

Milestone Project

**An Analysis of Career Trajectories:
Salary & Experience Across Global
Industries**

Insight Project Report

Submitted By

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DATA ANALYTICS & DATA SCIENCE

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Introduction

The dataset, titled "Salary Survey 2021," contains detailed salary and employment information from various professionals across multiple industries. It includes 1,248 entries with 16 columns covering key attributes such as age range, industry, job title, annual salary, additional monetary compensation, currency, country, state, city, years of professional experience, highest education level, and gender. The data spans diverse sectors like education, technology, healthcare, law, nonprofits, and more, with salaries reported in different currencies (e.g., USD, GBP, CAD). This dataset provides valuable insights into compensation trends, demographic distributions, and the impact of factors like experience and education on earnings. It is useful for analysing salary disparities, industry benchmarks, and regional variations.

Objectives

- ✓ Industry Pay Comparison – Compare average salaries across industries to determine which sectors offer higher or lower compensation.
- ✓ Job Title Analysis – Examine salaries for similar roles in different industries or locations to spot variations.
- ✓ Regional Salary Trends – Analyze pay differences across countries, states, or cities to identify geographic disparities.

Cleaning process

- Removed duplicates
- Spell checked
- Standized city names
- Grouping genders
- Converted currency values
- Identified outliers

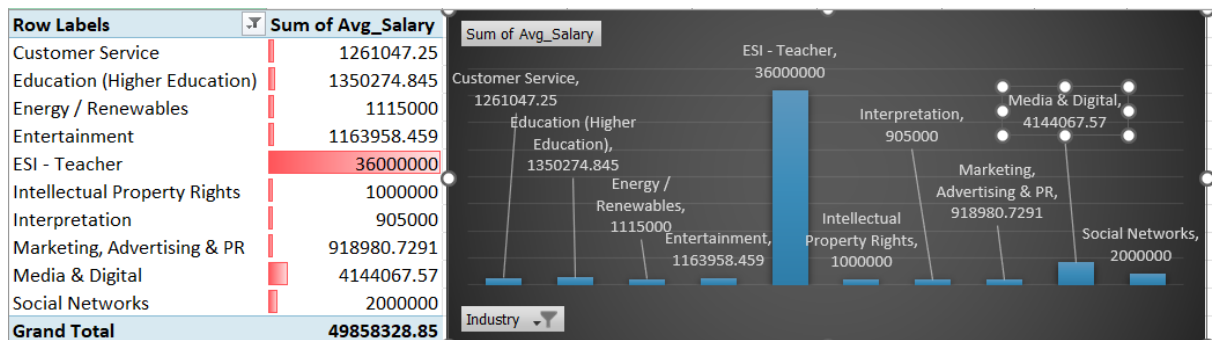
SQL Questions, Queries & Outputs

1. Average Salary by Industry and Gender

```
SELECT Industry,Gender,AVG(Annual_Salary) AS Avg_Salary
FROM salary_data GROUP BY Industry, Gender ;
```

Industry	Gender	Avg_Salary
Academia	Male	56400.0000
Academia	Female	36365.8571
Academic Medicine	Male	55000.0000
Academic Press Production	Female	42000.0000
Academic Publishing	Female	49300.0000
Academic Research	Female	51588.0000
Academic Research	Male	71750.0000
Academic Research (Psychology)	Female	36883.0000
Academic Research (Social Science)	Female	45000.0000
Academic Science	Female	43500.0000
Academic Science	Non-Bi...	40322.0000
Academic Scientific Research	Female	35600.0000
Accessibility	Non-Bi...	4000.0000
Accessibility	Female	74000.0000
Accounting, Banking & Finance	Female	86830.4013

Pivot Table & Chart:

