



IT Skills Analysis

By: Vikash Singh

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EXECUTIVE SUMMARY



Overview:

- This analysis investigates the current and future technological preferences of IT professionals.
- Key findings reveal shifts in technology adoption and future interests that inform strategic planning.

• Current Technologies:

- Technologies widely used today in current market include JavaScript, SQL, and Visual Studio Code and cloud based framework like Windows, AWS and Linux

• Future Technologies:

- Respondents express interest in adopting technologies like Python, JavaScript, and PostgreSQL , MongoDB and platforms like Linux and Kubernetes.

INTRODUCTION



context:

- The technology industry is rapidly evolving, driven by innovations in software development, data management, and digital transformation.
- Organizations must continuously adapt to these changes to remain competitive and leverage new opportunities.
- Staying informed about both current technology usage and future trends is crucial for making strategic decisions that affect workforce skills, operational efficiency, and market positioning.

Objectives:



- This analysis aims to provide a comprehensive overview of the technologies currently being utilized by IT professionals and organizations.
- By exploring the interests and intentions regarding future technology adoption, we can identify key areas for investment and development.
- The goal is to use these insights to identify the top programming languages in demand, top database skills in demand and the popular IDEs. Additionally, this analysis will help guide strategic investments in technology, enabling the organization to capitalize on trends and maintain a competitive edge.

METHODOLOGY



- **Data Sources:**

- Survey responses from industry professionals.
- Data collected from job postings and training portals.

- **Data Preparation:**

- Data cleaning and transformation techniques were applied to ensure consistency and accuracy in the analysis.

- **Analysis Tools:**

- Data visualized using Power BI Tool.
- Statistical analysis to determine trends.

RESULTS: Descriptive Statistics

- Pie chart: Gender Distribution

- 93.48% of respondent were male and 6.52% were female.
- 6.52% Woman: Highlighting the gender disparity in the technology sector.

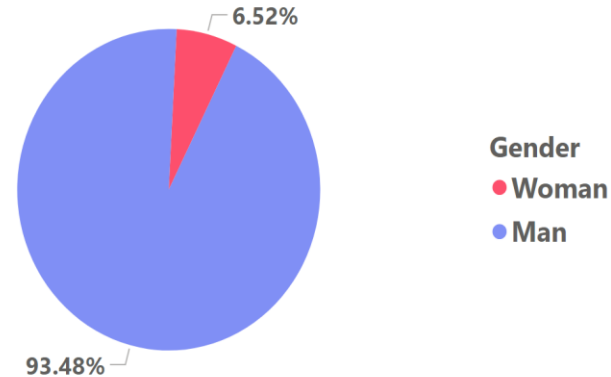
- Table: Employment Type

- A significant portion of man are employed full time. 10092 out of 10480 men
- Also a significant portion of women are employed full time. 696 out of 731.

- Distribution of Age

- Most respondents are in the 20-30 Age range peaking at 27 with 787 respondents.
- Also their is small number of older respondents indicating a younger demographic

