Calculate Total number of Employees
105 • SELECT COUNT(Id) AS Total_Employees
106 FROM data;
107
108 -- Calculate Total number of Departments
109 • SELECT COUNT(DISTINCT Department) AS Total_Department
110 FROM data;
111
112 -- Calculate Total number of Race
113 • SELECT COUNT(DISTINCT Race) AS Total_Race
114 FROM data;
115
116 -- Calculate Total number of Job Titles
117 • SELECT COUNT(DISTINCT Jobtitle) AS Total_Jobtitle
118 FROM data;
119
```

2. Employment Status – whether Active or Terminated

```
143 -- Calculate Employee Status
144 • ALTER TABLE data
145 ADD COLUMN Employee_Status VARCHAR (50) AFTER Tenure;
146
147 • UPDATE data
148 SET Employee_Status = CASE
149 WHEN Termdate IS NULL OR Termdate > '2024-10-09' THEN 'Active'
150 ELSE 'Terminated'
151 END;
152
```

3. Calculate the Age at which Employees were Hired so as to categorize the employees who are hired at the age below 18 as Underaged and those above 18 as Normal aged. Also, I checked for outliers in the ages(below 14 years) and removed them


```

153      -- Calculate Hired Age
154 •    ALTER TABLE data
155      ADD Hired_Age INT AFTER Termdate;
156
157 •    UPDATE data
158      SET Hired_Age = timestampdiff(YEAR, Birthdate, Hire_date );
159
160      -- check for outliers in hired age column
161 •    SELECT *
162      FROM data
163      WHERE Hired_Age < 14;
164
165      -- Remove Outliers
166 •    DELETE
167      FROM data
168      WHERE Hired_Age in (
169          SELECT Hired_Age
170          FROM (
171              SELECT *
172              FROM data
173              WHERE Hired_Age < 14) as subquery
174      );
175

```

Thereafter I created a new column called Working age – this categorizes the employees into different categories –

1. 'Underage' where Hired_Age < 18
2. 'Overage' where Hired_Age > 65
3. 'Normal Age' where Hired_Age > 18 & < 65

```

176      -- Calculate Working Age
177 •    ALTER TABLE data
178      ADD COLUMN Working_Age TEXT;
179
180 •    UPDATE data
181      SET Working_Age = CASE
182          WHEN Hired_Age < 18 THEN 'Underage'
183          WHEN Hired_Age > 65 THEN 'Overage'
184          ELSE 'Normal Age'
185      END;
186

```

```

195     -- Calculate Working Age
196 •   SELECT Id,Hired_Age,
197     CASE
198         WHEN Hired_Age < 18 THEN 'Underage'
199         WHEN Hired_Age > 65 THEN 'Overage'
200         ELSE 'Normal Age'
201     END AS Working_Age
202     FROM hrdata2
203     ORDER BY Hired_Age ASC;
204
205 •   ALTER TABLE hrdata2
206     ADD COLUMN Working_Age TEXT;
207
208 •   UPDATE hrdata2
209     SET Working_Age = CASE
210         WHEN Hired_Age < 18 THEN 'Underage'
211         WHEN Hired_Age > 65 THEN 'Overage'
212         ELSE 'Normal Age'
213     END;

```

4. Calculate Tenure. Tenure – this refers to is the length of time an employee has worked for a company.

```

120     -- Calculate Tenure
121 •   ALTER TABLE data
122     ADD Tenure INT AFTER Termdate;
123
124 •   UPDATE data
125     SET Tenure = CASE
126         WHEN Termdate IS NOT NULL THEN timestampdiff(YEAR, Hire_date, Termdate)
127         WHEN Termdate IS NULL OR Termdate >='2024-10-09' THEN timestampdiff(YEAR, Hire_date, '2024-10-09')
128     END;
129

```

6. Average Tenure of Terminated Employees

```

187      -- Average Tenure of Terminated Employees
188 •    SELECT AVG(Tenure) AS Avg_Tenure
189      FROM data
190      WHERE Employee_Status = 'Terminated';
191
192      -- Employee Attrition by Department

```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	Avg_Tenure			
▶	7.0806			

7. Attrition Rate by Department, Job title, Gender, Race, Location, Location Based, Working Age

Attrition rate formula = Number of employees who left / the number of employees at the start of the period) x 100

Attrition Rate by Department

