HR ANALYSIS DASHBOARD

A PROJECT REPORT

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in partial fulfilment for the award of the degree of

MCA

In

BUSINNESS ANALYTICS

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Declaration

I, **Vijit Kumar**, a student of Master in Computer Application, session 2023-2025, at University Institute of Computing, Chandigarh University, hereby declare that the work presented in this project titled "**HR Analysis Dashboard**" is my original work, conducted under the guidance and supervision of **Mr. Sanjay Kumar Aggarwal**.

I confirm that this project is the result of my own research and efforts, and it has not been submitted previously for any other degree or diploma. I have appropriately acknowledged all the sources of information and support received throughout this work. The content presented in this project reflects my understanding and knowledge acquired through dedicated academic effort.

This project is an accurate representation of my commitment and hard work, and I declare that the data presented is authentic and accurate to the best of my knowledge.

Signature

(Head of Department, MCA)

Signature

(Supervisor, MCA)

Acknowledgment

I would like to express my deepest gratitude to **Mr. Sanjay Kumar Aggarwal**, my project supervisor at the University Institute of Computing, Chandigarh University, for his invaluable guidance, support, and encouragement throughout the development of this project titled “HR Analysis Dashboard.” His insights and constructive feedback have been instrumental in shaping the direction and success of this work.

I am also sincerely grateful to the other faculty members and mentors whose expertise and advice were essential in overcoming the technical challenges encountered during this project. Their support has played a significant role in its successful completion.

Additionally, I extend my heartfelt thanks to the University Institute of Computing at Chandigarh University for providing the necessary resources and facilities to carry out this project. The academic environment and continuous support have greatly contributed to my learning and professional growth.

Finally, I would like to thank my family and friends for their unwavering encouragement and patience throughout this journey. Their support has been a constant source of motivation and inspiration.

Abstract

This project aimed to develop a comprehensive HR analysis dashboard using Tableau and MySQL. The dashboard provides valuable insights into various HR metrics, including recruitment, performance management, retention, and learning and development.

By leveraging Tableau's powerful visualization capabilities, the dashboard presents data in a clear and intuitive manner, enabling easy interpretation of complex HR trends. MySQL, on the other hand, plays a crucial role in data extraction, cleaning, and transformation, ensuring data accuracy and reliability.

The dashboard incorporates a range of KPIs and analysis techniques, such as time-to-hire, cost-per-hire, employee satisfaction, performance ratings, turnover rates, and training effectiveness. By tracking these metrics, HR professionals can identify areas for improvement, optimize recruitment processes, enhance employee performance, and foster a positive work environment.

Overall, this HR analysis dashboard empowers organizations to make data-driven decisions, improve HR efficiency, and achieve strategic business goals.

Introduction

Human Resources (HR) is a critical function within any organization, responsible for managing employees, ensuring compliance, and driving organizational success. Effective HR management requires data-driven decision-making to optimize processes and improve outcomes. This project aims to develop a comprehensive HR analysis dashboard using Tableau and MySQL to provide valuable insights into various HR metrics.

The dashboard is designed to help HR professionals track key performance indicators (KPIs) and analyze trends in recruitment, performance management, retention, and learning and development. By leveraging the power of data visualization, the dashboard presents complex information in a clear and intuitive manner, enabling HR teams to make informed decisions.

Key Objectives of the Project:

1. **Data Integration:** To consolidate HR data from various sources into a centralized database.
2. **Data Cleaning and Preparation:** To ensure data quality and accuracy by cleaning and transforming raw data.
3. **KPI Identification:** To identify relevant HR KPIs that drive organizational performance.
4. **Data Visualization:** To create visually appealing and interactive dashboards using Tableau.
5. **Insight Generation:** To extract meaningful insights from the data to inform strategic decisions.

By achieving these objectives, this project will empower HR teams to:

- **Optimize Recruitment:** Identify the most effective recruitment channels and improve the quality of hire.
- **Enhance Performance Management:** Track employee performance, identify high-potential talent, and implement effective performance improvement plans.
- **Reduce Employee Turnover:** Analyze reasons for attrition and implement retention strategies.
- **Improve Learning and Development:** Evaluate the effectiveness of training programs and identify development needs.
- **Make Data-Driven Decisions:** Use data to guide strategic HR decisions and improve overall organizational performance.