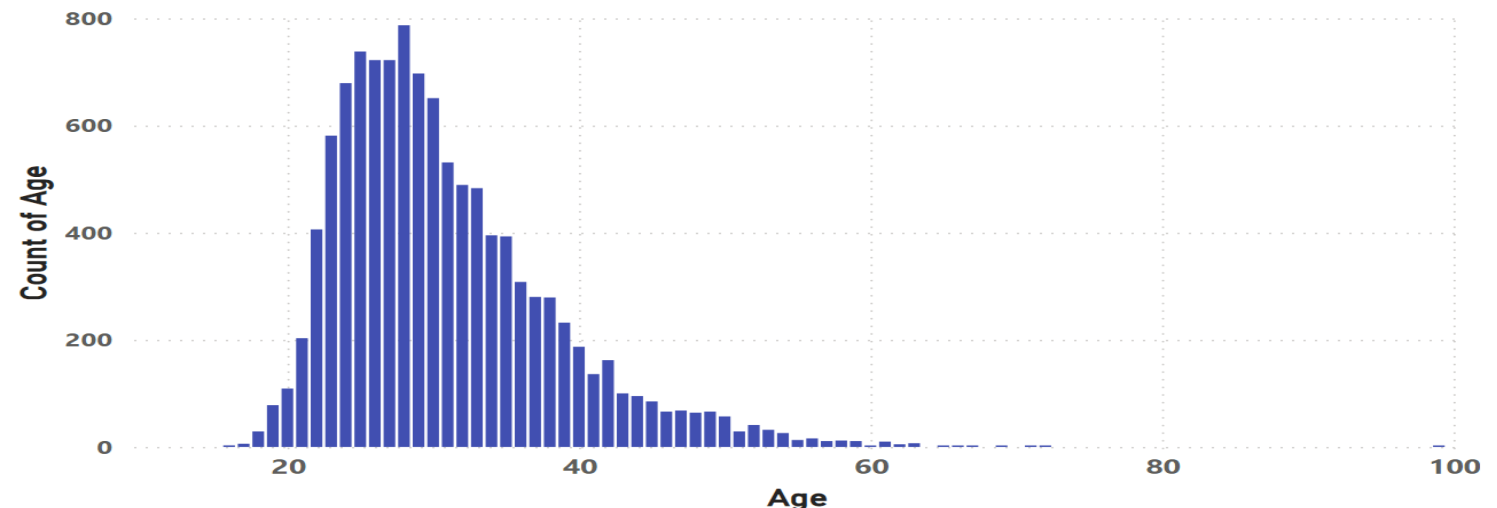
Respondent classified by Gender



Employment Type

Row Labels	Count of Employment	Count of Respondent
Man	10480	10480
Employed full-time	10092	10092
Employed part-time	388	388
Woman	731	731
Employed full-time	696	696
Employed part-time	35	35
Grand Total	11211	11211

Distribution of Age

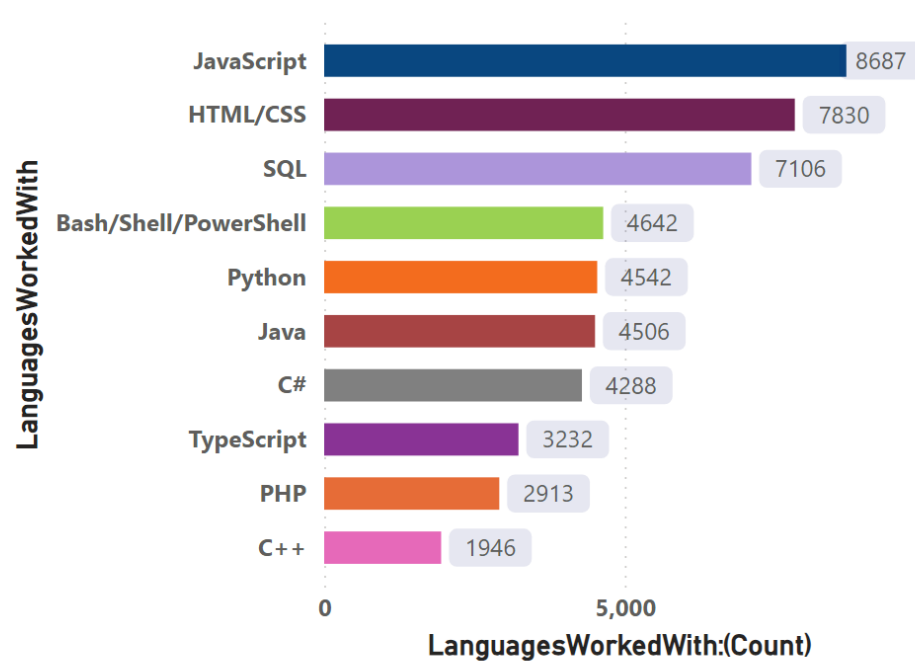


PROGRAMMING LANGUAGE TRENDS

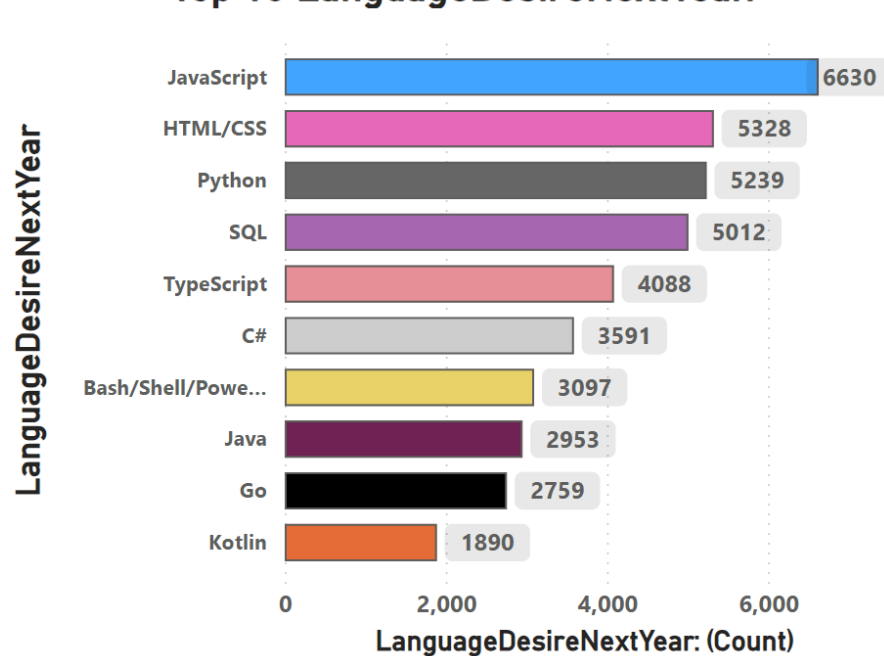
Current Year

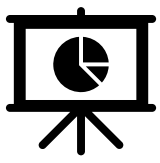
Next Year

Top 10 Languages Worked With



Top 10 LanguageDesireNextYear.