```

200      -- Employee Attrition Rate by Department
201 •    SELECT Department,
202           COUNT(*) AS Total_Employees,
203           SUM(CASE WHEN Employee_Status = 'Terminated' THEN 1 ELSE 0 END) AS Employees_Left,
204           ROUND((SUM(CASE WHEN Employee_Status = 'Terminated' THEN 1 ELSE 0 END)/ COUNT(*)) *100,2) AS Attrition_Rate
205      FROM data
206      GROUP BY Department
207      ORDER BY Attrition_Rate DESC;

```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
Department	Total_Employees	Employees_Left	Attrition_Rate	
▶ Auditing	41	7	17.07	
Legal	257	32	12.45	
Training	1414	170	12.02	
Research and Development	906	106	11.70	
Product Management	539	63	11.69	
Accounting	2772	306	11.04	
Services	1418	155	10.93	
Engineering	5563	602	10.82	
Sales	1496	161	10.76	
Support	812	87	10.71	
Human Resources	1474	154	10.45	
Business Development	1334	130	9.75	
Marketing	411	36	8.76	

Auditing Department has the highest attrition rate of 17.07%

Attrition Rate by Job title

209

-- Employee Attrition Rate by Job title

210

• SELECT Jobtitle,

211

COUNT(*) AS Total_Employees,

212

SUM(CASE WHEN Employee_Status = 'Terminated' THEN 1 ELSE 0 END) AS Employees_Left,

213

ROUND((SUM(CASE WHEN Employee_Status = 'Terminated' THEN 1 ELSE 0 END)/ COUNT(*)) *100,2) AS Attrition_Rate

214

FROM data

215

GROUP BY Jobtitle

216

ORDER BY Attrition_Rate DESC;

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
Jobtitle	Total_Employees	Employees_Left	Attrition_Rate
Sales Associate	4	2	50.00
Statistician IV	2	1	50.00
Executive Secretary	2	1	50.00
Human Resources Assistant I	10	4	40.00
Engineer II	6	2	33.33
Statistician III	3	1	33.33
Payment Adjustment Coordinator	18	6	33.33
General Manager	27	7	25.93
Sales Representative	4	1	25.00
Administrative Assistant	35	8	22.86
Actuary	25	5	20.00
Office Assistant I	5	1	20.00
Web Designer I	26	5	19.23
Content Developer	47	9	19.15
Statistician II	11	2	18.18

Job Titles Sales Associate, Statistician IV and Executive Secretary have the highest attrition rate of 50%.

Attrition Rate by Gender

218

-- Employee Attrition Rate by Gender

219

• SELECT Gender,

220

COUNT(*) AS Total_Employees,

221

SUM(CASE WHEN Employee_Status = 'Terminated' THEN 1 ELSE 0 END) AS Employees_Left,

222

ROUND((SUM(CASE WHEN Employee_Status = 'Terminated' THEN 1 ELSE 0 END)/ COUNT(*)) *100,2) AS Attrition_Rate

223

FROM data

224

GROUP BY Gender

225

ORDER BY Attrition_Rate DESC;

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
Gender	Total_Employees	Employees_Left	Attrition_Rate
Female	8561	972	11.35
Male	9369	987	10.53
Non-Conforming	507	50	9.86

Female gender has the highest attrition rate of 11.35%.

Attrition Rate by Race

```
227 -- Employee Attrition Rate by Race
228 • SELECT Race,
229         COUNT(*) AS Total_Employees,
230         SUM(CASE WHEN Employee_Status = 'Terminated' THEN 1 ELSE 0 END) AS Employees_Left,
231         ROUND((SUM(CASE WHEN Employee_Status = 'Terminated' THEN 1 ELSE 0 END)/ COUNT(*)) *100,2) AS Attrition_Rate
232 FROM data
233 GROUP BY Race
234 ORDER BY Attrition_Rate DESC;
```

	Race	Total_Employees	Employees_Left	Attrition_Rate
▶	Native Hawaiian or Other Pacific Islander	1008	115	11.41
	Asian	2956	332	11.23
	Black or African American	3010	335	11.13
	White	5264	581	11.04
	Two or More Races	3028	329	10.87
	Hispanic or Latino	2061	207	10.04
	American Indian or Alaska Native	1110	110	9.91

Native Hawaiian or Other Pacific Islander have the highest attrition rate of 11.41%

Attrition Rate by Location

