Data Professional Survey

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1. Introduction

This report presents a detailed analysis of data collected from over 630 data professionals around the world. The survey aimed to uncover key insights regarding:

- Salary distribution by profession and gender
- Popular programming languages and tools amongst data professionals
- Geographic and demographic trends
- Challenges in entering the data industry.

The goal is to gain insights and support decision-making for employers, educators, and aspiring data professionals by highlighting current trends and pain points in the data field.

2. Data Preparation

The data from the survey was not as clean as expected as a result I had to do some cleaning to make it usable.

- Some response like the emails of the respondent, time taken for the survey and many other columns were removed because they were not useful in the analysis.
- Some of the questions had "other" option making the respondents to enter in their preferred answers. These "option" responses were cleaned and standardized to make the analysis simple.
- It is worth knowing that professions, country, industry, programming language with less than 10 respondents were grouped to make to make the analysis easy.
- Countries that were not submitted by the respondent were assigned with "Unspecified" to make the analysis simple.

3. Methodology

- The data was cleaned in Power query in Excel. Pivot tables were used to make simpler tables for analysis and also make beautiful charts. Also, a dashboard with Industry and level of education as slicers was built to make the analysis simpler and provide a clearer perspective of the data.
- Tool Used: Microsoft Excel
    - Pivot tables
    - Pivot charts (bar chart, Pi chart, donut chart)
    - Interactive dashboards.

4. Key Insights

- ➤ Salary by Job role
- Data Scientist has the highest average salary ($96,000) followed by Data Engineers ($67,100).
- Student/ Job seekers earn the least with an average of $26,000.

Implication: Experience and role type significantly impact earning potential.

- ➤ Gender Pay Comparison
- Male Average Salary: $53,800
- Female Average Salary: $55,200

Observation: There really is not a much difference with average salary by gender.

- ➤ Tools and Programming Language
- Python is the dominant tool amongst data professionals.
- SQL and R follows while a few professionals don't use any programming language at all.

Observation: Python continues to lead due to it broadness and wide acceptance. It is therefore necessary to know python if you want to start your career in data.

- ➤ Entry Level Difficulty into Data career
- 269 respondents found it neither difficult nor easy
- 200+ found it difficult or very difficult
- Only 27 respondents found it very easy.

Conclusion: Data entry level career is perceived to be moderately difficult.

➢ Demographics
• Average age: 30 years
• Strong presentation from: US, India, UK, Nigeria, Canada, Germany

Insights: The data field is globally distributed, youthful and divers.

5. Visual Highlights

Fig 1: Average Salary by Job role

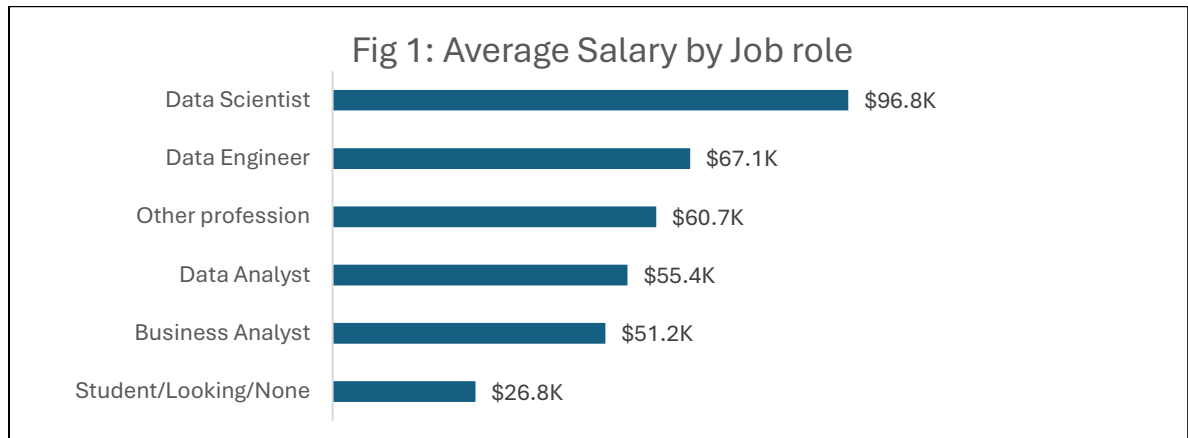| Job role	Average Salary
Data Scientist	$96.8K
Data Engineer	$67.1K
Other profession	$60.7K
Data Analyst	$55.4K
Business Analyst	$51.2K
Student/Looking/None	$26.8K