Objective

The primary objective of this project is to develop an HR analysis dashboard that empowers organizations to make data-driven decisions and improve HR efficiency. Specifically, the project aims to:

1. **Consolidate HR Data:** Gather and integrate HR data from various sources, including HRIS systems, performance management tools, and recruitment platforms.
2. **Clean and Prepare Data:** Cleanse and transform raw data to ensure data quality and consistency.
3. **Identify Key Performance Indicators (KPIs):** Define and track critical HR metrics, such as time-to-hire, cost-per-hire, employee turnover, and employee satisfaction.

4. **Develop Interactive Dashboards:** Create visually appealing and interactive dashboards using Tableau to present key HR insights.
5. **Analyze HR Trends:** Identify trends and patterns in HR data to inform strategic decision-making.
6. **Improve Decision-Making:** Provide actionable insights to HR leaders to optimize recruitment, performance management, and employee retention.
7. **Enhance Organizational Performance:** Ultimately, contribute to the overall success of the organization by improving HR processes and employee satisfaction.

Data Collection

Data Sources

The success of an HR analysis project heavily relies on the quality and completeness of the data. Here are some common data sources for HR analytics:

1. **HR Information Systems (HRIS):**
    - Employee information (name, ID, contact details, etc.)
    - Job titles and roles
    - Compensation and benefits data
    - Performance reviews
    - Time and attendance records
    - Training and development records
2. **Recruitment Systems:**

    - Applicant tracking systems (ATS) data
    - Job postings
    - Candidate applications and resumes
    - Interview notes
    - Offer letters and acceptance rates
3. **Performance Management Systems:**
    - Performance reviews and ratings
    - Goal-setting and tracking
    - Feedback and coaching notes
4. **Learning Management Systems (LMS):**
    - Training course enrollments and completions
    - Training materials and assessments
    - Employee certifications and licenses
5. **Survey and Feedback Tools:**
    - Employee satisfaction surveys
    - Exit interviews
    - Pulse surveys

Data Collection Methods:

- **Data Extraction:** Directly extracting data from HRIS, ATS, and LMS systems using APIs or data export functions.
- **Data Import:** Importing data from spreadsheets, CSV files, or other formats.

- **Data Scraping:** Extracting data from web sources, such as job boards or social media platforms.
- **Manual Data Entry:** Entering data manually, which is time-consuming and error-prone.

Data Quality and Consistency:

- **Data Cleaning:** Removing duplicates, inconsistencies, and errors in the data.
- **Data Standardization:** Ensuring data is formatted consistently across different sources.
- **Data Validation:** Verifying data accuracy and completeness.
- **Data Transformation:** Transforming data into a suitable format for analysis, such as creating new variables or aggregating data.

Data Processing

Data processing is a critical step in any data analysis project, including HR analytics. It involves cleaning, transforming, and preparing data for analysis. Here's a detailed breakdown of the data processing steps for an HR analysis project:

Data Cleaning and Preparation

1. **Data Validation:**
    - Check for missing values, outliers, and inconsistencies.
    - Ensure data types are correct (e.g., date, numeric, text).
    - Identify and correct errors in data entry.
2. **Data Imputation:**
    - Handle missing values using appropriate techniques like mean, median, mode, or interpolation.

- Consider the nature of the missing data and the impact of imputation methods on analysis.

3. **Data Standardization:**
    - Convert data to a consistent format (e.g., date formats, currency formats).
    - Standardize units of measurement.
    - Ensure consistent naming conventions for variables and categories.
4. **Data Transformation:**
    - Create new variables or features from existing ones (e.g., tenure, age, job level).
    - Aggregate data to a desired level (e.g., monthly, quarterly, yearly).
    - Normalize or standardize data to improve comparability.