```
236 -- Employee Attrition Rate by Location
237 • SELECT Location,
238         COUNT(*) AS Total_Employees,
239         SUM(CASE WHEN Employee_Status = 'Terminated' THEN 1 ELSE 0 END) AS Employees_Left,
240         ROUND((SUM(CASE WHEN Employee_Status = 'Terminated' THEN 1 ELSE 0 END)/ COUNT(*)) *100,2) AS Attrition_Rate
241 FROM data
242 GROUP BY Location
243 ORDER BY Attrition_Rate DESC;
```

	Location	Total_Employees	Employees_Left	Attrition_Rate
▶	Headquarters	13849	1526	11.02
	Remote	4588	483	10.53

Employees who work at the Headquarters have the highest attrition rate of 11.02% as compared to those who work remotely 10.53%.

Attrition Rate by Location State

```
349  -- Employee Attrition by Location Based
350  •  WITH CTE AS
351  (
352  SELECT Location_state,
353         ROUND(CAST(SUM(CASE WHEN Employee_Status = 'Terminated' THEN 1 ELSE 0 END)AS FLOAT) *100 / COUNT(*),2) AS Attrition_rate
354  FROM data
355  GROUP BY Location_state
356  )
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	Location_state	Total_Employees	Employees_Left	Attrition_Rate
▶	Michigan	563	66	11.72
	Kentucky	385	44	11.43
	Wisconsin	322	36	11.18
	Ohio	14921	1644	11.02
	Indiana	594	61	10.27
	Illinois	718	69	9.61
	Pennsylvania	934	89	9.53

Employees who come from Michigan have the highest attrition rate of 11.72%

Attrition Rate by Working Age

```
254  -- Employee Attrition Rate by Working Age
255  •  SELECT Working_Age,
256         COUNT(*) AS Total_Employees,
257         SUM(CASE WHEN Employee_Status = 'Terminated' THEN 1 ELSE 0 END) AS Employees_Left,
258         ROUND((SUM(CASE WHEN Employee_Status = 'Terminated' THEN 1 ELSE 0 END)/ COUNT(*)) *100,2) AS Attrition_Rate
259  FROM data
260  GROUP BY Working_Age
261  ORDER BY Attrition_Rate DESC;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	Working_Age	Total_Employees	Employees_Left	Attrition_Rate
▶	Underage	2219	294	13.25
	Normal Age	16218	1715	10.57

Employees who joined Panama limited as under-aged (below 18 years) have the highest attrition rate of 13.25%. This is a high indicator to the company to not hire under-aged employees as it contributes to attrition among other factors.

8. Which departments, Job titles have the highest retention Rate?

Retention rate formula = Number of remaining original employees / the number of employees at the start of the period) x 100

Retention Rate by Job title

