Technology Trends and Adoption Analysis

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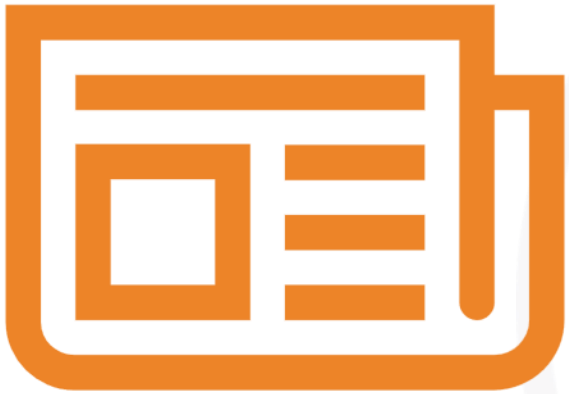
EXECUTIVE SUMMARY

- This report looks at the past and the future of programming languages, databases, and technology adoption.
- Data is based on survey results about the tools professionals are using today and what they predict they'll prefer going forward.
- These findings will help businesses and developers with data-based decisions about technology investments.

INTRODUCTION

- Purpose: Understand technology trends to guide strategic decisions.
- Target Audience: Tech professionals, business leaders, educators, and policymakers.
- Value: Helps organizations align technology adoption with industry trends.

