Trend Analysis Of Programming Languages and Databases

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- Methodology

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  - Findings & Implications

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EXECUTIVE SUMMARY

- Programming Language Trend Comparison: Current vs Future
  - Findings
  - Implications

- Database Trend Comparison: Current vs Future
  - Findings
  - Implications

- Dashboard

- Job Opportunities

- High-Paying Programming Languages

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INTRODUCTION

- <u>Objective:</u> Analyze evolving trends in programming languages and databases.

- <u>Significance:</u> Understand their impact on technology and career opportunities.

- <u>Scope:</u> Cover popular languages, emerging technologies, and industry shifts.

- <u>Expected Outcomes:</u> Identify key trends and forecast future developments.

  - New roles and skills in demand.
  - Insights for applying trends to project development and strategic planning.

METHODOLOGY

- Collect data from various source by using Python.

- Data Wrangling by using Python's Pandas library.

- Data Analysis by using Python's Pandas library.

- Data Visualization By using Python, Excel and IBM Cognos
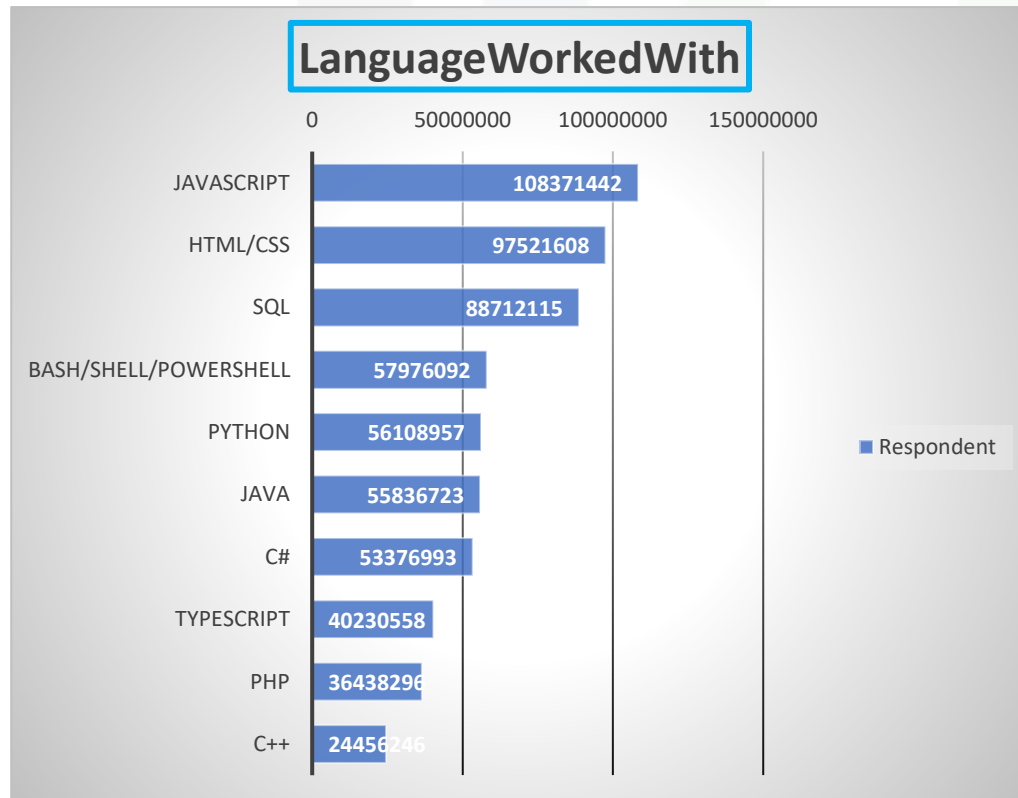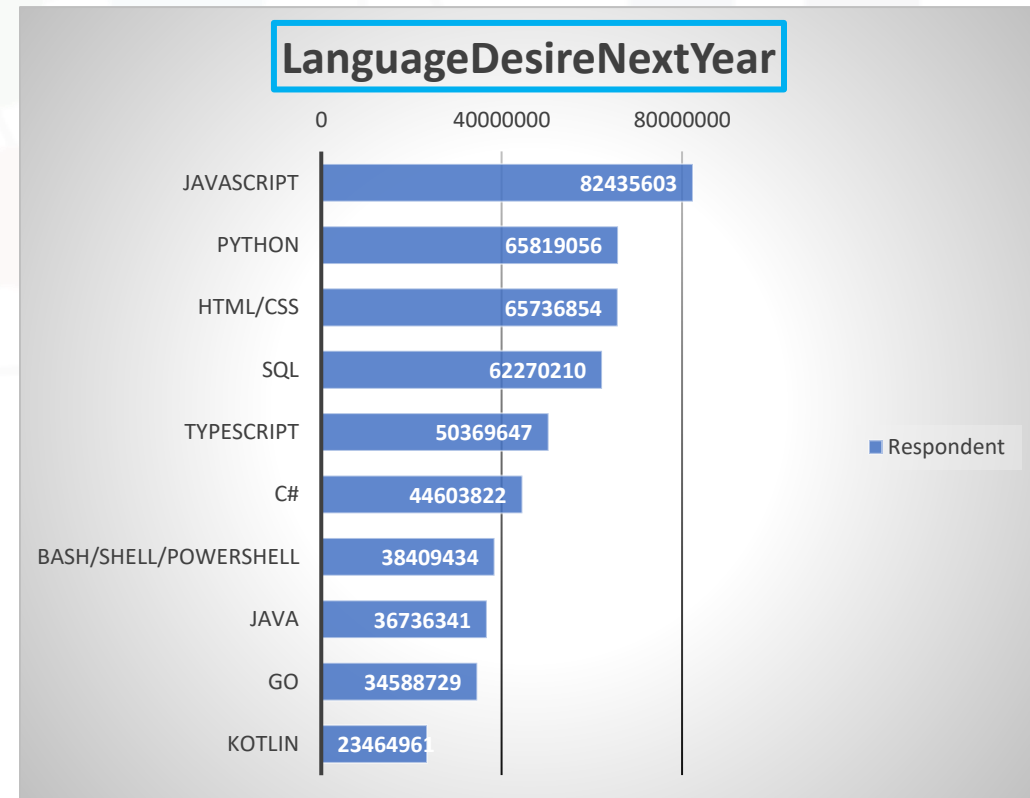 - Charts
  - Dashboard