```
372 -- Calculate Retention Rate by Job Title
373 • SELECT Jobtitle, COUNT(*) AS Total_Employees,
374        (CAST(SUM(CASE WHEN Employee_Status = 'Active' THEN 1 ELSE 0 END)AS FLOAT) *100 / COUNT(*)) AS Retention_Rate
375        FROM data
376        GROUP BY Jobtitle
377        ORDER BY Retention_Rate DESC;
378
```

Jobtitle	Total_Employees	Retention_Rate
Research Assistant IV	7	100
Human Resources Assistant IV	9	100
Marketing Manager	1	100
Web Designer IV	5	100
Business Development Manager	4	100
Human Resources Assistant II	8	100
Senior Sales Associate	11	100
Engineer III	5	100
VP Sales	5	100
Automation Specialist II	25	100
Staff Scientist	26	100
Marketing Assistant	7	100
Human Resources Assistant III	10	100
Web Designer III	11	100
Engineer IV	3	100

The result shows Job titles with 100% retention rate . This means that these employees from the specified job titles have never left since joining Panama Limited. To help understand and reduce turnover, the HR and company leaders should analyze these employees with 100% retention rate to see what contributes to their stay so that they improve the same with other employees.

Retention Rate by Department

378

379 -- Calculate Retention Rate by Department

380 • SELECT Department, COUNT(*) AS Total_Employees,

381 (CAST(SUM(CASE WHEN Employee_Status = 'Active' THEN 1 ELSE 0 END)AS FLOAT) *100 / COUNT(*)) AS Retention_Rate

382 FROM data

383 GROUP BY Department

384 ORDER BY Retention_Rate DESC;

385

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

Department	Total_Employees	Retention_Rate
Marketing	411	91.24087591240875
Business Development	1334	90.25487256371814
Human Resources	1474	89.55223880597015
Support	812	89.28571428571429
Sales	1496	89.2379679144385
Engineering	5563	89.17850080891606
Services	1418	89.0691114245416
Accounting	2772	88.96103896103897
Product Management	539	88.31168831168831
Research and Development	906	88.30022075055187
Training	1414	87.97736916548797
Legal	257	87.54863813229572
Auditing	41	82.92682926829268




The result above shows Departments with the highest retention rates. To help understand and reduce turnover, the HR and company leaders should analyze these departments to understand what contributes to their stay so that they improve the same with other employees in different departments with high attrition rates.

9. Which Job titles and departments have under-age employees hired and how is their gender distribution?


```

420 -- Departments Working Age Count with gender
421 • SELECT Department, Gender,
422         COUNT(CASE WHEN Working_Age = 'Underage' THEN 1 END) AS Total_Underaged,
423         COUNT(CASE WHEN Working_Age = 'Normal Age' THEN 1 END) AS Total_NormalAged
424 FROM data
425 GROUP BY Department, Gender
426 ORDER BY Total_Underaged DESC;
427

```

Result Grid   Filter Rows: | Export:  | Wrap Cell Content: 

	Department	Gender	Total_Underaged	Total_NormalAged
▶	Engineering	Male	359	2451
	Engineering	Female	276	2310
	Accounting	Male	170	1255
	Accounting	Female	167	1104
	Services	Male	97	624
	Human Resources	Male	97	651
	Business Development	Female	90	536
	Training	Male	89	632
	Sales	Male	88	668
	Services	Female	86	584
	Human Resources	Female	84	605
	Business Development	Male	72	597
	Sales	Female	68	632
	Training	Female	66	586
	Support	Male	55	355

Result 21 ×

```

428  |-- Jobtitle Working Age Count with gender
429  • SELECT Jobtitle, Gender,
430          COUNT(CASE WHEN Working_Age = 'Underage' THEN 1 END) AS Total_Underaged,
431          COUNT(CASE WHEN Working_Age = 'Normal Age' THEN 1 END) AS Total_NormalAged
432  FROM data
433  GROUP BY Jobtitle, Gender
434  ORDER BY Total_Underaged DESC;
435

```

Jobtitle	Gender	Total_Underaged	Total_NormalAged
Research Assistant II	Female	50	243
Human Resources Analyst II	Female	38	228
Business Analyst	Male	35	246
Business Analyst	Female	33	248
Human Resources Analyst II	Male	30	215
Account Executive	Female	27	189
Research Assistant I	Male	26	201
Staff Accountant I	Female	25	142
Data Visualization Specialist	Male	25	175
Help Desk Technician	Male	25	118
Research Assistant II	Male	24	276
Systems Administrator I	Male	24	141
Project Manager	Male	24	138
Service Tech II	Male	23	119
Research Assistant I	Female	23	185




From the results above, we see Departments and Job titles with the number of Under- Age employees (<18 years) hired along with their genders. Engineering Department and Job title -Research Assistant II have the highest number of Under- Age employees when hired. This is a main issue that could be contributing to the high attrition in Panama as the employees are too young to work effectively and also not qualified to meet the job requirements.

10. Which Job titles have tenure < 1