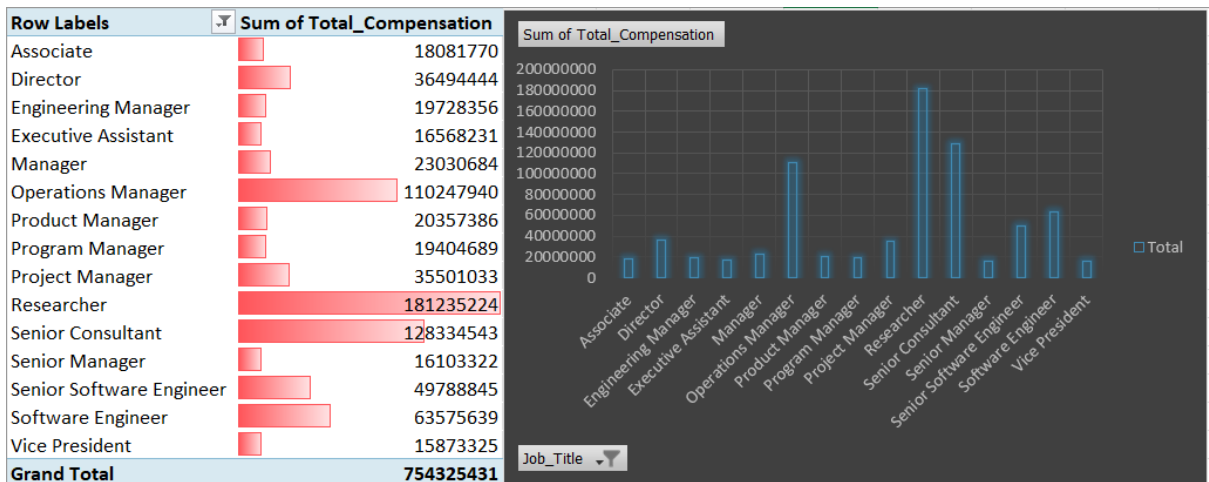


2. Total Salary Compensation by Job Title

```
SELECT Job_Title,SUM(Annual_Salary +
Additional_Monetary_Compensation) AS Total_Compensation
FROM salary_data GROUP BY Job_Title ;
```

Assistant Professor	10156506
PhD Student Biotechnology	40261
Postdoctoral Research Associate	163000
Assistant	1096056
Graduate Research Assistant	338284
Project Manager Senior	192750
Post Doctoral Fellow	102000
Administrative Specialist	662224
Production Controller	42000
Editor	6906997
Editorial Client Manager	56500
Assistant To The Press Director	40800
Editorial Assistant	385531
Acquisitions Editor/Book Editor	73000
Acquisitions Editor	291100

Pivot Table & Chart:



3. Salary Distribution by Education Level

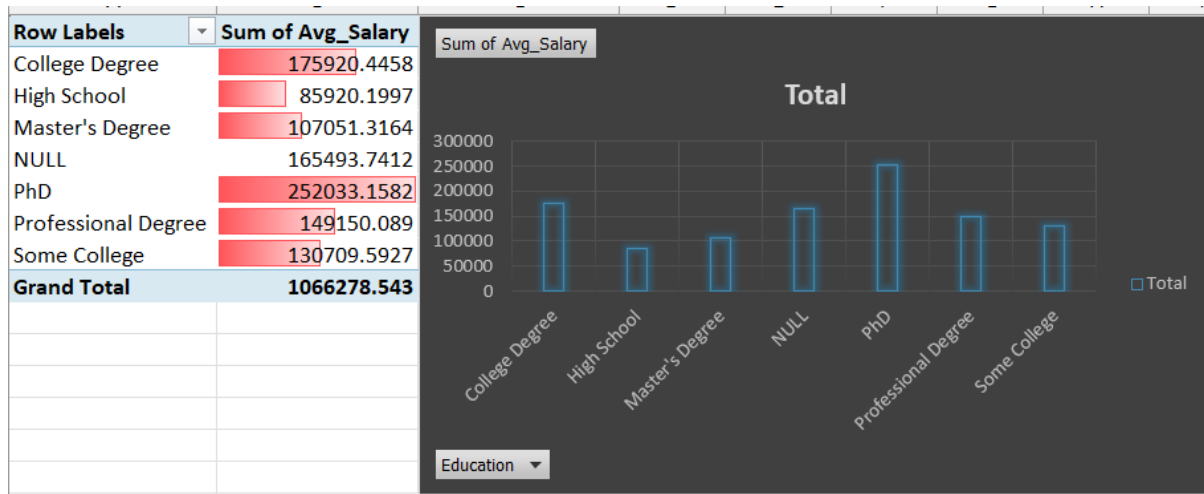
```

SELECT Education,
       MIN(Annual_Salary) AS Min_Salary,
       MAX(Annual_Salary) AS Max_Salary,
       AVG(Annual_Salary) AS Avg_Salary
FROM salary_data GROUP BY Education;

```

Education	Min_Salary	Max_Salary	Avg_Salary
PhD	130	180000000	252033.1582
Master's Degree	1	43800000	107051.3164
College Degree	10	870000000	175920.4458
Some College	35	102000000	130709.5927
High School	40	5000000	85920.1997
Professional Degree	90	11500000	149150.0890
NULL	18	8320000	165493.7412

Pivot Table & Chart:



4.Number of Employees by Industry and Years of Experience

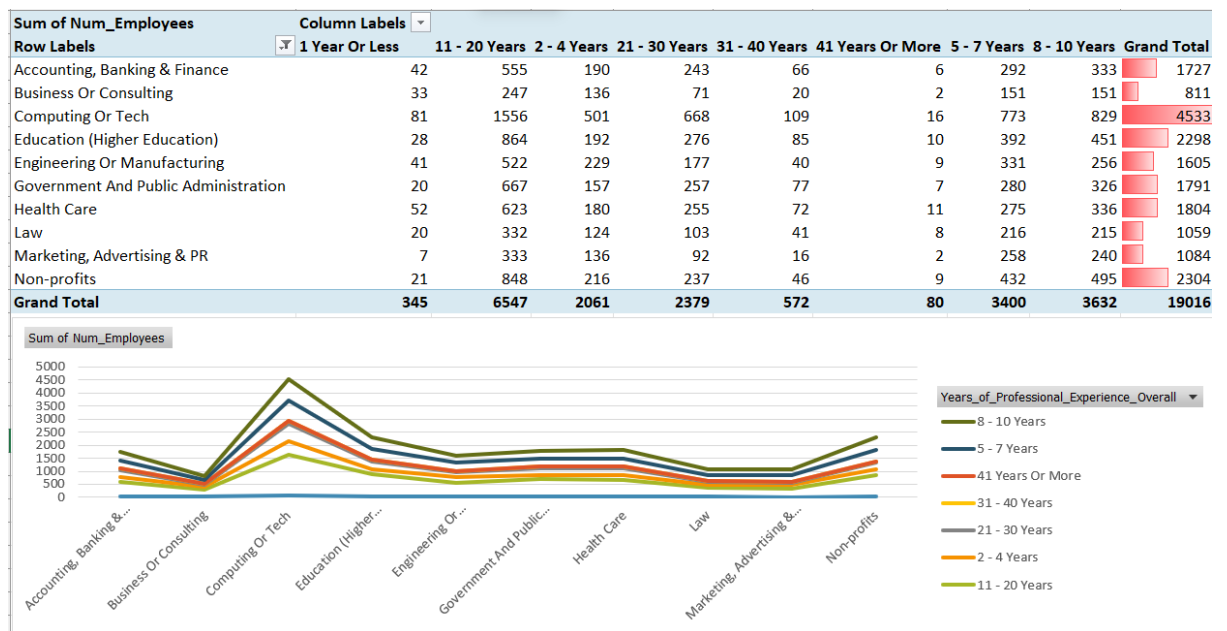
```

SELECT
Industry,Years_of_Professional_Experience_Overall,COUNT(*)
AS Num_Employees
FROM salary_data GROUP BY Industry,
Years_of_Professional_Experience_Overall;

```

Industry	Years_of_Professional_Experience_Overall	Num_Employees
Academia	8 - 10 Years	2
Academia	1 Year Or Less	1
Academia	2 - 4 Years	3
Academia	11 - 20 Years	1
Academia	5 - 7 Years	1
Academic Medicine	8 - 10 Years	1
Academic Press Production	8 - 10 Years	1
Academic Publishing	11 - 20 Years	2
Academic Publishing	8 - 10 Years	2
Academic Publishing	2 - 4 Years	1
Academic Publishing	5 - 7 Years	1

Pivot Table & Chart:

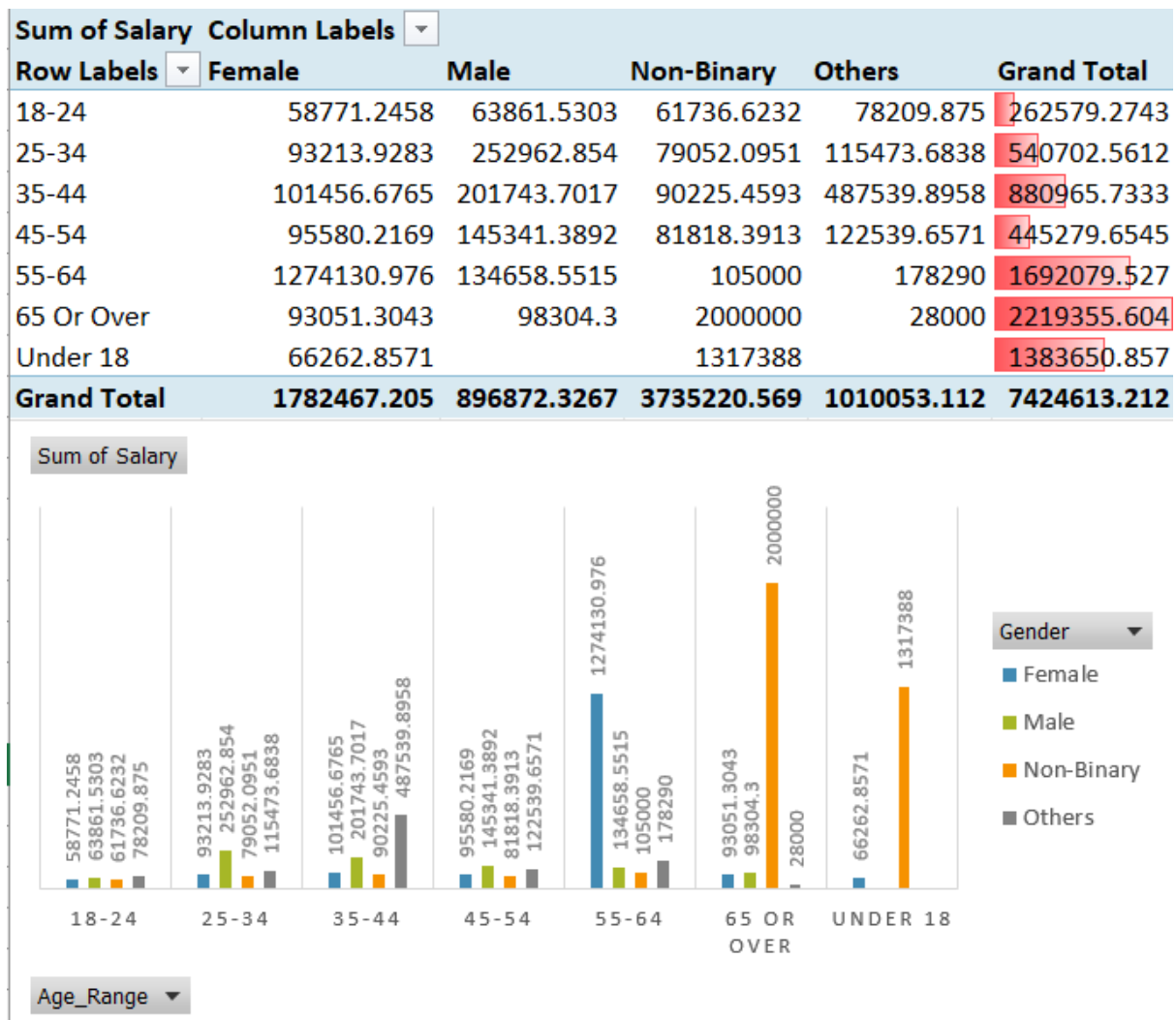


5. Median Salary by Age Range and Gender

select Age_Range, Gender, avg(Annual_Salary) as Salary from salary_data group by Gender, Age_Range order by Age_Range;

Age_Range	Gender	Salary
18-24	Female	58771.2458
18-24	Male	63861.5303
18-24	Non-Binary	61736.6232
18-24	Others	78209.8750
25-34	Male	252962.8540
25-34	Female	93213.9283
25-34	Non-Binary	79052.0951
25-34	Others	115473.6838
35-44	Female	101456.6765
35-44	Male	201743.7017
35-44	Non-Binary	90225.4593

Pivot Table & Chart:



6.Job Titles with the Highest Salary in Each Country

```
SELECT s.Country,s.Job_Title,s.Annual_Salary
```

```
FROM salary_data s
```

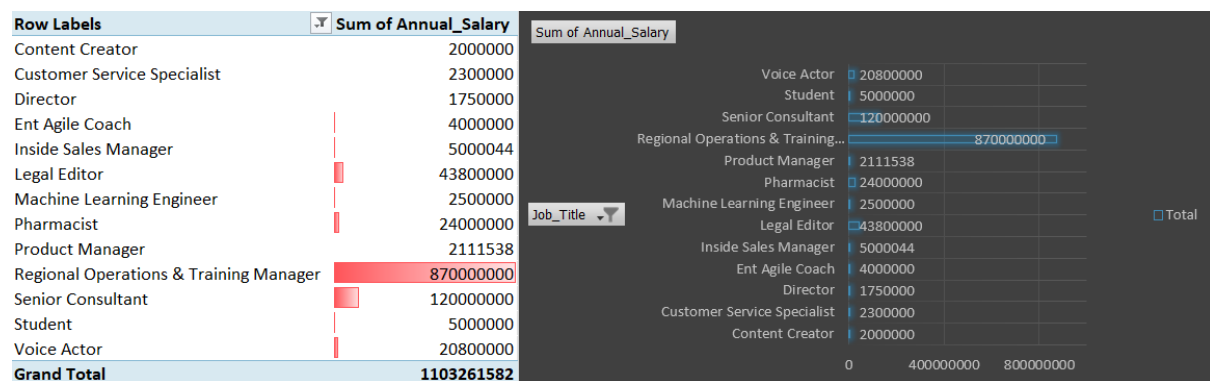
```
JOIN (SELECT Country, MAX(Annual_Salary) AS Max_Salary
```

```
FROM salary_data GROUP BY Country) max_salaries
```

```
ON s.Country = max_salaries.Country AND s.Annual_Salary =
max_salaries.Max_Salary;
```


Country	Job_Title	Annual_Salary
Russia	Assistant	15000
Bermuda	Office Manager And Executive Assistant	132500
Cayman Islands	Senior Analyst	81000
Austria	DevOps Lead	120000
Panama	Quality Analyst Coordinator	27600
Estonia	Email Marketing And SMS Specialist	27960
Belgium	Compliance	180000
Poland	Planning And Forecasting Lead	180000
Zimbabwe	Manager	20000
China	Student	5000000
Myanmar	Risk Management Associate	1200