Fig 1: Data scientist earn the highest average salary amongst all roles.
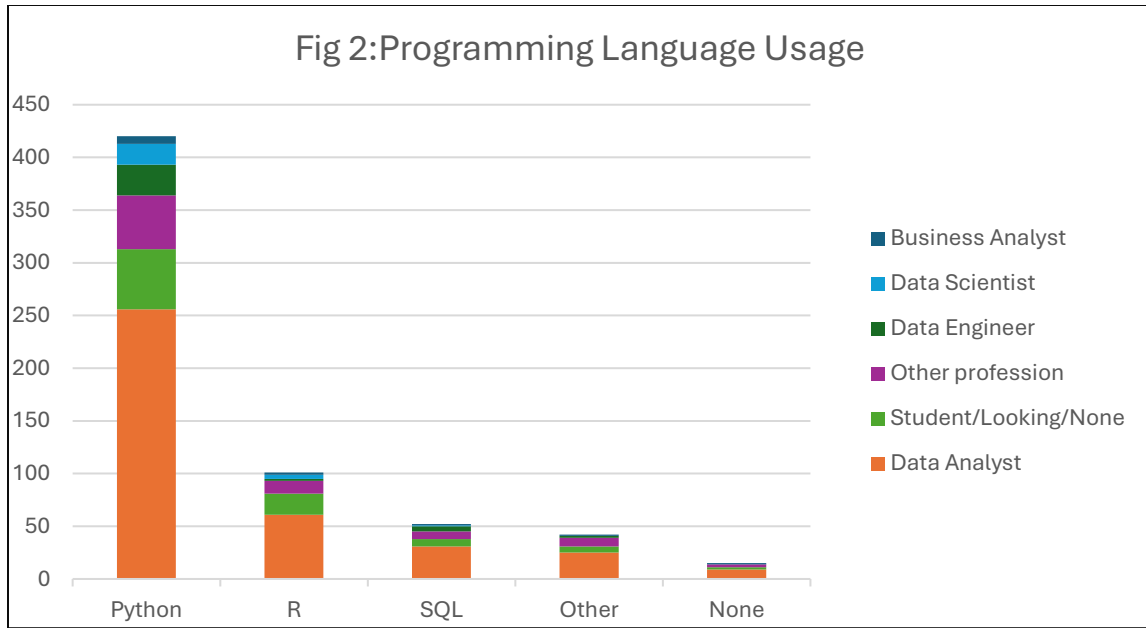
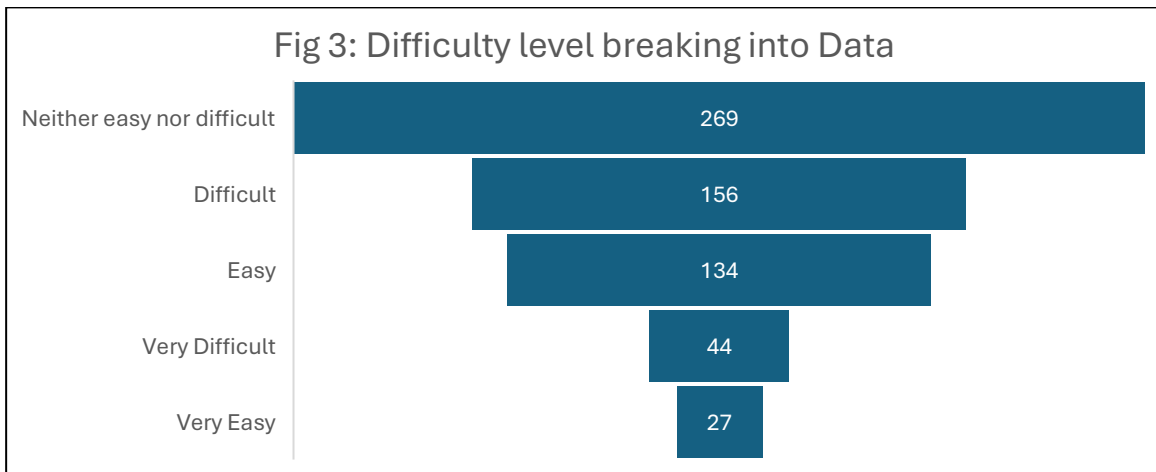*Fig 2: Python remains the most popular programming language amongst data professionals*

Fig 3: It is moderately difficult to break into data

Fig 4: Gender-based Salary comparison
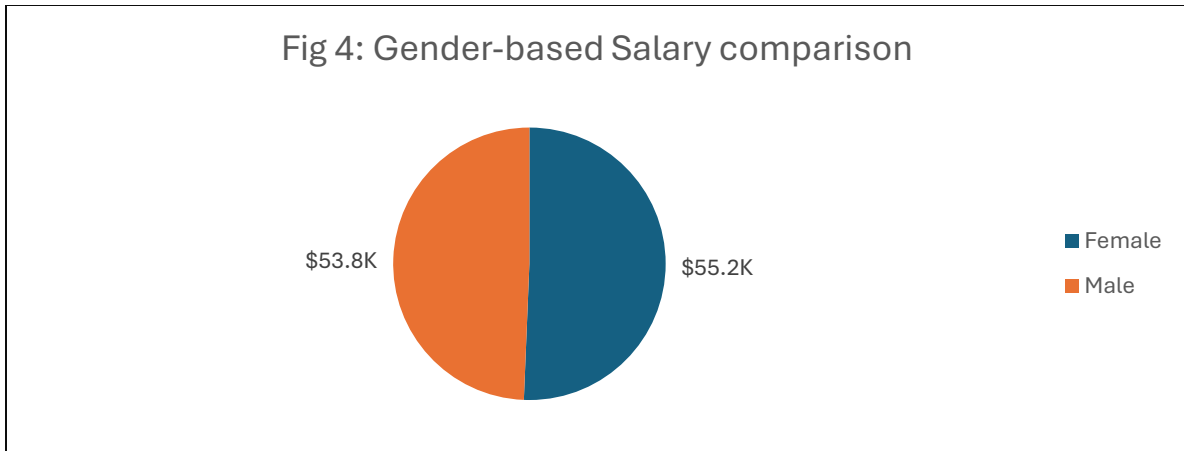
$53.8K $55.2K

■ Female
■ Male

Fig 4: There is not any significant difference in salary by gender

6. Conclusion

The analysis confirms that:

- Technical Skills (especially python) are the key in the data world.
- Salary is strongly tied to experience and role type.
- Entry barriers remain a concern for many data aspiring professionals.
- The field is dynamic, young and geographically diverse.

7. Recommendations

➢ Training institutions and employers should:

- Educational institutions should emphasize Python and SQL in beginner data courses, as these are the most in-demand tools in industry.
- Address entry challenges with clear career path by drafting a good curriculum and making them available to be followed.
- Continue to ensure equitable pay policies across gender and geography.