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RESULTS

Results are explained in below slides➜

PROGRAMMING LANGUAGE TRENDS

Current Year

LanguageWorkedWith

Language	Respondent
JAVASCRIPT	108371442
HTML/CSS	97521608
SQL	88712115
BASH/SHELL/POWERSHELL	57976092
PYTHON	56108957
JAVA	55836723
C#	53376993
TYPESCRIPT	40230558
PHP	36438296
C++	24456246

Next Year

LanguageDesireNextYear

Language	Respondent
JAVASCRIPT	82435603
PYTHON	65819056
HTML/CSS	65736854
SQL	62270210
TYPESCRIPT	50369647
C#	44603822
BASH/SHELL/POWERSHELL	38409434
JAVA	36736341
GO	34588729
KOTLIN	23464961

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PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- JavaScript hold its position year by year.
- Python's popularity is increasing daily.
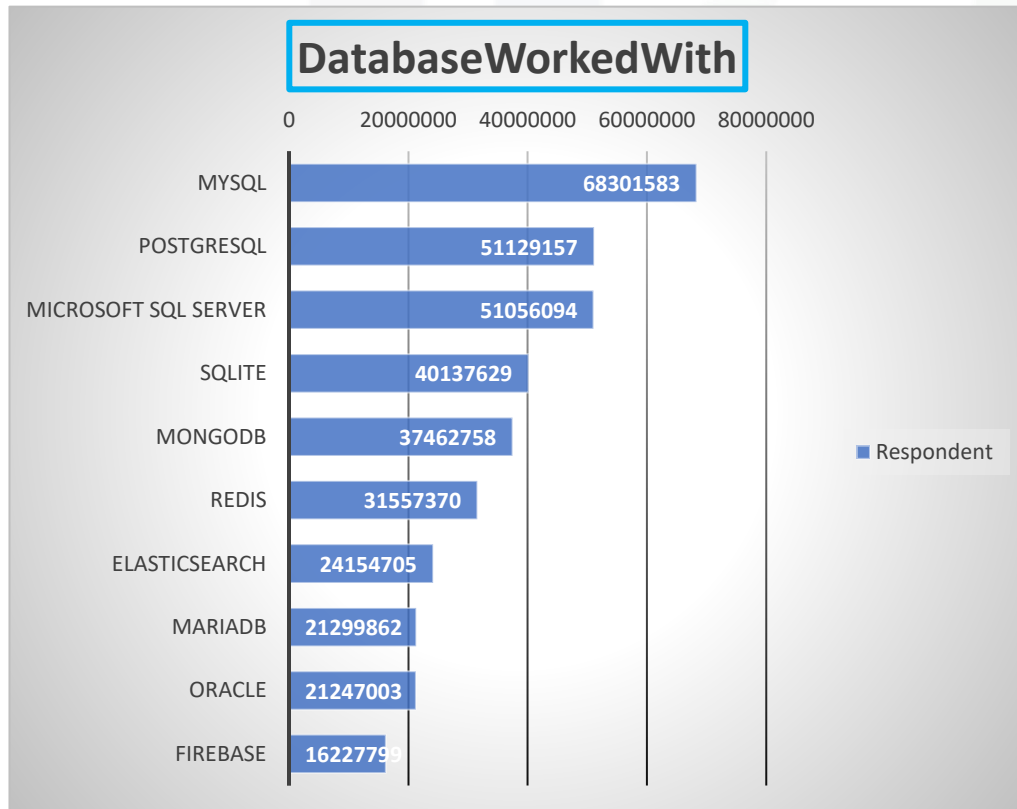- PHP and C++ are becoming less popular over time.

Implications

- Popular languages like Python and JavaScript offer more job opportunities.
- High-demand languages lead to better salaries.
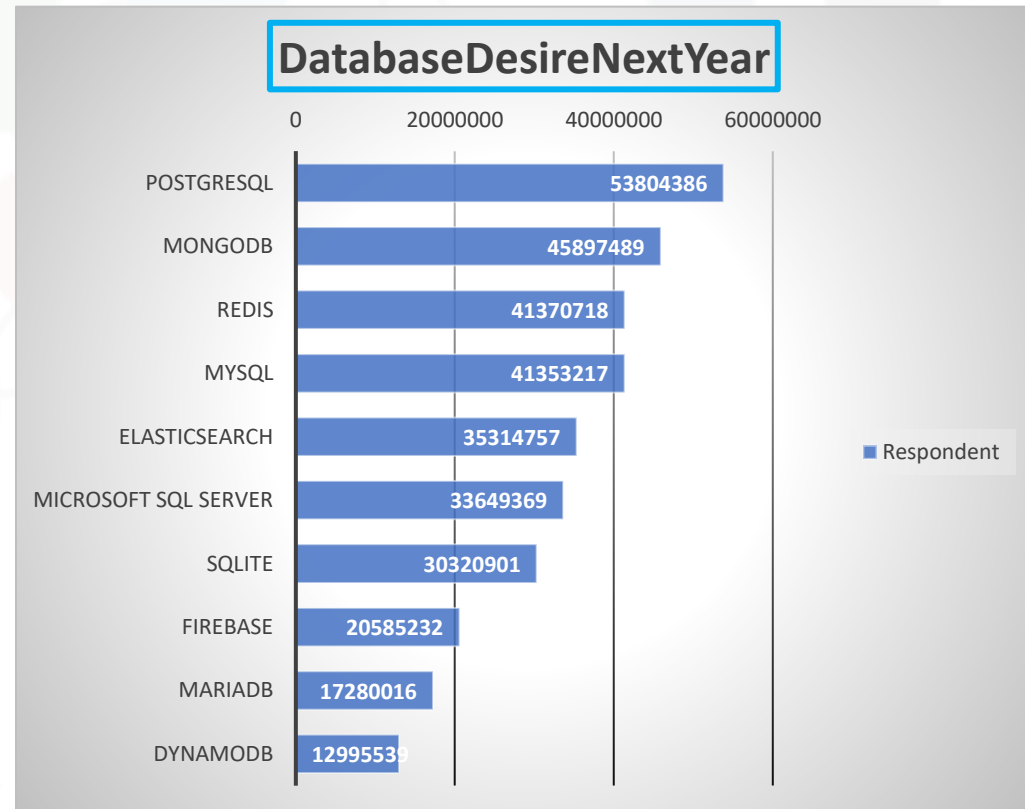- Learning emerging languages ensures ongoing industry relevance.