PROGRAMMING LANGUAGE TRENDS - FINDINGS

• Current Year

- **JavaScript** is the most used programming language.
- **HTML/CSS** and **SQL** follow, with 7830 and 7106 counts.
- **Python** and **Java** are also popular, with 4542 and 4506 counts.

• Next Year

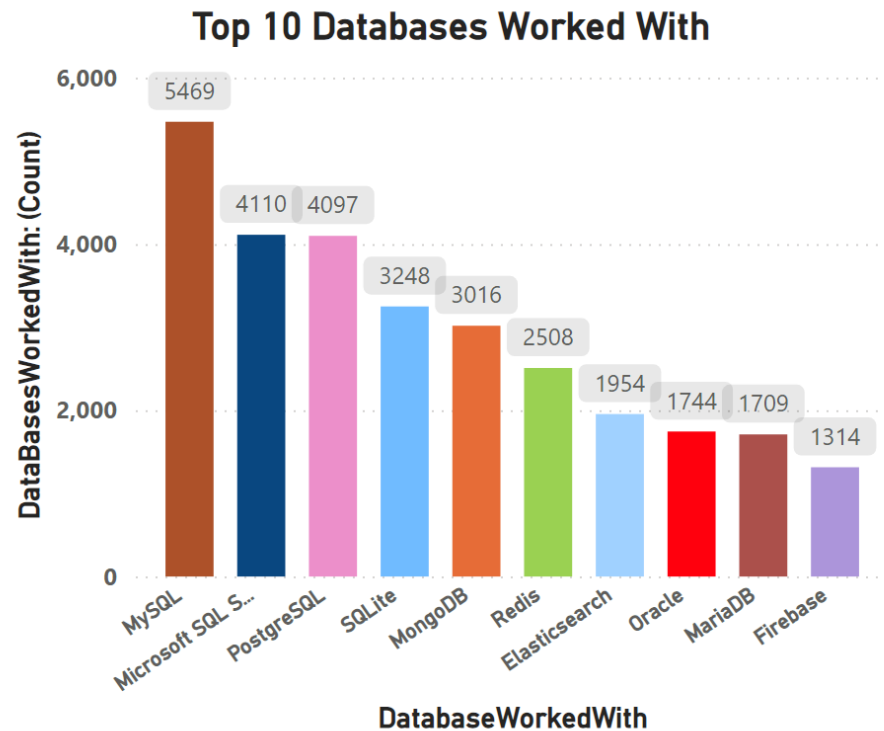
- **JavaScript** remains highly desired programming language .
- **Python** and **HTML/CSS** show a high demand, with 5239 and 5328 counts
- **SQL** and **Java** are also in demand, with 5012 and 2953 counts.
- **Go** and **Kotlin** appear as emerging languages, with 2759 and 1890 counts.

PROGRAMMING LANGUAGE TRENDS - IMPLICATIONS

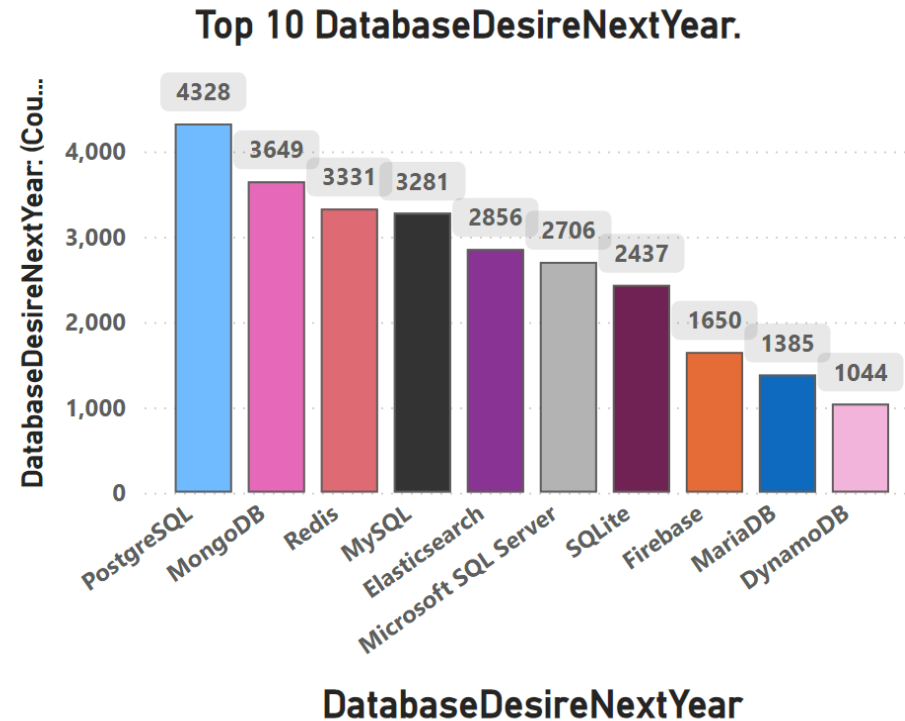
- **JavaScript** remains a crucial skill for web development, indicating a sustained need for front-end and full-stack developers.
- **Python**'s rising demand suggests its increasing importance in data science, machine learning, and backend development.
- **HTML/CSS** will continue to be essential for web development, reflecting the ongoing need for web design and user interface skills.
- **SQL**'s consistent demand emphasizes the necessity for database management and data manipulation skills.
- Emerging languages like **Go** and **Kotlin** suggest a shift towards modern, efficient languages for specific use cases like backend development and mobile applications.

DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

• Current Year

- **MySQL** is the most used database, with 5469 counts.
- **Microsoft SQL Server** and **PostgreSQL** are also widely used, with 4110 and 4097 counts.
- **SQLite**, **MongoDB**, and **Redis** have significant usage, with 3248, 3016, and 2508 counts.

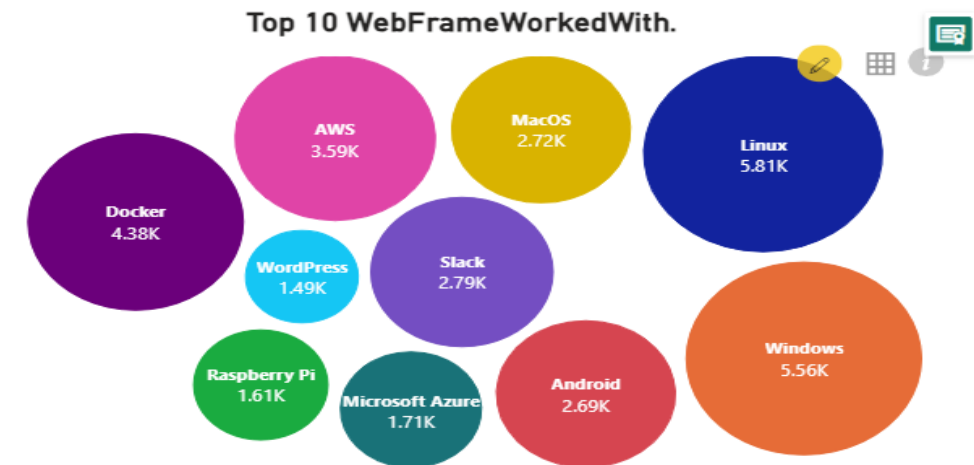
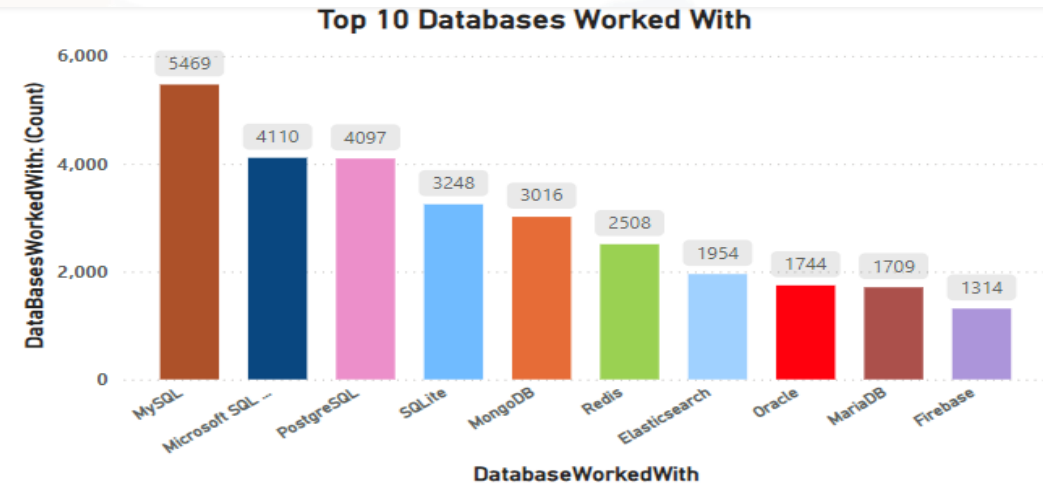
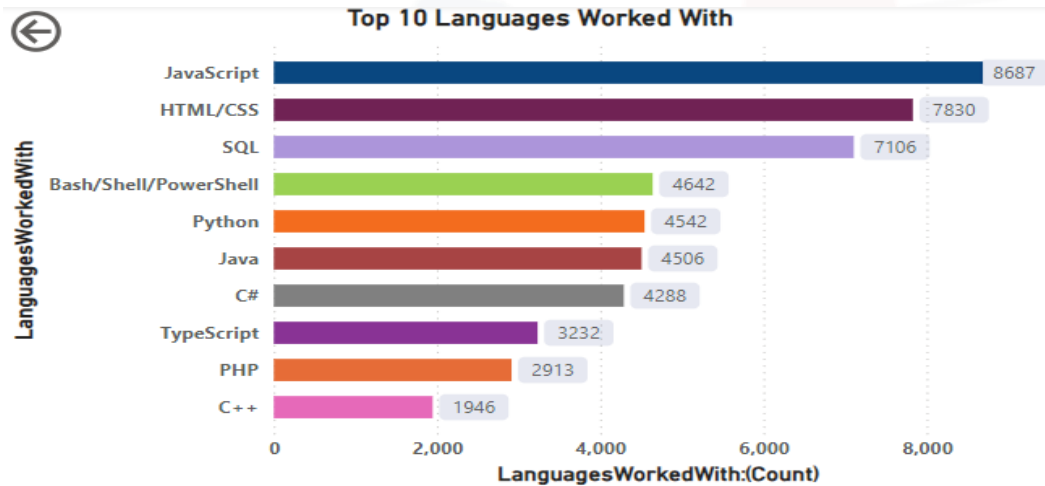
• Next Year

