

EMPLOYEE SALARY ANALYSIS MILESTONE PROJECT

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DADS-July cohort A

PROJECT OBJECTIVE

- To analyze how salary and experience vary across industries, job roles, and countries.
- To identify factors influencing salary levels, such as education, gender, and experience.
- To create an interactive Excel dashboard for data-driven insights

DATASET DESCRIPTION

- **Dataset Name:** Salary Survey 2021
- **Dataset Size:** 28,103 records and 16 columns
- **Key Attributes:** Age Range, Industry, Job Title, Clarification of Job Title, Annual Salary, Additional Monetary Compensation, Currency, Other Currency, Income Clarification, Country, State, City, Years of Professional Experience Overall, Years of Professional Experience in Field, Highest Level of Education Completed, Gender

	C	D	E	F	G	H	I	
1	Job Title	Clarification of Job title	Annual Salary	Additional Monetary Compensation	Currency	Other Currency	Income Clarification	Country
2	Research and Instruction Librarian		55,000	0	USD			United States
3	Change & Internal Communications Manager		54,600	4000	GBP			United Kingdom
4	Marketing Specialist		34,000		USD			US
5	Program Manager		62,000	3000	USD			USA
6	Accounting Manager		60,000	7000	USD			US
7	Scholarly Publishing Librarian		62,000		USD			USA
8	Publishing Assistant		33,000	2000	USD			USA
9	Librarian	High school, FT	50,000		USD			United States
10	Systems Analyst	Data developer/ETL Developer	112,000	10000	USD			US
11	Senior Accountant		45,000	0	USD		I work for a Charter School	United States
12	Office Manager		47,500	0	USD			United States
13	Deputy Title IX Coordinator/ Assistant Director Office of Equity and Diversity		62,000	0	USD			USA
14	Manager of Information Services		100,000	0	USD			United States
15	Legal Aid Staff Attorney	non-profit law firm	52,000	0	USD			United States
16	Patient care coordinator		32,000		CAD			Canada
17	Quality And Compliance Specialist		24,000	500	GBP			United Kingdom
18	Executive Assistant		85,000	5000	USD			USA
19	graphic designer		59,000		USD			usa
20	Senior Manager		98,000	1000	USD			USA
21	Assistant Director of Academic Advising		54,000		USD			United States
22	Data Programmer Analyst		74,000	0	USD			USA
23	Program Coordinator & Assistant Editor		50,000		USD			United States
24	Event Planner		63,000		CAD			Canada
25	Researcher		96,000	1000	USD			United States
26	Teen Librarian		44,500	0	USD			US
27	Communications Specialist		60,000	0	USD			USA