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DATABASE TRENDS

Current Year

DatabaseWorkedWith

	Respondent
MYSQL	68301583
POSTGRESQL	51129157
MICROSOFT SQL SERVER	51056094
SQLITE	40137629
MONGODB	37462758
REDIS	31557370
ELASTICSEARCH	24154705
MARIADB	21299862
ORACLE	21247003
FIREBASE	16227799

Next Year

DatabaseDesireNextYear

	Respondent
POSTGRESQL	53804386
MONGODB	45897489
REDIS	41370718
MYSQL	41353217
ELASTICSEARCH	35314757
MICROSOFT SQL SERVER	33649369
SQLITE	30320901
FIREBASE	20585232
MARIADB	17280016
DYNAMODB	12995539

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- PostgreSQL's popularity is increasing over time.
- MySQL's popularity has slightly decreased.
- Oracle's popularity is gradually declining.

Implications

- Businesses may switch to cost-effective databases like PostgreSQL, reducing IT expenses.
- Increased demand for PostgreSQL skills (e.g., in startups) as MySQL and Oracle skills decline.
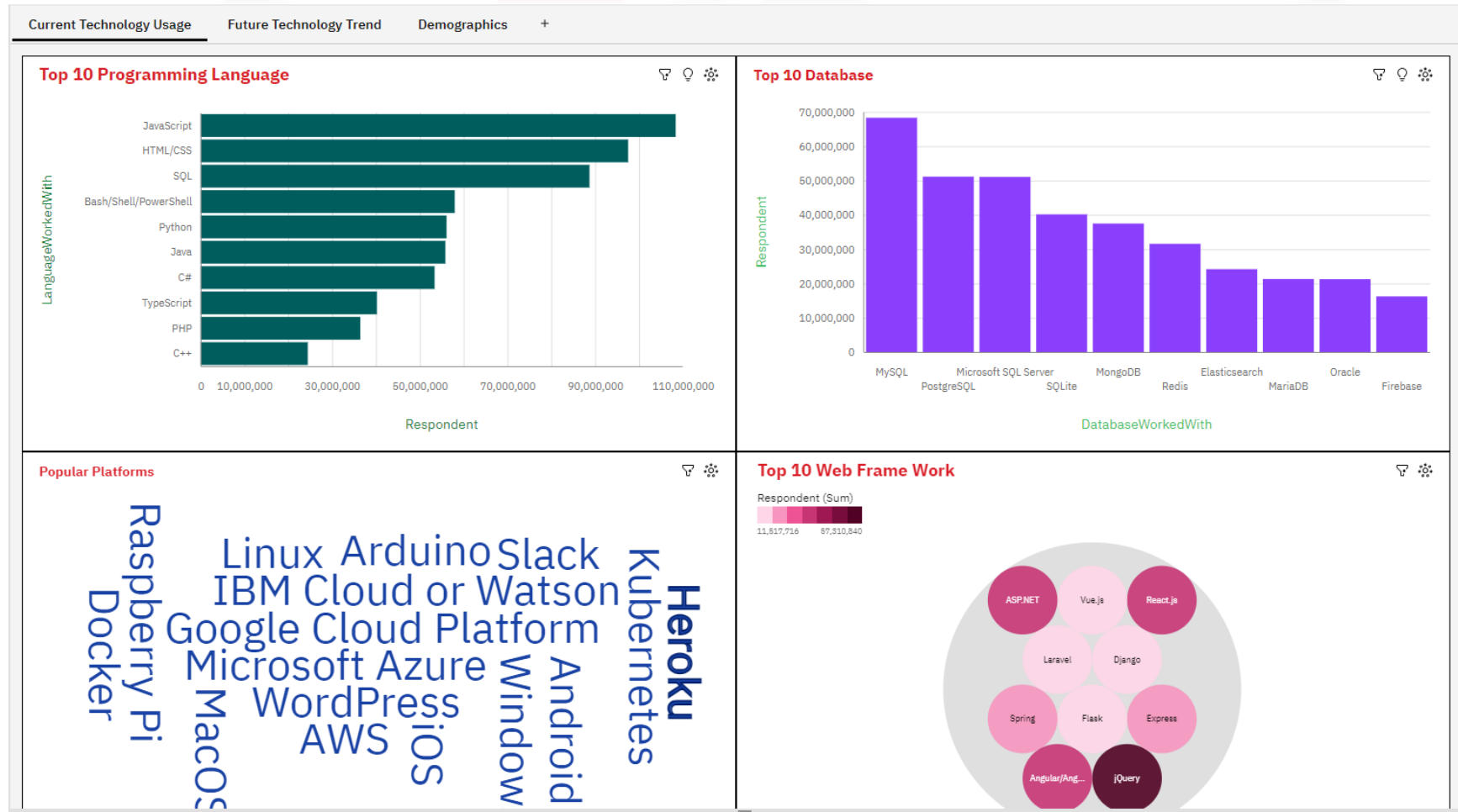- Companies like Oracle must innovate to compete with rising alternatives such as PostgreSQL.
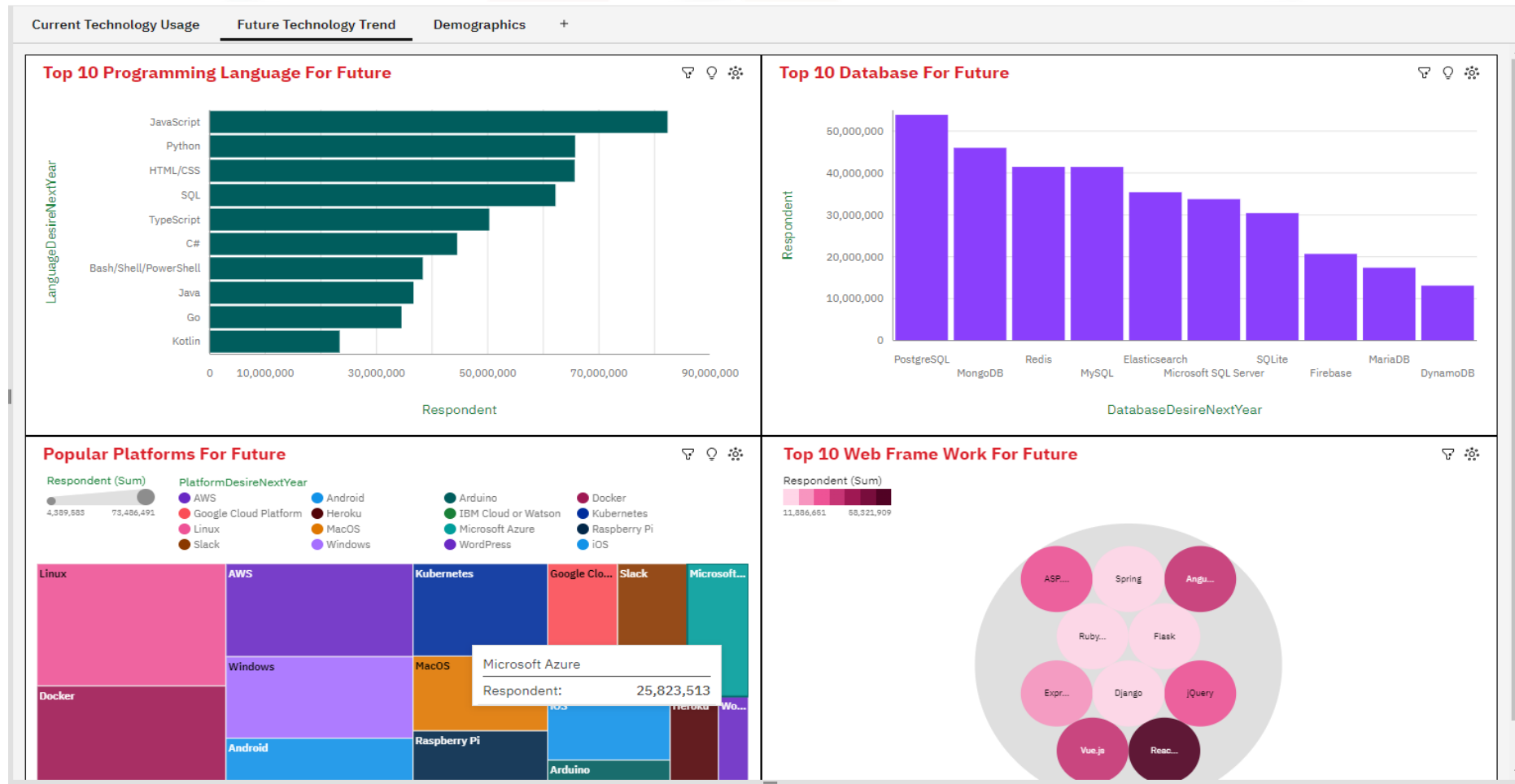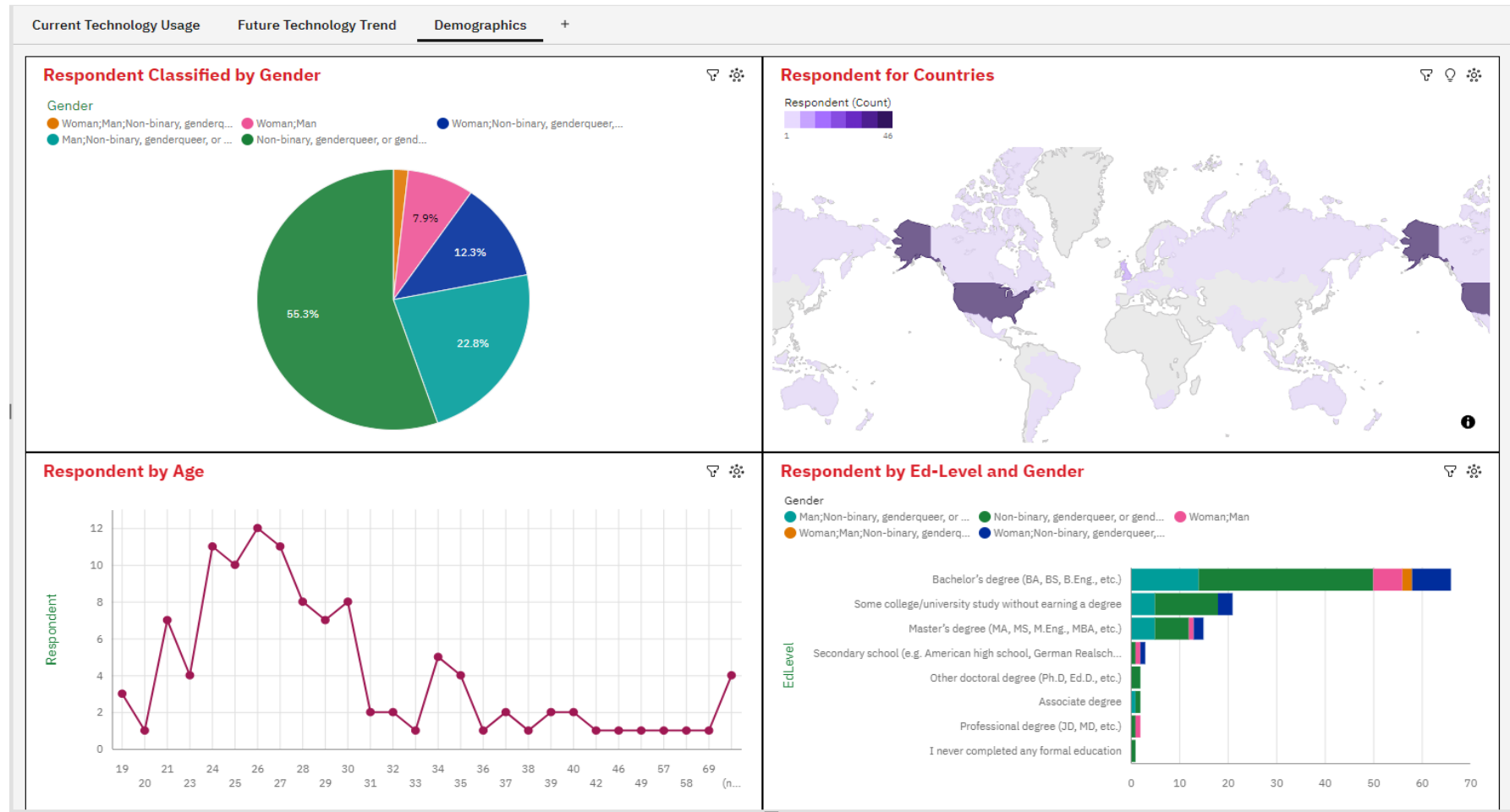
DASHBOARD