```

436      -- Jobtitle Tenure < 1
437 •    SELECT Jobtitle, Department,
438           COUNT(CASE WHEN Tenure < 1 THEN 1 END) AS Total_Employees
439      FROM data
440      GROUP BY Jobtitle, Department
441      ORDER BY Total_Employees DESC;
442

```

Result Grid  Filter Rows: <input type="text"/> Export:  Wrap Cell Content: 			
	Jobtitle	Department	Total_Employees
▶	Research Assistant II	Business Development	6
	Project Manager	Product Management	6
	Business Analyst	Business Development	5
	Data Coordinator	Engineering	5
	Service Coordinator	Services	5
	Administrative Assistant I	Training	5
	HR Manager	Human Resources	4
	Customer Success Manager	Sales	4
	Structural Engineer	Research and Development	4
	Solutions Engineer Manager	Sales	3
	Training Manager	Training	3
	Staff Accountant I	Accounting	3
	Desktop Support Technician	Support	3
	Human Resources Analyst II	Human Resources	3
	Budget/Accounting Analyst...	Accounting	3

11. Which Job titles have tenure >23

```

443      -- Highest Tenure (>23) by Jobtitles and Department
444 •    SELECT Jobtitle, Department, Tenure,
445           COUNT(CASE WHEN Tenure >=23 THEN 1 END) AS Total_Employees
446      FROM data
447      GROUP BY Jobtitle, Department, Tenure
448      ORDER BY Total_Employees DESC;

```

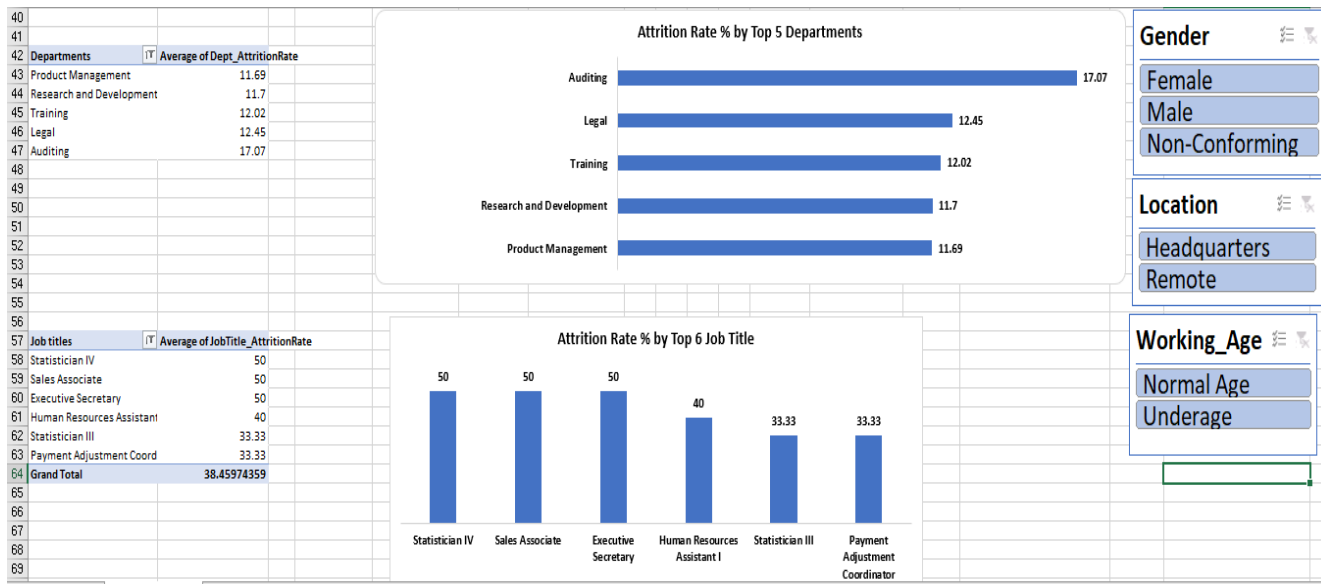
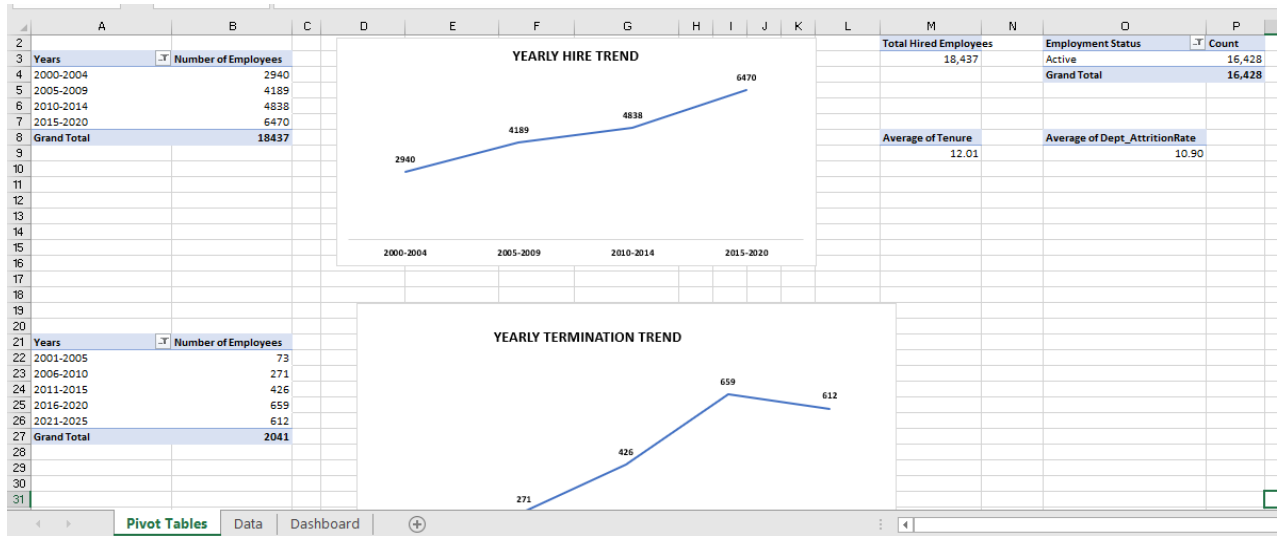
Result Grid				
Filter Rows:		Export:	Wrap Cell Content:	Fetch rows:
Jobtitle	Department	Tenure	Total_Employees	
Research Assistant II	Business Development	23	17	
Business Analyst	Business Development	23	15	
Data Coordinator	Engineering	23	13	