DATASET BEFORE

DATASET AFTER

	Age Rang	Industry	Job Title	Clarification of Job Title	Annual Salar	Salary_USD	Valid & Invalid	Annual USD Sal	Additional Monetary Compensation	Currency	Income Clarification
1	45-54	Finance	Developer	Not Specified	1164210	1473683.544	Outlier	0	5709	GBP	Co
2	35-44	Healthcare	Teacher	Full-Time	882230	948634.4086	Outlier	0	5012	EUR	Fix
3	35-44	Information Technology	Data Scientist	Part-Time	927740	610355.2632	Outlier	0	0	AUD	Ho
4	55-64	Banking	Product Manager	Full-Time	213155	213155	Outlier	0	52675	USD	Ho
5	35-44	Information Technology	Teacher	Lead	185581	199549.4624	Outlier	0	29117	EUR	Co
6	35-44	Information Technology	Doctor	Part-Time	198806	198806	Outlier	0	0	USD	Co
7	55-64	Manufacturing	Product Manager	Remote	191077	191077	Outlier	0	7028	USD	Nc
8	18-24	Banking	Nurse	Junior	182586	182586	Outlier	0	10902	USD	Co
9	35-44	Telecom	Product Manager	On-Site	143971	182241.7722	Outlier	0	10138	GBP	Co
10	25-34	Finance	Hr Manager	Intern	177618	177618	Outlier	0	7985	USD	Co
11	45-54	Government	Developer	Senior	138372	175154.4304	Outlier	0	1213	GBP	Nc
12	35-44	Education	System Administrator	Intern	172429	172429	Outlier	0	0	USD	Co
13	35-44	Education	S/W Engineer	Intern	168589	168589	Outlier	0	729	USD	Co
14	35-44	Consulting	Product Manager	Intern	133120	168506.3291	Outlier	0	3227	GBP	Ho
15	35-44	Government	Product Manager	Full-Time	163865	163865	Keep	163865	465	USD	Co
16	25-34	Banking	Sales Executive	Part-Time	128991	163279.7468	Keep	163279.7468	217	GBP	Nc
17	55-64	Information Technology	Devops Engineer	Not Specified	162037	162037	Keep	162037	7892	USD	Nc
18	55-64	Education	Project Manager	Not Specified	161907	161907	Keep	161907	0	USD	Nc
19	55-64	Banking	Professor	Remote	155144	155144	Keep	155144	6607	USD	Co
20	25-34	Information Technology	Nurse	Intern	152046	152046	Keep	152046	3394	USD	Ho
21	35-44	Government	Professor	Intern	119943	151826.5823	Keep	151826.5823	0	GBP	Fix
22	18-24	Information Technology	S/W Engineer	Junior	117660	148936.7089	Keep	148936.7089	672	GBP	Fix
23	25-34	Consulting	Data Scientist	Contract	148135	148135	Keep	148135	15685	USD	Co
24	25-34	Banking	Professor	Intern	148045	148045	Keep	148045	3358	USD	Nc
25	25-34	Banking	Software Engineer	Junior	115293	145940.5063	Keep	145940.5063	1531	GBP	Co
26	35-44	Government	Doctor	Full-Time	135694	145907.5269	Keep	145907.5269	16695	EUR	Nc