- **PostgreSQL** is the most desired database, with 4328 counts.
- **MongoDB** and **Redis** are highly desired, with 3649 and 3331 counts.
- **MySQL** and **Elasticsearch** also show high demand, with 3281 and 2856 counts.
- **Firebase** and **DynamoDB** are gaining interest, with 1650 and 1044 counts.

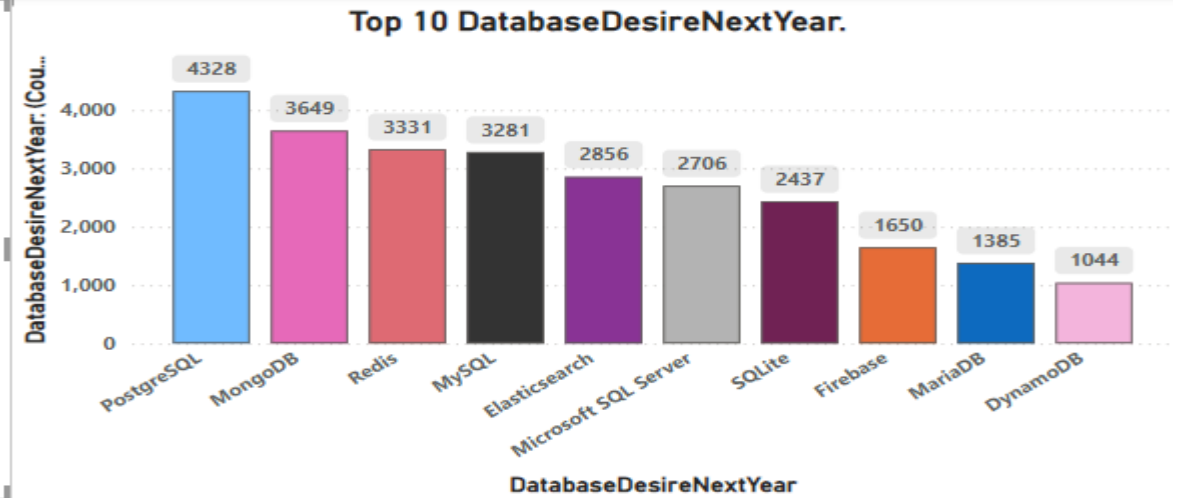
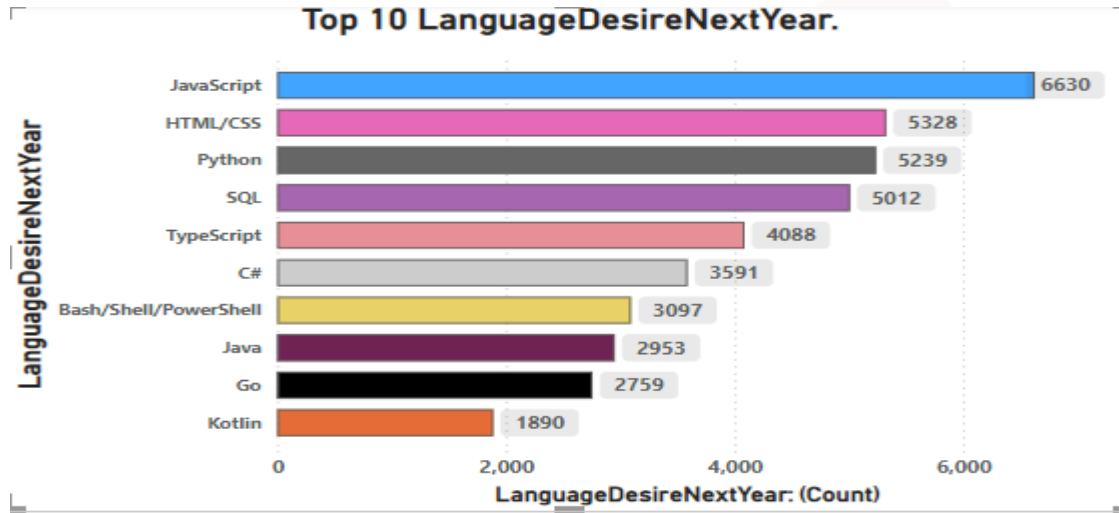
PROGRAMMING LANGUAGE TRENDS - IMPLICATIONS