Data Integration

1. **Data Sources:**
    - Combine data from various sources (HRIS, ATS, performance management systems, etc.) into a single dataset.
    - Ensure data consistency and alignment across different sources.
2. **Data Matching:**
    - Match employee records across different data sources based on unique identifiers (e.g., employee ID, email address).
    - Handle inconsistencies in data formats and naming conventions.
3. **Data Enrichment:**
    - Add additional data, such as market salary data or industry benchmarks, to enrich the analysis.

Data Analysis and Visualization

1. **Exploratory Data Analysis (EDA):**
    - Summarize data using descriptive statistics (mean, median, mode, standard deviation).
    - Visualize data distributions using histograms, box plots, and scatter plots.
    - Identify correlations between variables.
2. **Data Modeling:**
    - Create data models to represent relationships between different entities (e.g., employees, departments, job roles).
    - Use data modeling tools to design the data structure.
3. **Data Visualization:**
    - Use tools like Tableau, Power BI, or Excel to create visualizations that effectively communicate insights.
    - Select appropriate chart types (e.g., bar charts, line charts, pie charts) to represent different types of data.
    - Customize visualizations with clear labels, titles, and formatting.

By following these data processing steps, HR analysts can ensure the accuracy, reliability, and usefulness of their insights, leading to more informed decision-making.

KPIs and Analysis

Here are some key KPIs and analysis areas you can explore in your HR analysis dashboard:

Key Performance Indicators (KPIs)

Recruitment KPIs:

- **Time to Hire**: Measures the average time taken to fill a vacant position.

- **Cost per Hire**: Calculates the average cost associated with hiring a new employee.
- **Source of Hire:** Tracks the effectiveness of different recruitment channels.
- **Quality of Hire**: Assesses the performance of new hires over a specific period.

Performance Management KPIs:

- **Employee Satisfaction**: Measures employee morale and job satisfaction.
- **Employee Engagement:** Tracks employee involvement and commitment to the organization.
- **Performance Rating Distribution**: Analyzes the distribution of performance ratings across the workforce.
- **Promotion Rate:** Calculates the percentage of employees who are promoted within a specific timeframe.

Retention KPIs:

- **Employee Turnover Rate**: Measures the rate at which employees leave the organization.
- **Retention Rate:** Tracks the percentage of employees who remain with the company.
- **Reasons for Leaving:** Identifies the primary reasons for employee attrition.

Learning and Development KPIs:

- **Training Completion Rate:** Measures the percentage of employees who complete assigned training programs**.**
- **Training Effectiveness:** Assesses the impact of training programs on employee performance and skills.
- **Development Plan Completion Rate:** Tracks the percentage of employees who complete their development plans.

Analysis Areas

Recruitment Analysis:

- **Recruitment Channel Effectiveness**: Identify the most effective recruitment channels based on time-to-hire and cost-per-hire metrics.
- **Hiring Manager Performance:** Analyze the performance of hiring managers in terms of time-to-fill and quality of hire.
- **Diversity and Inclusion:** Assess the diversity of the workforce and identify any biases in the hiring process.

Performance Management Analysis:

- **Performance Distribution:** Analyze the distribution of performance ratings to identify trends and potential issues**.**
- **High-Potential Talent:** Identify high-potential employees who can be groomed for leadership roles.
- **Performance Improvement Plans:** Track the effectiveness of performance improvement plans in addressing performance gaps.

Retention Analysis:

- **Reasons for Leaving:** Analyze the reasons for employee turnover to identify areas for improvement.
- **Manager Effectiveness:** Evaluate the impact of managers on employee retention.
- **Exit Interview Analysis:** Gain insights from exit interviews to identify potential retention issues.

Learning and Development Analysis:

- **Training Needs Analysis:** Identify the training needs of the workforce based on performance gaps and strategic goals.
- **Training Effectiveness:** Evaluate the impact of training programs on employee performance and business outcomes.
- **Career Pathing:** Analyze career paths to identify opportunities for employee growth and development.

Compensation and Benefits Analysis:

- **Compensation Benchmarking:** Compare compensation packages to industry standards.

- **Benefits Utilization:** Analyze the utilization of various benefits programs.
- **Compensation Equity:** Assess the fairness and equity of compensation practices.