Project Manager	Product Management	23	12	
Senior Developer	Engineering	23	11	
Desktop Support Technician	Support	23	10	
Account Executive	Sales	23	10	
Service Tech	Services	23	10	
Staff Accountant I	Accounting	23	10	
Cost Accountant	Accounting	23	9	
Recruiter	Human Resources	23	9	
Human Resources Analyst II	Human Resources	23	9	
Human Resources Analyst	Human Resources	23	9	
Service Tech III	Services	23	9	
Data Visualization Specialist	Engineering	23	9	

LIMITATIONS

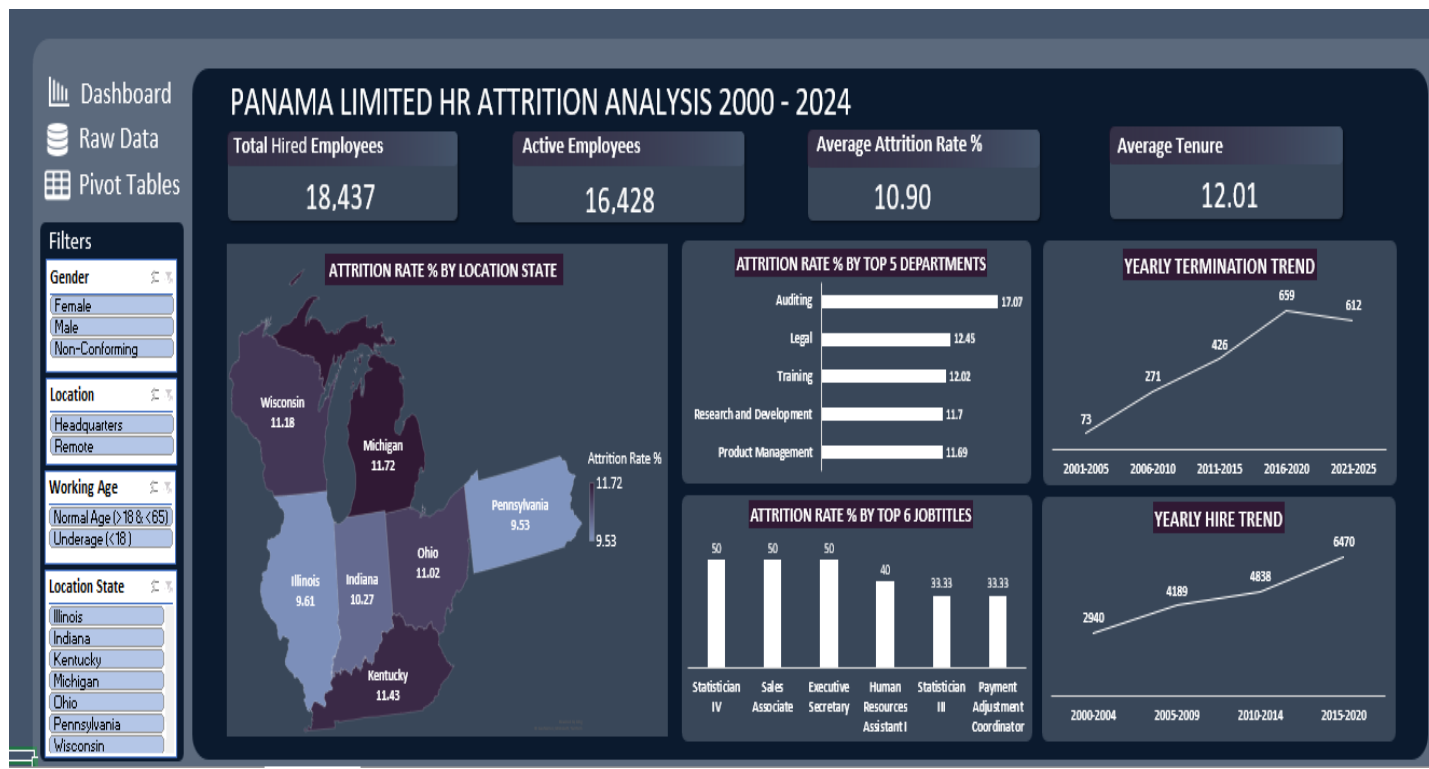
The data given had some records with negative ages and these were excluded during querying. Ages used were 14 years and above.

DATA VISUALIZATION WITH EXCEL

I used pivot table, charts and dashboard to visualize my data



DASHBOARD INTERACTIVITY AND USER EXPERIENCE



RECOMMENDATIONS

1. Panama Limited should avoid employing underage employees (below 18 years). This is an issue that could be contributing to the high attrition as the employees are too young to work effectively and also not qualified to meet the job requirements.
2. The company should look into departments and job titles with high attrition rates and tenure of <1 year and find out what could be causing employees to leave.
3. It should also analyze departments and job titles with high retention rates and tenure of 23 years get insights as to why they stay. This will help them apply the same strategies to the other departments and job titles especially those with high retention rates.
4. Panama limited should also consider having more remote roles as the analysis showed higher attrition rates among the employees who work at the headquarters.
5. The company should also find out why employees who come from Michigan have the highest attrition rate of 11.72%. Is there an issue from that region that causes that?
6. The company should also be open to getting job review, satisfaction and rating from the employees. This will help them understand if there are any issues facing the employees and solve them.

7. Above all, Panama Limited should create a conducive working environment, salary review, recognize employees for their performances, offer training and career development opportunities

CONCLUSION

In conclusion, the analysis of employee turnover at Panama Limited has highlighted several key factors contributing to the company's high turnover rates. By avoiding the hiring of underage employees and investigating departments, job titles, locations with high attrition, the company can pinpoint underlying issues and implement targeted solutions. Moreover, understanding the characteristics of departments with high retention rates offers valuable insights that can be applied across departments and job titles with high attrition rates. Increasing remote work opportunities and collecting employee feedback through satisfaction surveys and reviews will further help create a more conducive work environment. By focusing on these recommendations, including salary reviews, recognition programs, and career development initiatives, Panama Limited can foster a more engaged workforce and significantly reduce attrition rates, ultimately contributing to a more stable and productive organizational culture.