Pivot Table & Chart:

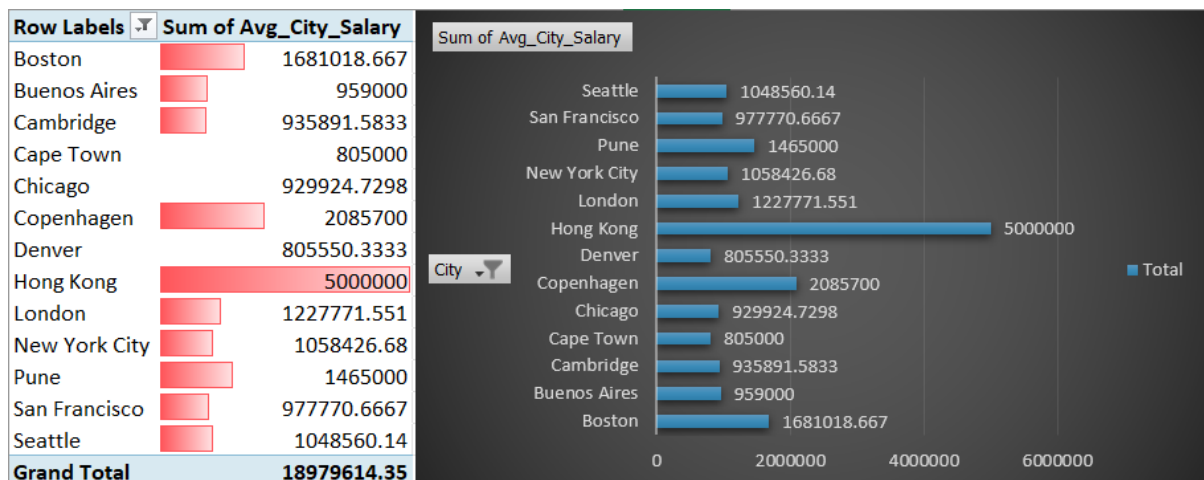


7. Average Salary by City and Industry

SELECT City,Industry,AVG(Annual_Salary) AS Avg_City_Salary
FROM salary_data GROUP BY City, Industry;

City	Industry	Avg_City_Salary
Delft	Academia	48330.5000
London	Academia	34800.0000
Teramo	Academia	16000.0000
Moscow	Academia	15000.0000
Athens	Academia	32000.0000
Ann Arbor	Academia	68500.0000
Austin	Academia	48000.0000
Chicago	Academic Medicine	55000.0000
Chicago	Academic Press Production	42000.0000
New York metropolitan area	Academic Publishing	73000.0000
Durham	Academic Publishing	55500.0000

Pivot Table & Chart:



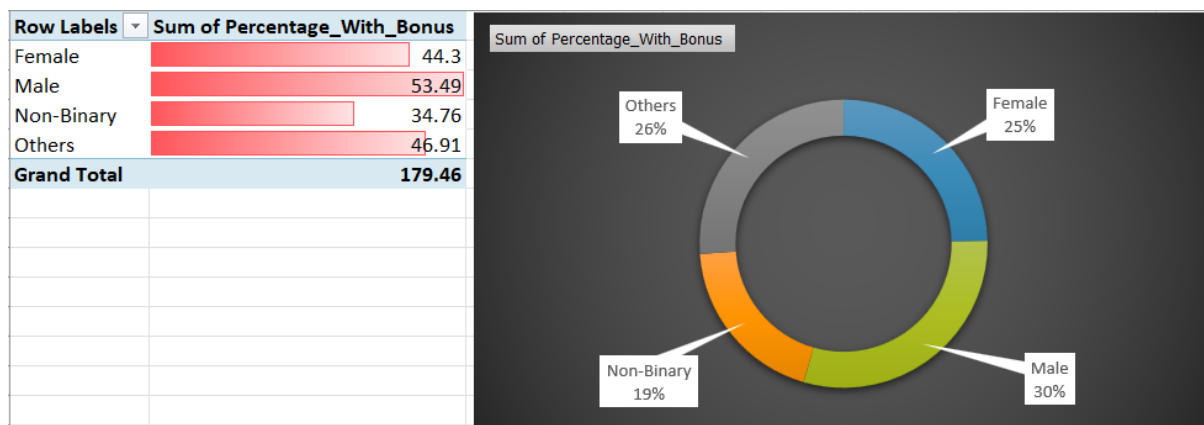
8. Percentage of Employees with Additional Monetary Compensation by Gender

```
SELECT Gender, ROUND(COUNT(CASE WHEN
Additional_Monetary_Compensation > 0 THEN 1 END) * 100.0 / COUNT(*),
2) AS Percentage_With_Bonus
```

```
FROM salary_data GROUP BY Gender;
```