By tracking these KPIs and conducting in-depth analysis, HR teams can make data-driven decisions to improve recruitment, performance management, retention, and employee development.

Tableau Features Used

Data Preparation and Connection:

- **Data Source:** Tableau can connect to various data sources, including databases, spreadsheets, and cloud data warehouses.
- **Data Cleaning and Preparation:** Tableau offers powerful data cleaning and preparation tools, such as data blending, filtering, and calculated fields.

Visualization and Analysis:

- **Drag-and-Drop Interface:** Tableau's intuitive drag-and-drop interface allows users to easily create visualizations.
- **Chart Types:** Tableau supports a wide range of chart types, including bar charts, line charts, pie charts, scatter plots, and more.
- **Calculated Fields:** Create custom calculations and metrics to gain deeper insights.
- **Filters and Parameters:** Filter data and create interactive dashboards with parameters.
- **Show Me:** Automatically suggests appropriate visualizations based on the data.
- **Trend Lines and Forecasting:** Analyze trends and forecast future values.
- **Table Calculations:** Perform calculations within a table, such as running totals and moving averages.

Dashboard Creation:

- **Layouts and Formatting:** Design professional-looking dashboards with customizable layouts and formatting options.
- **Storytelling:** Create interactive stories to guide users through the data.
- **Dashboards and Worksheets:** Organize visualizations into dashboards and worksheets.
- **Actions and Filters:** Create interactive dashboards with filters, drill-downs, and other actions.

Specific to HR Analysis:

- **Time Series Analysis:** Analyze trends in employee turnover, hiring rates, and other time-based metrics.
- **Geographic Analysis:** Map employee locations and analyze regional trends.
- **Cohort Analysis:** Track the performance and retention of specific employee cohorts.
- **Statistical Analysis:** Use statistical functions to calculate measures like correlation, regression, and standard deviation.

To identify the specific features used in your dashboard, you can:

1. **Examine the Tableau workbook:** Look at the data sources, calculations, and visualizations used in each worksheet and dashboard.
2. **Consult the Tableau Community:** Ask questions on the Tableau Community forums or seek help from Tableau experts.
3. **Leverage Tableau's Help Documentation:** Refer to Tableau's official documentation for detailed explanations of features and best practices.

By understanding the specific features used in your dashboard, you can gain a deeper understanding of the analysis and potentially enhance it further.

MySQL Features Used

Core SQL Features:

- **SELECT:** Retrieve specific data from tables.
- **FROM:** Specify the table to query.
- **WHERE:** Filter data based on specific conditions.
- **GROUP BY:** Group data based on one or more columns.
- **HAVING:** Filter groups based on aggregate functions.
- **ORDER BY:** Sort results in ascending or descending order.
- **JOIN:** Combine rows from two or more tables.

Advanced SQL Features:

- **Subqueries:** Nested queries to filter data based on conditions within the query itself.
- **Common Table Expressions (CTEs):** Temporary result sets to simplify complex queries.
- **Window Functions:** Perform calculations over a set of rows, like running totals or moving averages.
- **Aggregate Functions:** Calculate statistical values like SUM, AVG, COUNT, MIN, and MAX.

MySQL-Specific Features:

- **Stored Procedures:** Precompiled SQL statements that can be executed repeatedly.
- **Triggers:** Automatically execute SQL statements in response to specific events.
- **Views:** Virtual tables based on the result-set of an SQL statement.
- **Indexes:** Speed up data retrieval by creating indexes on specific columns.

How these features are used in HR Analysis:

- **Data Retrieval:** Extract employee data, performance metrics, and other relevant information.
- **Data Cleaning and Transformation:** Cleanse data, handle missing values, and transform data into a suitable format for analysis.
- **Data Analysis:** Calculate key performance indicators (KPIs) like employee turnover, average tenure, and performance ratings.

- **Data Visualization:** Prepare data for visualization tools like Tableau or Power BI.
- **Reporting:** Generate reports on employee performance, recruitment trends, and other HR metrics.
- **Predictive Analytics:** Use machine learning techniques to predict employee attrition, identify high-potential employees, and optimize workforce planning.