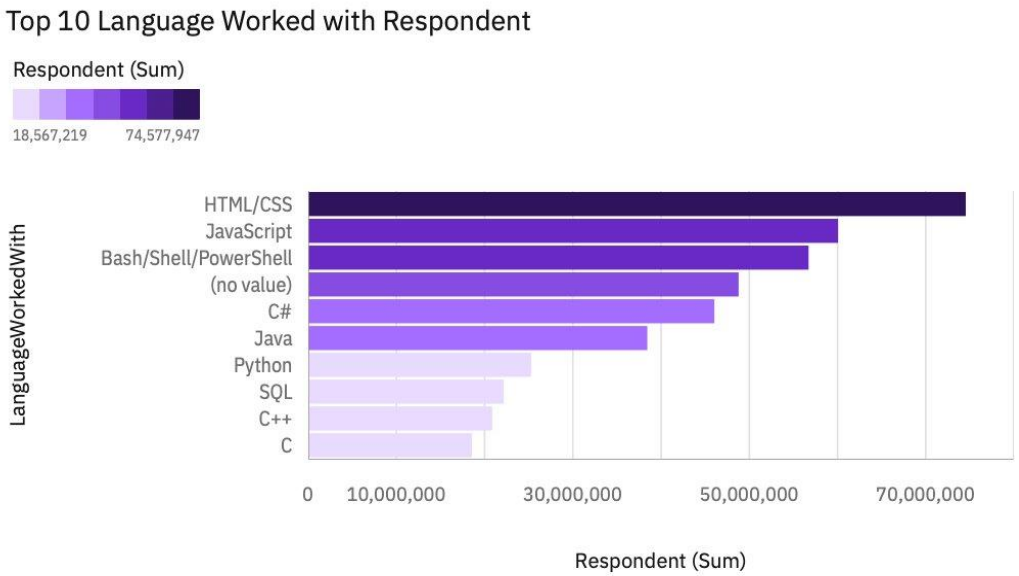
METHODOLOGY



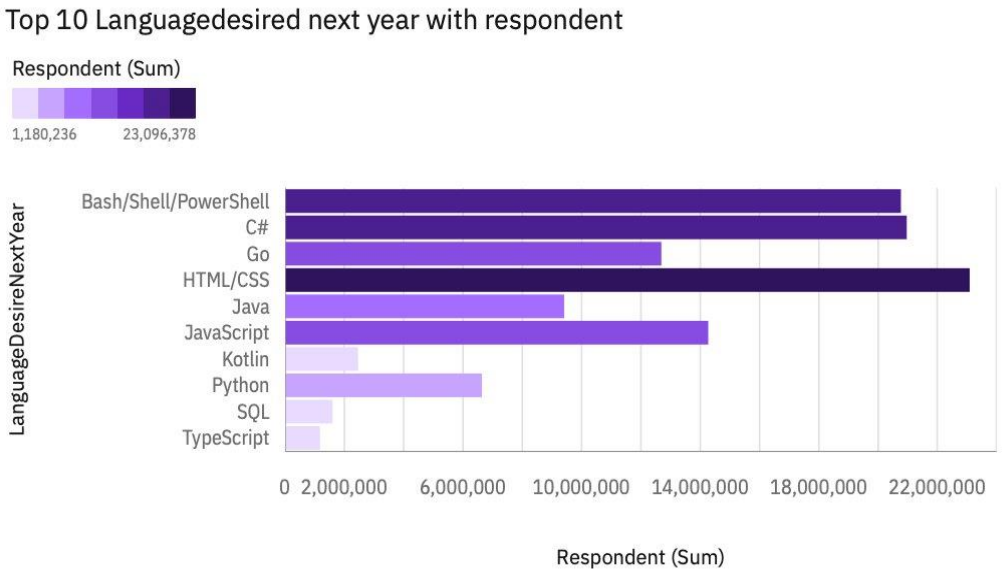
- Data Sources: Developers and IT professionals survey responses.
- Data Collection: Derived from sector surveys and analyzed via Cognos/Looker Studio.
- Key Wrangling Steps:
  - Cleaning and transforming the data
  - Filtering for popular programming languages and databases
  - Analyzing usage trends over time

PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Top 10 Programming Languages being Used (Current Year)

- So, let's take a look at the "Current Technology Usage" Dashboard.
- Most popular languages: HTML/CSS, JavaScript, Python, SQL, Java, C#

Implications:

Python and SQL continue to reign supreme owing to data science and backend development requirements.

Top 10 Programming Languages (Next Year)

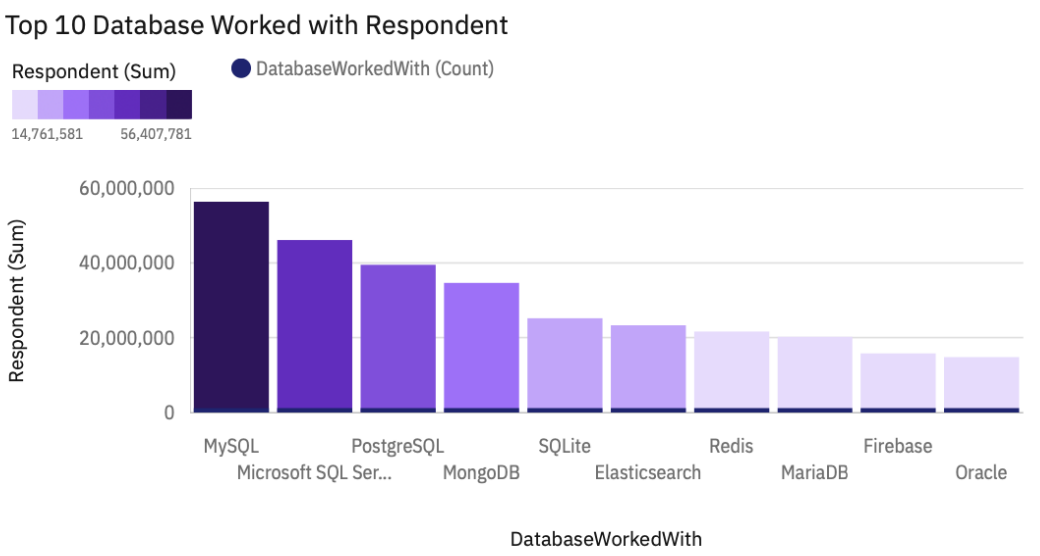
- Such as Vertical Bar Chart from "Future Technology Trend" Dashboard
- Emerging languages like Go and Kotlin, along with established ones.

Implications:

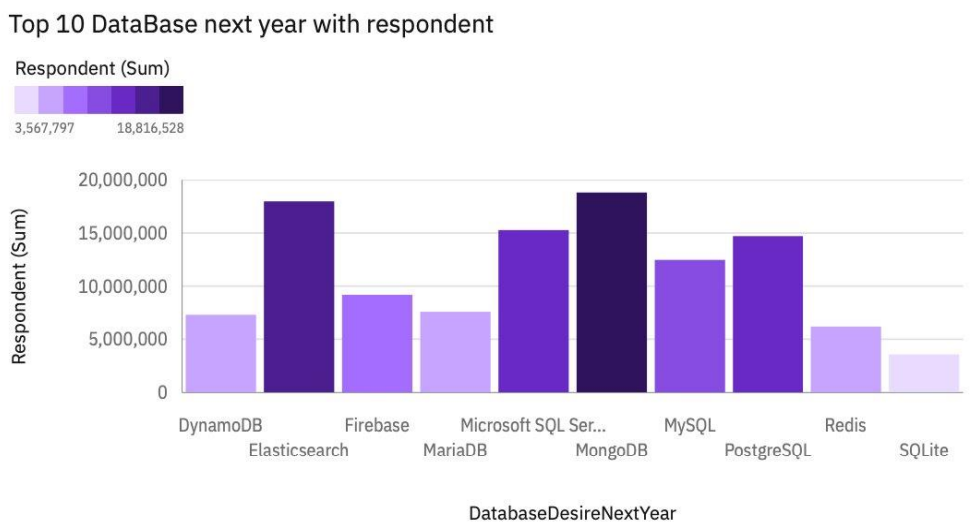
Modern languages have witnessed improvements in terms of efficiency and performance.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Most Widely Used Databases (Latest Year)

- (Online Bar Chart from “Current Technology Usage” Dashboard)
- PostgreSQL, MongoDB, MySQL, and Microsoft SQL Server.

Implications: Relational databases are still at the top, but NoSQL is on the rise.

Top 10 Databases Desired for Next Year

- (Bar Chart of “Future Technology Trend” Dashboard)
- Some interest; DynamoDB, Redis.

Implications: Organizations are increasingly seeking scalable cloud-native databases.

DASHBOARD

Current Technology Usage (Dashboard Screenshot)

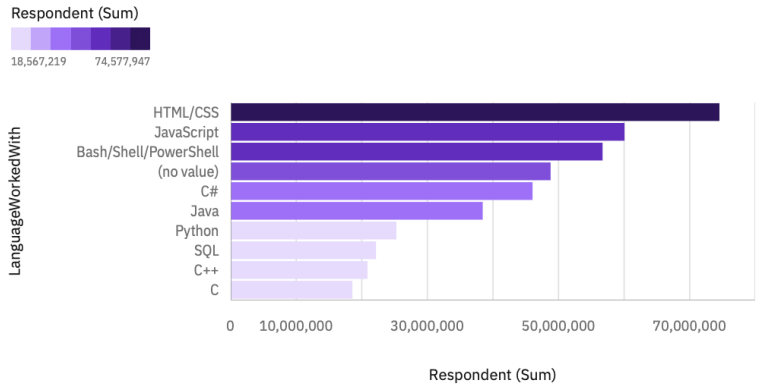
Future Technology Trends (Dashboard Screenshot)

Demographics (Dashboard Screenshot)