Gender	Percentage_With_Bonus
Male	53.49
Female	44.30
Non-Binary	34.76
Others	46.91

Pivot Table & Chart:



9. Total Compensation by Job Title and Years of Experience

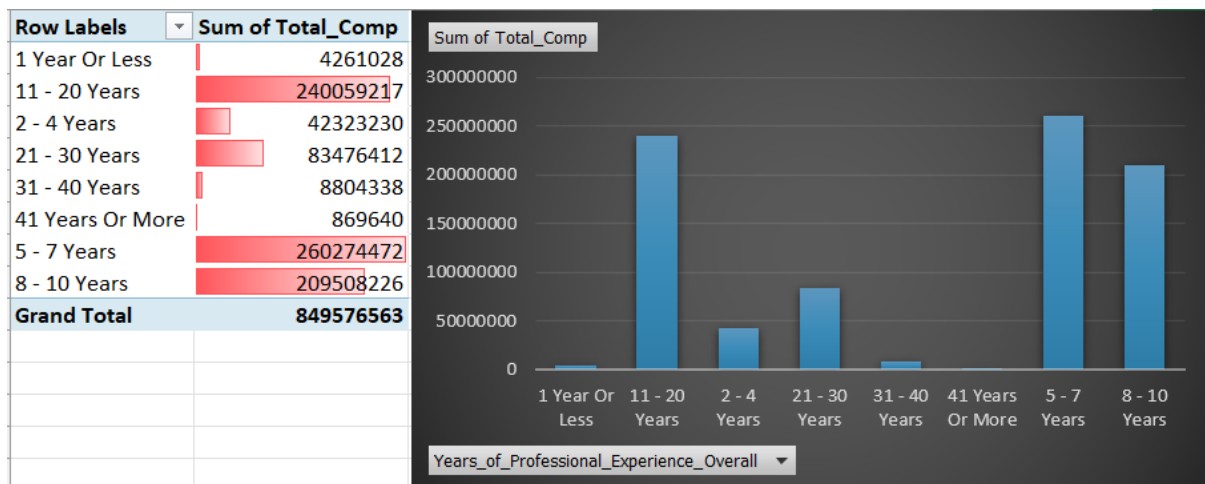
SELECT

Job_Title, Years_of_Professional_Experience_Overall, SUM(Annual_Salary + Additional_Monetary_Compensation) AS Total_Comp

FROM salary_data GROUP BY Job_Title, Years_of_Professional_Experience_Overall;

Job_Title	Years_of_Professional_Experience_Overall	Total_Comp
Assistant Professor	8 - 10 Years	2619535
PhD Student Biotechnology	1 Year Or Less	40261
Postdoctoral Research Associate	2 - 4 Years	54000
Assistant	8 - 10 Years	43900
Graduate Research Assistant	2 - 4 Years	170084
Project Manager Senior	11 - 20 Years	68500
Post Doctoral Fellow	5 - 7 Years	48000
Administrative Specialist	8 - 10 Years	185500
Production Controller	8 - 10 Years	42000
Editor	11 - 20 Years	3270292
Editorial Client Manager	8 - 10 Years	56500

Pivot Table & Chart:



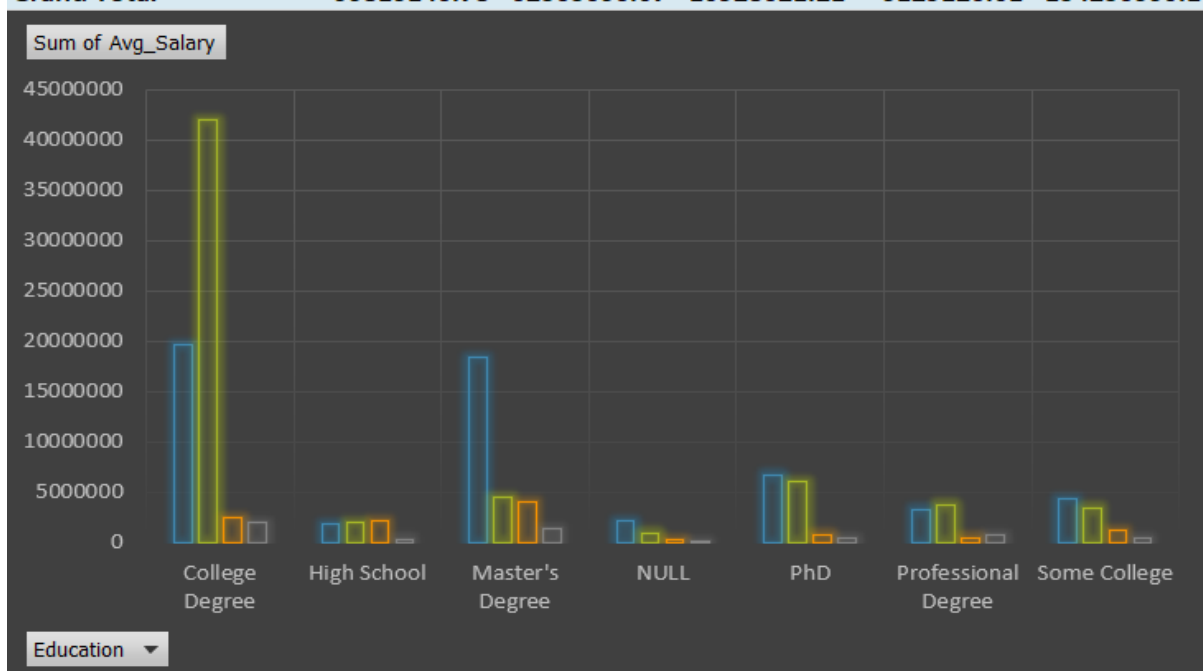
10. Average Salary by Industry, Gender, and Education Level