SURVEY DASHBOARD- IBM COGNOS

DASHBOARD TAB 1

DASHBOARD TAB 2

DASHBOARD TAB 3

DISCUSSION

Discussions explained in below
Slide➜

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OVERALL FINDINGS & IMPLICATIONS

Findings

- Python and JavaScript dominate the current market.

- Relational databases are current favourites. Multi-Model and Cloud-Native databases are becoming more popular.

- Companies are adopting newer programming languages and databases to meet modern demands.

Implications

- Transition to newer languages and databases for better performance.

- Use cloud-native databases to enhance scalability and reduce management.

- Integrate real-time data processing for better decision-making.

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CONCLUSION

- Python and JavaScript are popular now, but Go is the future of programming.

- Multi-model and cloud-native databases are changing data management.

- Adopting these new technologies is essential to stay competitive.

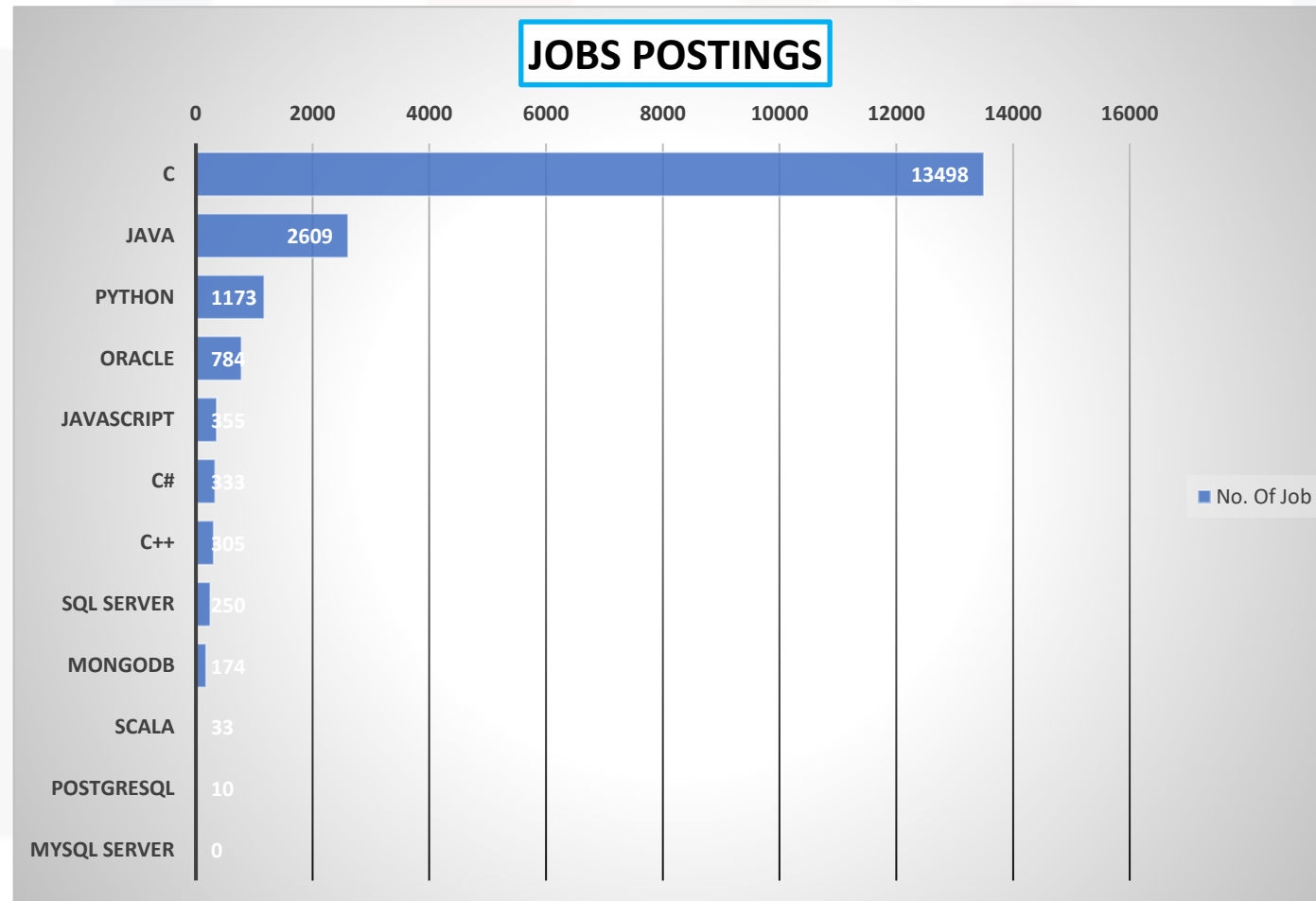- Using advanced data processing leads to smarter decisions and innovation.

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APPENDIX

- Two additional charts included in below Slides:
  1. Bar Chart Of Job Postings
  2. Bar Chart Of Popular Languages Salaries

JOB POSTINGS

JOBS POSTINGS

Language	No. Of Job
C	13498
JAVA	2609
PYTHON	1173
ORACLE	784
JAVASCRIPT	355
C#	333
C++	305
SQL SERVER	250
MONGODB	174
SCALA	33
POSTGRESQL	10
MYSQL SERVER	0

POPULAR LANGUAGES

POPULAR LANGUAGES

Average Annual Salary

Language	Average Annual Salary
SWIFT	$130,801
PYTHON	$114,383
C++	$113,865
JAVASCRIPT	$110,981
JAVA	$101,013
GO	$94,082
R	$92,037
C#	$88,726
SQL	$84,793
PHP	$84,727