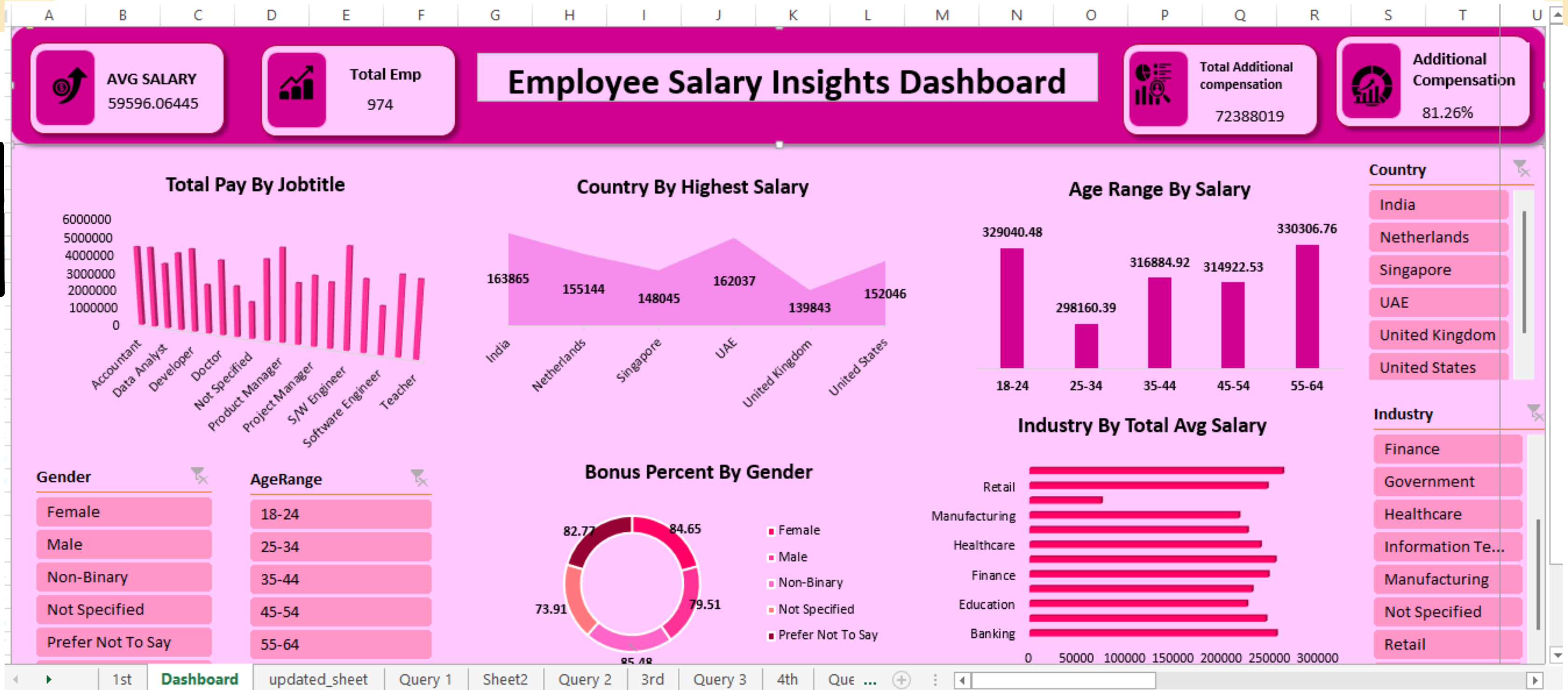
DATA CLEANING

- Loaded the raw data into Excel Power Query for preprocessing.
- Removed rows containing multiple missing or null values.
- Standardized column data types (text, numeric, categorical).
- Corrected inconsistent spellings and capitalization in categorical fields.
- Detected and handled outliers in salary values using domain knowledge.
- Kept valid outliers with high experience; others replaced with median values.
- Verified the final dataset quality and exported it to CSV for MySQL import.

KEY SQL INSIGHTS

- sum of avg salary by industry
- sum of avg salary, minimum salary , maximum salary by education level
- sum of total compensation by industry
- Sum of EMPLOYEE_COUNT by industry
- Sum of APPROX_MEDIAN_SALARY by age range
- Sum of AVG_SALARY by city
- Sum of BONUS_PERCENT by gender
- Sum of TOTAL_MONETARY by job title
- Sum of AVERAGE_SALARY by gender and industry

DASHBOARD OVERVIEW



INSIGHTS

- Top Paying Countries: India and UAE offer the highest average salaries.

Job Roles:

- Software Engineer and Product Manager roles show higher total pay.

Industries:

- Retail, Finance, and IT industries show strong average salaries.

Bonus Trends:

- Female employees have the highest average bonus percentage (~84.65%).

Gender Insights:

- Most respondents are Male and Female, with smaller groups in other categories.

CONCLUSION

- The project successfully analyzed global salary trends using Excel and SQL.
- The Salary Survey 2021 dataset was cleaned, structured, and explored to uncover patterns in industry, job role, education, gender, and experience.
- The interactive Excel Dashboard provides a clear overview of salary distributions, top-paying roles, and compensation insights.
- Analysis revealed that experience, industry type, and education level are major drivers of salary variation.
- Additional compensation significantly impacts overall pay and is more common in senior or technical roles.

RECOMMENDATIONS

- Encourage organizations to review salary gaps between genders and industries for fair pay.
- Focus on experience and upskilling, as higher education and longer tenure lead to better pay.
- Automate dashboard updates by connecting Excel directly to live SQL data.
- Expand analysis by integrating Power BI or Python for deeper visualization and trend prediction.
- Conduct this analysis yearly to monitor changes in salary structures across industries.



THANK YOU