SELECT Industry,Gender,Education,AVG(Annual_Salary) AS Avg_Salary
FROM salary_data GROUP BY Industry, Gender, Education;

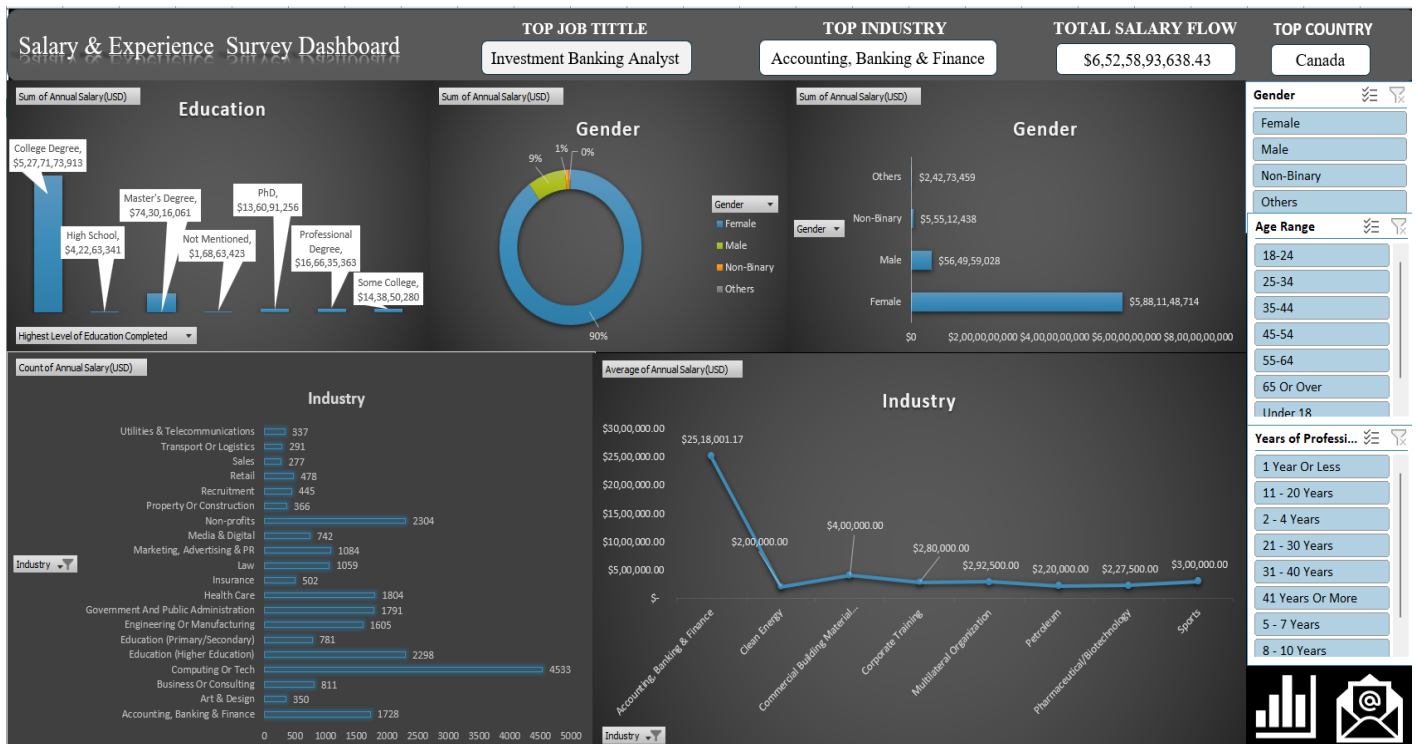
Industry	Gender	Education	Avg_Salary
Academia	Male	PhD	56400.0000
Academia	Female	Master's Degree	54380.5000
Academia	Female	PhD	28450.0000
Academia	Female	College Degree	32000.0000
Academic Medicine	Male	College Degree	55000.0000
Academic Press Production	Female	Master's Degree	42000.0000
Academic Publishing	Female	Master's Degree	42166.6667
Academic Publishing	Female	College Degree	64250.0000
Academic Publishing	Female	PhD	40800.0000
Academic Research	Female	Master's Degree	52166.6667
Academic Research	Female	PhD	64000.0000