- **PostgreSQL**'s increasing demand indicates a shift towards open-source, advanced SQL databases for complex applications.
- The growing popularity of **MongoDB** and **Redis** reflects the rising need for NoSQL databases for scalable, high-performance applications.
- **MySQL**'s continued relevance underscores its reliability and widespread use in various applications.
- The interest in **Elasticsearch** points to the growing importance of search and analytics capabilities in data-driven applications.
- Emerging interest in **Firebase** and **DynamoDB** suggests a trend towards managed database services for ease of use and scalability.

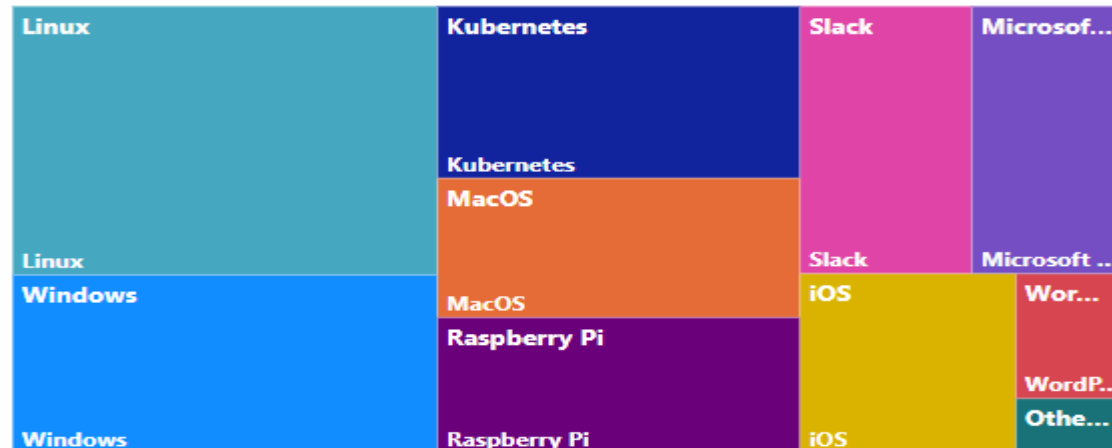
DASHBOARD 1: Current Technology Usage



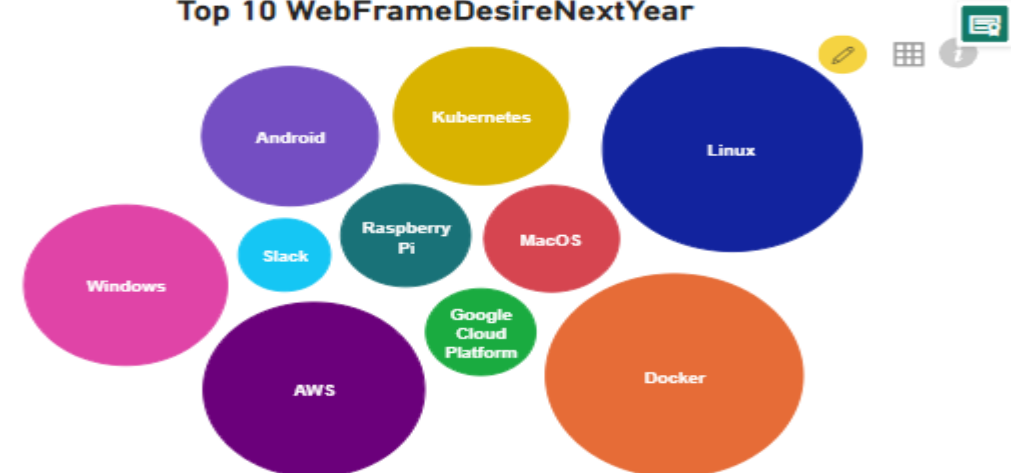
DASHBOARD 2: Future Technology Usage



Platform Desire Next Year

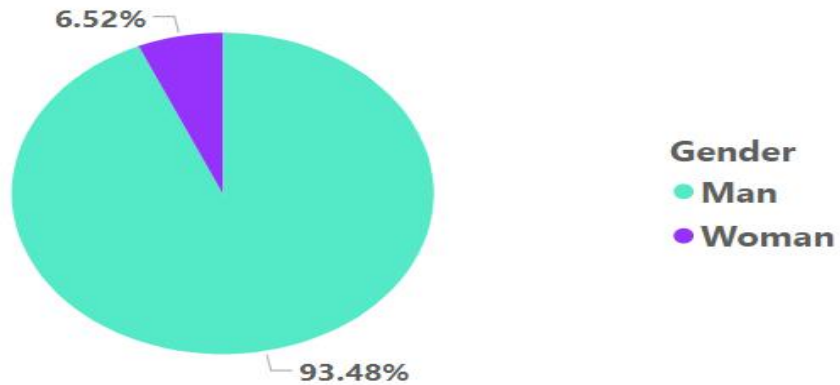


Top 10 WebFrameDesireNextYear

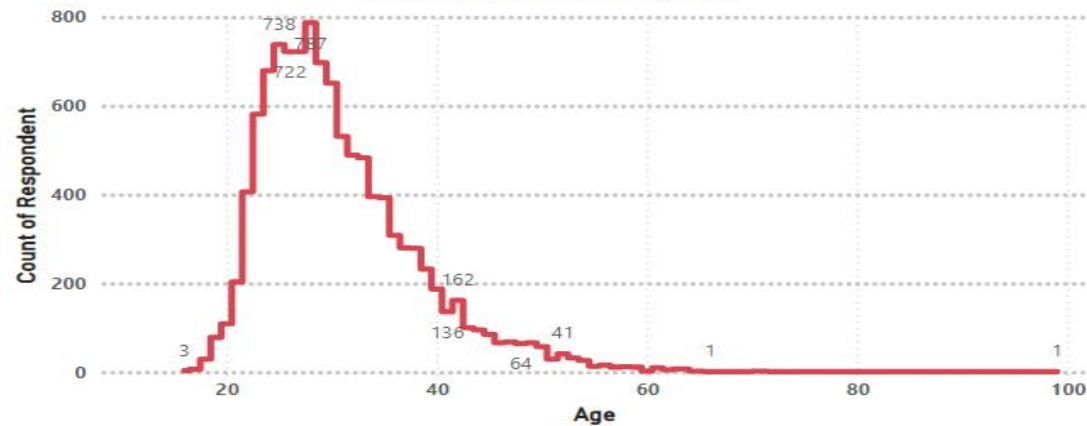


DASHBOARD TAB 3

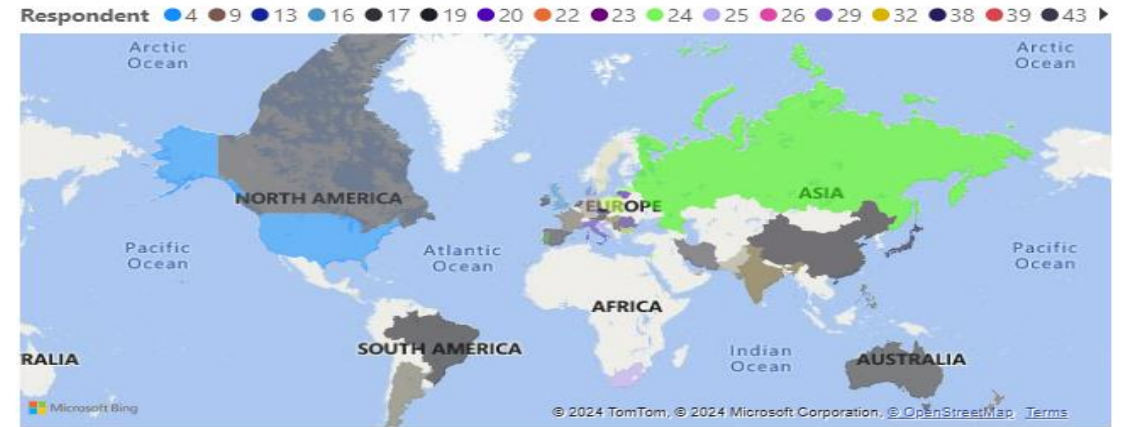
Respondent classified by Gender



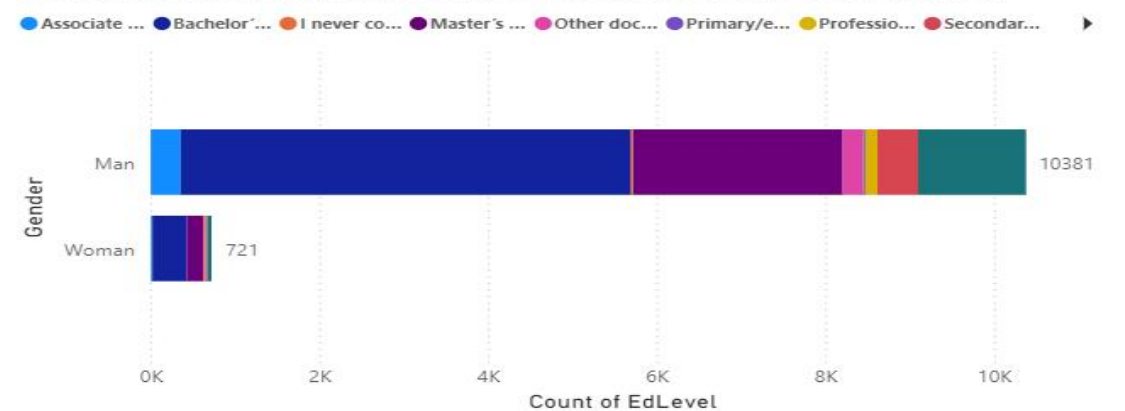
Respondent Count by Age



Respondent Count for Countries.y and Respondent



Respondent Count by Gender, classified by Formal Education Level



OVERALL FINDINGS

- **Demographics:**

- The majority of respondents are male (93.48%), indicating a significant gender imbalance in the technology field.
- The age distribution peaks in the 20-30 age range, suggesting a younger demographic is more engaged in technology trends.
- Respondents are globally distributed, with significant representation in North America, Europe, and Asia.

- **Educational Background:**