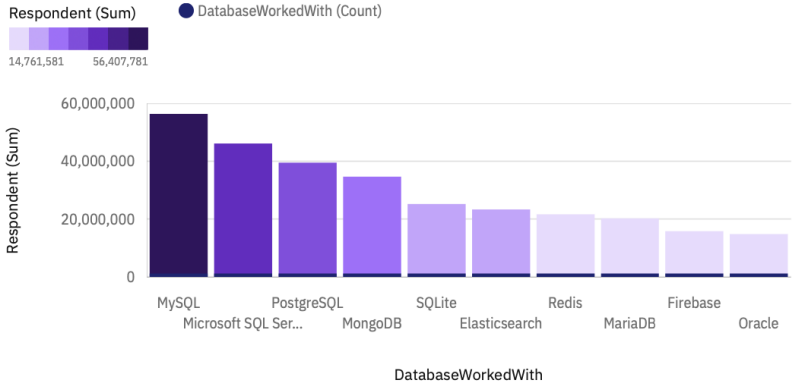
DASHBOARD TAB 1

Current Technology Usage

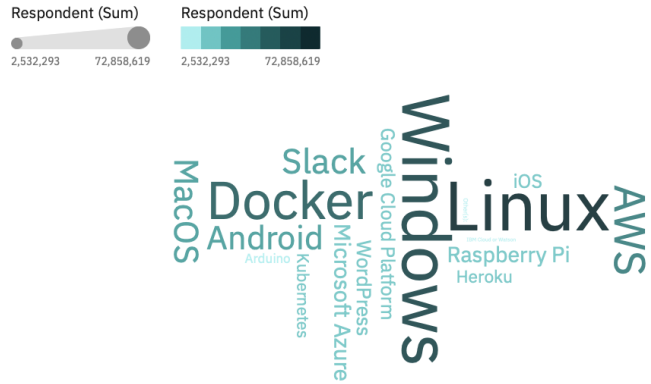
Top 10 Language Worked with Respondent



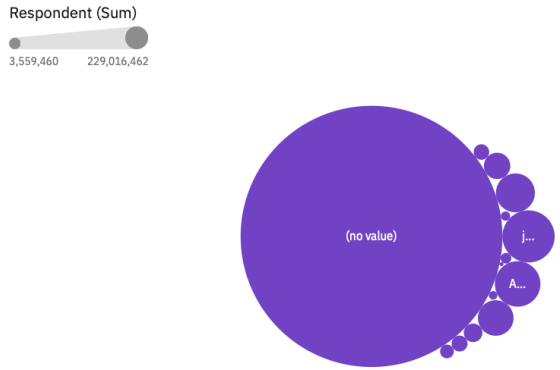
Top 10 Database Worked with Respondent



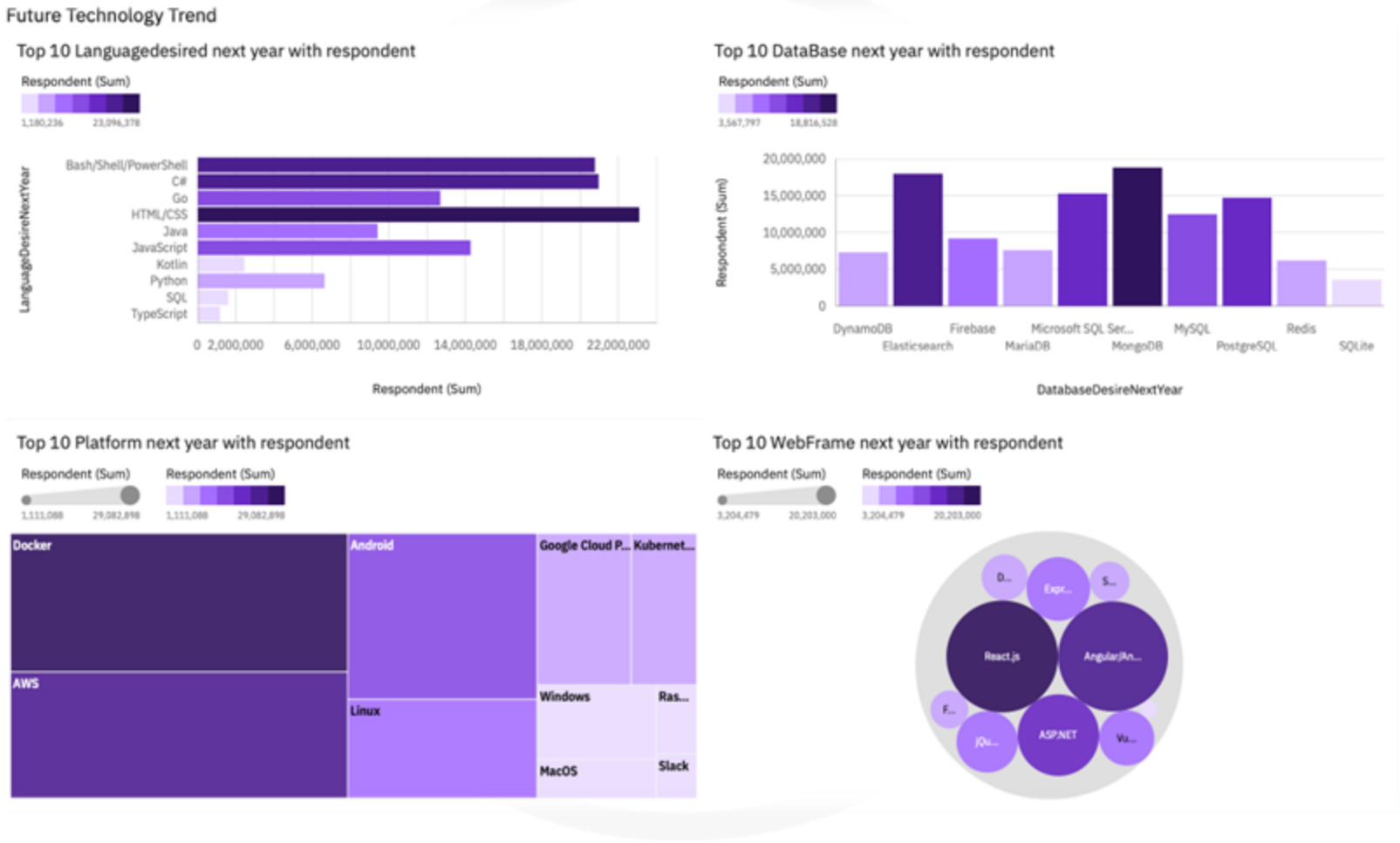
Top 10 Platfrom Worked with Respondent



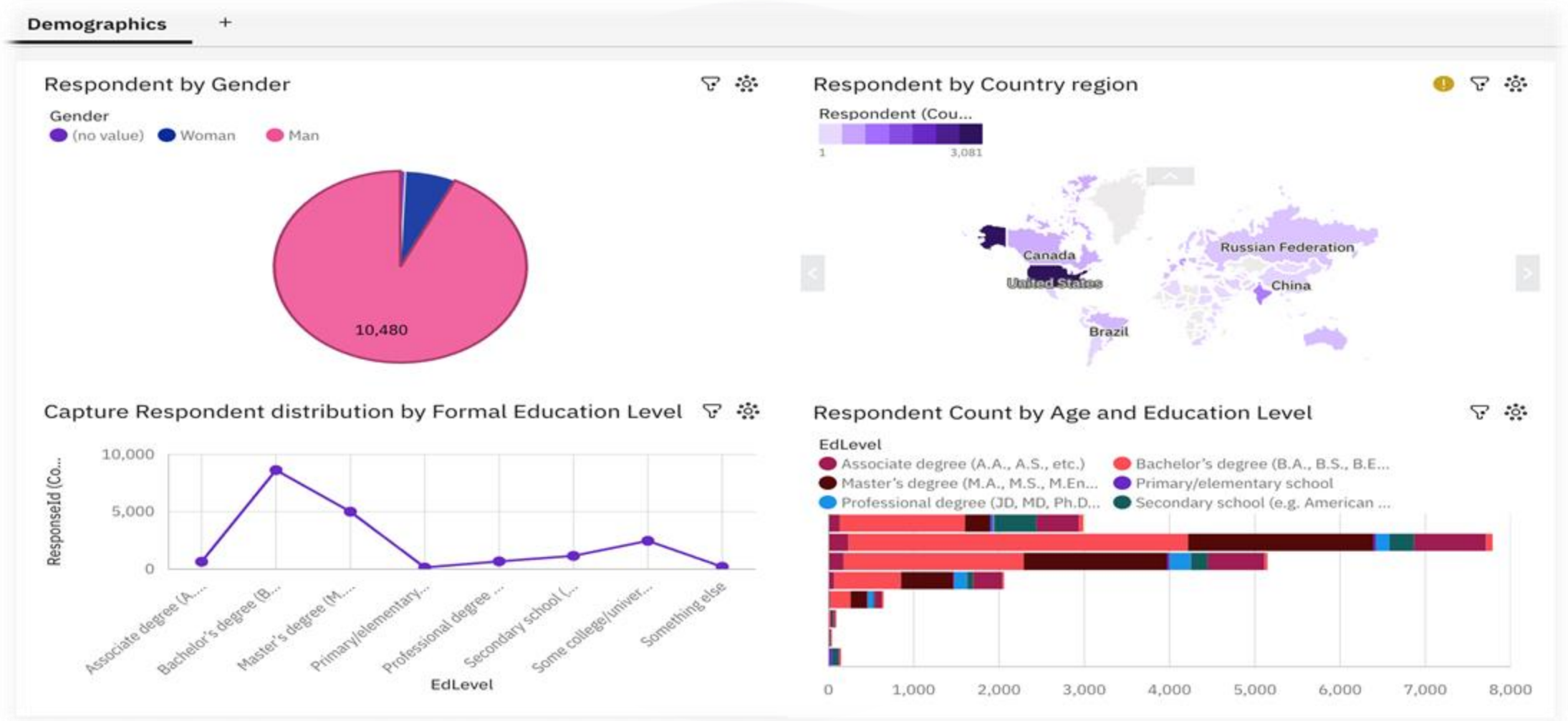
Top 10 Webframes Worked wtih Respondent



DASHBOARD TAB 2



DASHBOARD TAB 3



DISCUSSION

- Programming Language Trends: Python and SQL Get Adopted While Go and Kotlin Continue To Gain Popularity
- Database Overview: Dominance of MySQL, PostgreSQL, and a rise in NoSQL, cloud databases
- Demographics: Most respondents are between 25 and 34 years old and hold a bachelor's or master's degree.

