

SALARY SURVEY REPORT - 2021 ANALYSIS USING EXCEL, SQL, TABLEAU

Submitted by

SRI HARIHARAN CR

Data science and Analysis

KGISL Microcollege.

PROJECT OBJECTIVE:

The primary objective of the analysis is to uncover patterns and disparities in employee compensation based on various factors such as country, job title, years of experience and educational background. The insights derived from this study aims to assist organizational leaders and policy makers in forming data driven compensation strategies and improving global talent management.

DATASET DESCRIPTION:

- Salary survey dataset contains nearly 28106 rows and 13 columns.
- Data field includes: Age range, gender, job title, annual salary, currency, monetary compensation, country, years of experience, level of education, city, state.
- Tools used for this analysis: Excel, SQL, Tableau.
- Excel: data cleaning, SQL: data analysis, Tableau: data visualization
- Charts used: scatter plot, bar charts, map, pie charts.

DATA CLEANING PROCESS:

- Formatting data types using text and integer
- Remove null and blank values.
- Filling missing values using fill down method
- Remove duplicates
- Checking for outliers using IQR method: it results normal.
- Remove irrelevant words from columns
- After cleaning, the dataset remains 20256 rows.
- Save the excel sheet into a csv file.

DATA ANALYSIS:

Create and use a database called salary survey database. Query with results,

1) Average salary by industry and gender:

Industry	Gender	avg_Annual_Salary
Customer service	Non-binary	2300000.000000
Marketing, Advertising & PR	Other or prefer not to answer	1029250.000000
Agriculture or Forestry	Non-binary	910000.000000
Biotech (R&D)	Woman	556200.000000
Medical research	Man	483600.000000
Food & Beverage	Woman	450000.000000
Recruitment or HR	Other or prefer not to answer	402000.000000
Sports	Man	300000.000000
Consulting	Man	265000.000000
Multilateral Organisation	Man	250000.000000

2) Total salary compensation by job title:

Job_Title	Total_compensation
Director	26673936.00
Attorney	12748502.00
Associate	12020950.00
Data Scientist	9531275.00
Backend system dev	9400000.00
Consultant	8217334.00
Data Analyst	8133350.00
Associate Attorney	7584590.00
Assistant Professor	7203244.00
Director of Engineering	7113000.00

3) Salary distribution by education level:

Highest_Level_of_Education_Completed	Avg_Salary	minimum_salary	maximum_salary
Professional degree (MD, JD, etc.)	144106.564516	0.00	1900000.00
PhD	133071.264198	130.00	8800000.00
Master's degree	95889.800496	0.00	2300000.00
College degree	84972.977199	40.00	3600000.00
Some college	74252.186147	0.00	1150000.00
High School	66811.535211	40.00	350000.00

4) Number of employees by industry and years of experience:

	Years_of_Professional_Experience_Overall	Employee_count
►	8 - 10 years	117
	8 - 10 years	115
	8 - 10 years	28
	8 - 10 years	1
	8 - 10 years	11
	8 - 10 years	40
	8 - 10 years	1
	8 - 10 years	1
	8 - 10 years	1
	8 - 10 years	1

5) Median salary by age range and gender:

	Age_Range	Gender	Median_Salary
►	18-24	Man	54666.666667
	18-24	Non-binary	36200.000000
	18-24	Other or prefer not to answer	60750.000000
	25-34	Man	76500.000000
	25-34	Non-binary	54920.000000
	25-34	Other or prefer not to answer	82500.000000
	35-44	Man	101000.000000
	35-44	Non-binary	61000.000000
	35-44	Other or prefer not to answer	69000.000000
	35-44	Woman	83200.000000

6) Job title with the highest salary in each country:

	Country	Job_Title	Annual_Salary
►	Afghanistan	Country Director	41000.00
	America	Director of Operations	56000.00
	Australi	Assistant winemaker	50768.00
	Australia	Deputy CEO	267500.00
	Australia	Consultant obstetrician and gynaecologist	400000.00
	Austria	Cashier Aldi	28000.00
	Bangladesh	Diplomat	70000.00
	Belgium	Compliance	180000.00
	Britain	Class teacher	39000.00
	Canada	Director	265000.00

7) Average salary by city and industry:

city	Industry	Avg_Annual_salary
Delft	Academia	56400.000000
Moscow	Academia	15000.000000
Chicago	Academic Medicine	55000.000000
Oakland	academic publishing	73000.000000
NY Metro	Academic publishing	73000.000000
Durham	Academic Publishing	55500.000000
Belmont	Academic research (Psychology)	36883.000000
NA (remote). Live near Boston, work is based in...	Academic/nonprofit research	37440.000000
Jacksonville	Accounting, Banking & Finance	85000.000000
San Francisco	Accounting, Banking & Finance	64000.000000

8) Percentage of employees with additional monetary compensation by gender:

gender	Percentage_With_Compensation
► Man	66.8908
Other or prefer not to answer	58.2090
Woman	56.4849
Non-binary	52.0833

9) Total compensation by job title and years of experience:

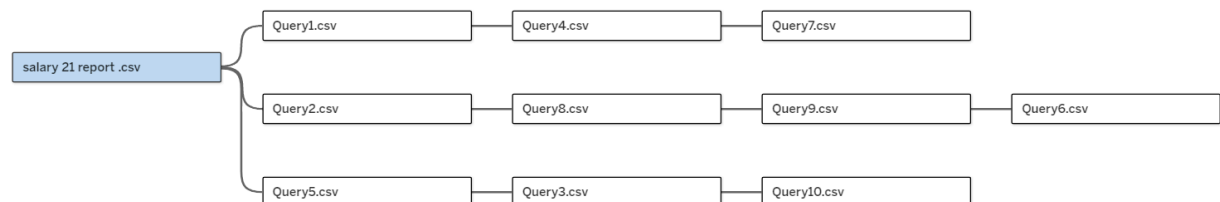
	job_title	Years_of_Professional_Experience_in_Field	Total_Compensation
▶	Director	11 - 20 years	11854730.00
	Backend system dev	5-7 years	9400000.00
	Director	8 - 10 years	5135516.00
	Associate	5-7 years	5055250.00
	Associate	2 - 4 years	4401120.00
	Data Scientist	2 - 4 years	4180250.00
	Director	5-7 years	4144678.00
	Consultant	2 - 4 years	3722344.00
	Digital Marketing Assistant	2 - 4 years	3624000.00
	Attorney	8 - 10 years	3331362.00

10) Average salary by industry, gender, education:

	Industry	gender	Highest_Level_of_Education_Completed	Avg_Annual_salary
▶	student	Man	Some college	0.000000
	student	Woman	Master's degree	0.000000
	Museum (University Affiliated)	Woman	Master's degree	40.000000
	Accounting, Banking & Finance	Other or prefer not to answer	Some college	1000.000000
	Outsourced Customer Service/Tech Support Cal...	Woman	High School	2400.000000
	Engineering or Manufacturing	Other or prefer not to answer	High School	11400.000000
	Freelance Journalism	Man	College degree	12000.000000
	Academia	Woman	PhD	15000.000000
	Charity	Woman	Some college	17400.000000
	Legal services	Woman	Some college	18500.000000

DATA VISUALIZATION:

Before going to visualise the data, we have to make a relationship among SQL queries.



KEY OBSERVATIONS AND TRENDS:

Salary Distribution by Education Level

- PhDs earn highest avg salary (\$8.8M)
- High school diploma holders earn the least (\$350K)
- Sharp salary increase from Master's to PhD
- Suggests strong ROI in higher education

Country-wise Salary Extremes

- Japan shows the highest top salary (\$8.8M)
- US, Sweden also have significant salaries
- India has a much lower top salary (\$1.4M)
- Geographical disparity highlights global inequality

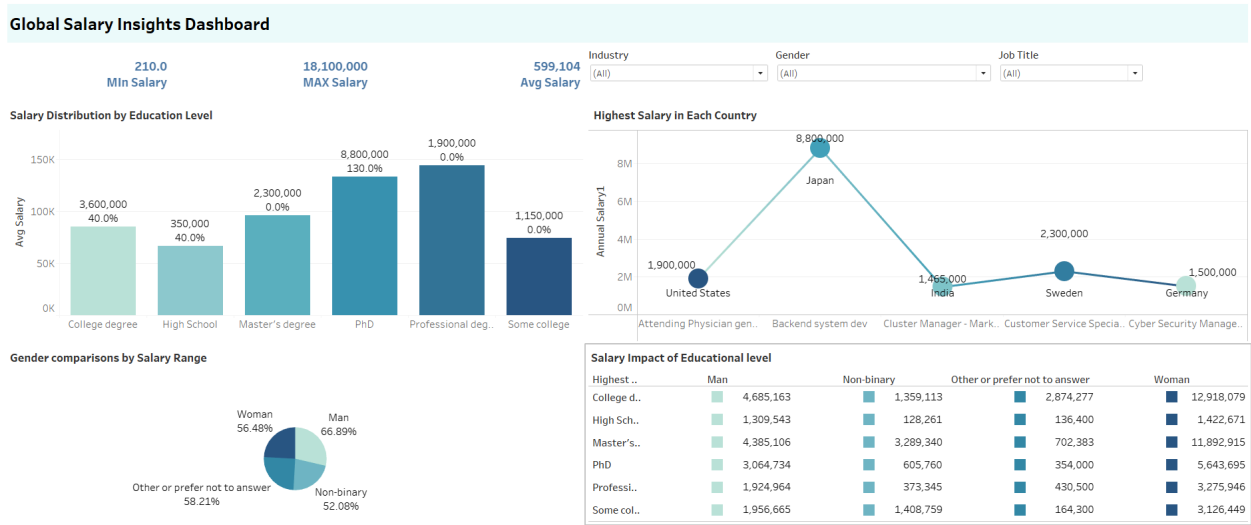
Gender-Based Salary Analysis

- Men dominate higher salary brackets (66.89%)
- Women have better representation in mid ranges (56.48%)

Educational Impact by Gender

- Women with PhDs earn more than men in some categories
- "Other" and non-binary groups earn significantly less
- Reveals potential discrimination or opportunity gaps

DASHBOARD OVERVIEW:



Conclusion

Promote higher education, especially PhDs for higher earning potential Address gender pay disparities through audits and policy changes,Equalize opportunities for non-binary and underrepresented groups.Explore international mobility for better salary prospects Salaries are heavily influenced by education, gender, and location.There’s a strong case for education-focused career development,