- The majority of respondents are male (93.48%), indicating a significant gender imbalance in the technology field.
- Most respondents have achieved a high level of education, with the majority holding Bachelor's and Master's degrees.
- Both men and women show similar educational attainment patterns, though women are less represented.

- **Current Technology Usage:**

- **JavaScript, HTML/CSS, and SQL** are the most commonly used programming languages, reflecting foundational skills in web development and data management.
- **MySQL, Microsoft SQL Server, and PostgreSQL** are the top databases used, indicating a preference for established relational databases.
- **Windows, Linux, and AWS** are the leading platforms, highlighting the importance of both traditional and cloud-based environments.

- **Future Technology Interests:**

- **JavaScript, Python, and SQL** continue to be of high interest, suggesting their ongoing relevance in the tech industry.
- There is growing interest in **PostgreSQL and MongoDB**, reflecting a shift towards more flexible, scalable database solutions.
- **Kubernetes, AWS, and Azure** are increasingly desired platforms, indicating a strong trend towards cloud computing and containerization.

OVERALL IMPLICATIONS

- **Skill Development:**

- The majority of respondents are male (93.48%), indicating a significant gender imbalance in the technology field.
- Training and educational programs should emphasize skills in JavaScript, Python, cloud computing, and emerging database technologies to align with industry trends and workforce demand.
- Organizations should consider offering upskilling opportunities in AI, machine learning, and cloud technologies to prepare for future advancements.

- **Strategic Investment:**

- Companies should strategically invest in technologies that are gaining interest, such as cloud-based platforms and container orchestration tools, to remain competitive.
- Emphasizing innovation in database technologies can provide organizations with a competitive edge as they adapt to evolving data management needs.

- **Gender Diversity:**

- The technology sector should actively address gender imbalance by creating more inclusive environments and initiatives to encourage female participation and advancement in tech fields.

- **Global Workforce Engagement:**

- With a globally distributed respondent base, organizations should consider the diverse geographical interests and strengths of their workforce when planning technology rollouts and collaborations.
- There is growing interest in **PostgreSQL and MongoDB**, reflecting a shift towards more flexible, scalable database solutions.

CONCLUSION



- The tech industry is rapidly evolving, with professionals keen on adopting new languages, databases, and platforms to stay competitive.
- Organizations should prioritize investments in emerging technologies such as cloud computing and AI to align with future trends and meet workforce demands.
- There is a need for targeted training programs to upskill employees in desired future technologies, particularly in cloud services and modern programming languages.
- Companies should focus on increasing gender diversity in the tech workforce to create a more inclusive environment and leverage diverse perspectives.
- Given the younger age distribution, organizations should develop strategies for talent retention, such as career advancement opportunities and competitive benefits.