OVERALL FINDINGS & IMPLICATIONS

Key Takeaways:

- Python, SQL and JavaScript continue to be industry staples.
- Modern languages such as Go and Kotlin are attracting talent.
- However, due to scale, NoSQL databases are a growing trend.
- AWS and Google Cloud are very much in demand to learn.

Business Implications:

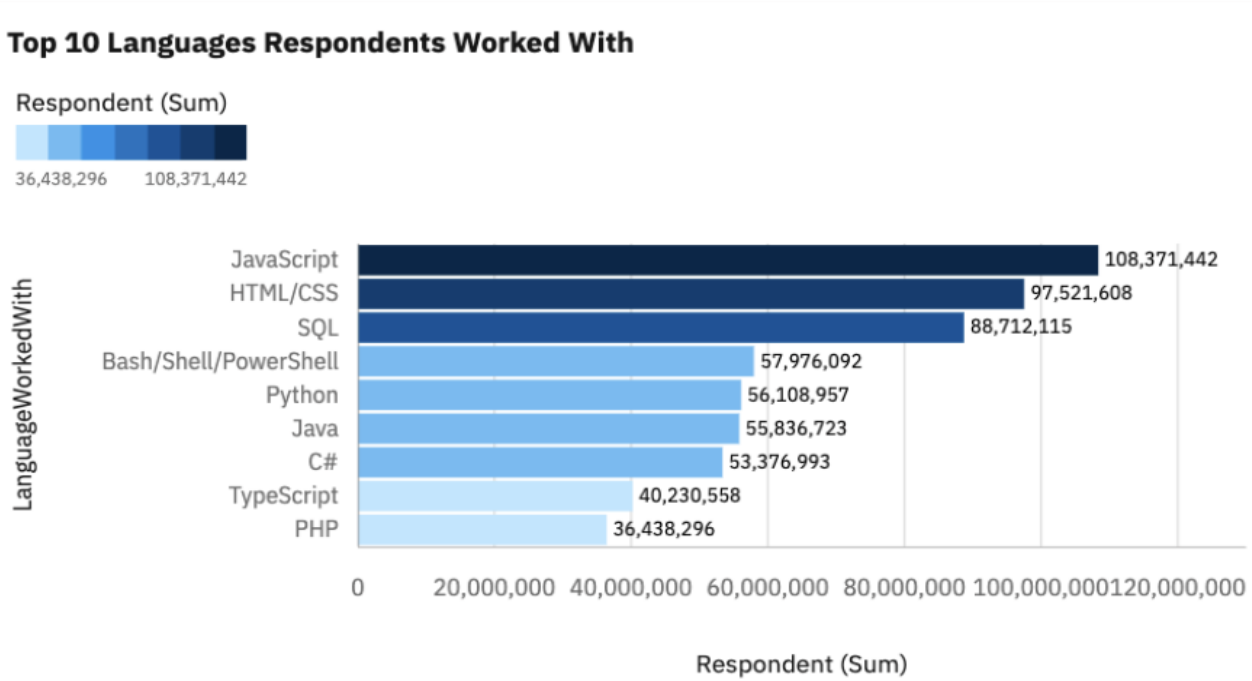
- The cloud, new programming skills should be bought by them.
- Consider using emerging databases for future applications (DynamoDB, Redis).

CONCLUSION

- The data highlights strong technology adoption patterns and future trends.
- Organizations should align strategies with evolving industry preferences.
- Continuous learning is key to staying ahead in a competitive tech landscape.

APPENDIX

Tab 1



JOB POSTINGS

I tried to create dashboard, but not working.

POPULAR LANGUAGES

In Module 1 you have collected the job postings data using web scraping in a file named “popular-languages.csv”. Present that data using a bar chart here. Order the bar chart in the descending order of salary.

I tried to create dashboard, but not working.