Pivot Table & Chart:

Row Labels	Female	Male	Non-Binary	Others	Grand Total
College Degree	19619279.06	41995599.28	2401844.59	2018229.402	66034952.34
High School	1838442.664	1898865.053	2093674.667	251717.3333	6082699.717
Master's Degree	18332286.91	4501541.976	3925396.453	1353110.799	28112336.14
NULL	2059810.565	885110.5087	173000	100070	3217991.074
PhD	6591096.492	5955423.595	724609.5556	370289.1429	13641418.79
Professional Degree	3140330.514	3754942.946	404861.5	711000	8011134.961
Some College	4233900.57	3372172.708	1205234.446	324709.3333	9136017.057
Grand Total	55815146.78	62363656.07	10928621.21	5129126.01	134236550.1



Dash Board



About the Dashboard:

This Salary & Experience Survey Dashboard visualizes aggregated data from a salary and experience survey. The dashboard highlights various key metrics like gender distribution, education level, top job title, top industries, country, and salary flows. Here's a detailed breakdown of each component.

1.1 Key Metrics:

- **Top Job Title:**
 - Investment Banking Analyst Indicates the most frequently reported or highest-paying job role.
- **Top Industry:**
 - Accounting, Banking & Finance The industry with the highest representation or total salary contribution.
- **Total Salary Flow:**
 - \$6,52,58,93,638.43 (USD) This represents the total sum of annual salaries reported in the survey.
- **Top Country:**
 - Canada Indicates the country with the highest number of respondents or highest cumulative salary data.

1.2 Education Section (Top-left):

Chart: Sum of Annual Salary (USD) by Education Level

This bar chart compares total salaries across different education levels:

- College Degree: \$5,27,71,73,913 – the highest.
- Professional Degree: \$16,66,35,363
- Master's Degree: \$74,30,16,061
- PhD: \$13,60,91,256
- High School: \$4,22,63,341
- Some College: \$14,38,50,280
- Not Mentioned: \$1,68,63,423

1.3 Gender Distribution (Top Centre & Right)

1. Donut Chart (Top Centre):

Shows gender participation as a percentage:

- Female: 90%
- Male: 9%
- Non-Binary: 1%
- Others: <1%

2. Bar Chart (Top Right): Sum of Annual Salary (USD) by Gender:

- Female: \$5,88,11,48,714
- Male: \$56,49,59,028
- Non-Binary: \$5,55,12,438
- Others: \$2,42,73,459

1.4 Industry Insights

I. Bar Chart (Bottom Left): Count of Salaries by Industry Reflects the number of respondents from each industry:

- a. Computing Or Tech: Highest with 4533 entries
- b. Education (Higher Ed): 2298
- c. Non-profits: 2304
- d. Health Care: 1804
- e. Accounting, Banking & Finance: 1728

II. Line Graph (Bottom Right): Average of Annual Salary by Industry Shows industries with their average salary:

- a. Accounting, Banking & Finance: ~\$25,18,001.17
- b. Commercial Building Material: ~\$4,00,000
- c. Corporate Training: ~\$2,92,500
- d. Multilateral Organization: ~\$2,80,000

- e. Sports: ~\$3,00,000
- f. Others like Clean Energy, Petroleum, Biotech are lower.

Slicers on Right Sidebar

- Gender: Filter by Female, Male, Non-Binary, Others
- Age Range: 18-24 to 65 or Over
- Years of Professional Experience: From "1 Year or Less" to "41 Years or More"

Conclusion:

- Higher education levels correlate with greater earnings, with College Degree holders earning the most (5.27B) and High School graduates the least (5.27B) and High School graduates the least (42.2M). Advanced degrees (Master's, PhD, Professional) command significantly higher salaries than basic education. Organizations should consider education as a key factor in compensation and career development strategies.
- Mid-career professionals (11-20 years) contribute the highest salary sum (864.9M), reflecting their experience and leadership roles. Surprisingly, employees with 2–4 years of experience account for the largest salary share (864.9M), reflecting their experience and leadership roles. Surprisingly, employees with 2–4 years of experience account for the largest salary share (4.39B), likely due to a high concentration of mid-level roles. Senior professionals (31+ years) and entry-level workers (≤ 1 year) have the lowest salary totals, indicating lower representation or pay scales at career extremes.