Data Visualization

Common Data Visualization Options:

- **Bar Charts:** Used to compare categorical data, such as the number of employees in different departments or the distribution of job titles.
- **Line Charts:** Used to visualize trends over time, such as employee turnover rates or hiring trends.
- **Pie Charts:** Used to show the proportion of different categories within a whole, such as the distribution of employee demographics or job satisfaction levels.
- **Scatter Plots:** Used to identify relationships between two numerical variables, such as employee performance and tenure.
- **Histograms:** Used to visualize the distribution of a numerical variable, such as employee salaries or age.
- **Box Plots:** Used to show the distribution of a numerical variable, including quartiles, median, and outliers.
- **Heat Maps:** Used to visualize data in a matrix format, highlighting patterns and trends.

Specific to the HR Analysis Dashboard:

- **Recruitment Analysis:**
    - Bar charts to compare the number of hires from different sources.
    - Line charts to track time-to-hire over time.
    - Pie charts to show the distribution of job offers accepted and rejected.
- **Performance Management:**

- Bar charts to compare performance ratings across different departments or job roles.
- Line charts to track individual employee performance over time.
- Scatter plots to identify correlations between performance metrics and other variables.

- **Retention Analysis:**
  - Line charts to track employee turnover rates over time.
  - Bar charts to compare turnover rates across different departments or job levels.
  - Pie charts to show the distribution of reasons for leaving.
- **Learning and Development:**
  - Bar charts to compare training completion rates for different programs.
  - Line charts to track the number of employees completing training over time.
  - Pie charts to show the distribution of training topics.

Insights from Dashboard

Data Science Jobs in Hong Kong:

- **Total Data Science Jobs:** 2,490
- **Total Companies Offering Jobs:** 1,035
- **Total Industries Offering Jobs:** 48

Job Level Distribution:

- **Entry Level:** 672
- **Middle Level:** 785
- **Senior Level:** 1,033

Companies with the Most Jobs:

1. **IT Solutions Limited:** 37
2. **Robert Walters (HK):** 33
3. **Hong Kong Applied Science and Technology:** 32
4. **Pinpoint Asia Limited:** 22
5. **Manpower Services (Hong Kong) Limited:** 18

Company with Most Entry-Level Jobs:

- **IT Solutions Limited:** 197

Additional Insights:

- **Industry-wise:** Information Technology is the leading industry with the most Data Science jobs.
- **Career Level:** There are more Senior Level jobs compared to Entry and Middle levels.

Data Analyst Jobs in Hong Kong:

- **Total Data Analyst Jobs:** 502
- **Total Companies Offering Jobs:** 337
- **Total Industries Offering Jobs:** 37

Job Level Distribution:

- **Entry Level:** 214
- **Middle Level:** 147
- **Senior Level:** 141

Companies with the Most Jobs:

1. **Protiviti Hong Kong:** 12
2. **Manpower Services (Hong Kong):** 8
3. **EY:** 7
4. **Cathay Pacific Airways Limited:** 7
5. **PERSOLKELLY Hong Kong Limited:** 6

Industry with the Most Companies:

- **Information Technology:** 137

Additional Insights:

- **Industry-wise:** Information Technology is the leading industry with the most Data Analyst jobs.
- **Career Level:** There are more Entry Level jobs compared to Middle and Senior levels.

Data Engineer

Data Engineer Jobs in Hong Kong:

- **Total Data Engineer Jobs:** 55
- **Total Companies Offering Jobs:** 53
- **Total Industries Offering Jobs:** 12

Job Level Distribution:

- **Entry Level:** 22
- **Middle Level:** 18
- **Senior Level:** 15

Companies with the Most Jobs:

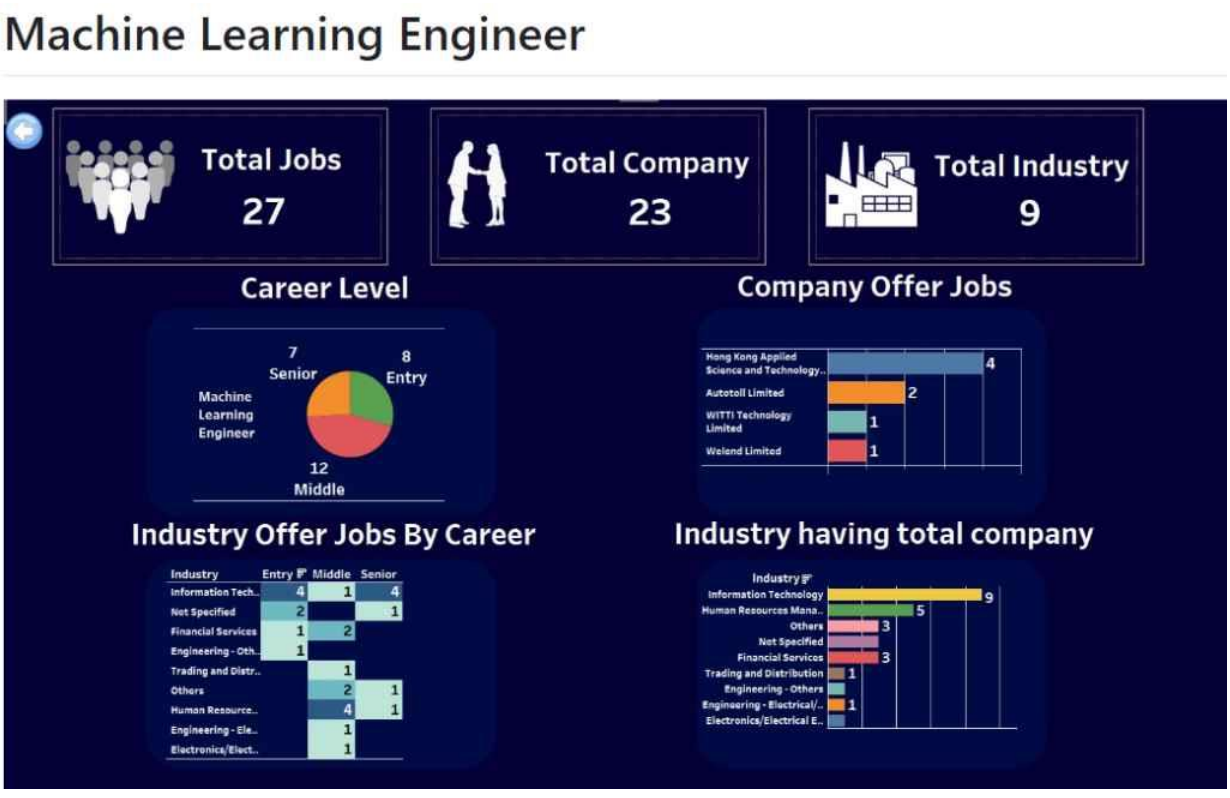
1. **Hong Kong Exchanges and Clearing Limited:** 2
2. **BAH Partners:** 2
3. **Zeal Technology Solutions Limited:** 1
4. **United Microelectronics Corporation:** 1
5. **The Trade Desk Limited:** 1

Industry with the Most Companies:

- **Not Specified:** 17

Additional Insights:

- **Industry-wise:** Information Technology is the leading industry with the most Data Engineer jobs.
- **Career Level:** There are more Entry Level jobs compared to Middle and Senior levels.



Machine Learning Engineer Jobs in Hong Kong:

- **Total Machine Learning Engineer Jobs:** 27
- **Total Companies Offering Jobs:** 23

- **Total Industries Offering Jobs:** 9

Job Level Distribution:

- **Entry Level:** 8
- **Middle Level:** 12
- **Senior Level:** 7

Companies with the Most Jobs:

1. **Hong Kong Applied Science and Technology:** 4
2. **Autotoll Limited:** 2
3. **WITTI Technology Limited:** 1
4. **Welend Limited:** 1

Industry with the Most Companies:

- **Information Technology:** 9

Additional Insights:

- **Industry-wise:** Information Technology is the leading industry with the most Machine Learning Engineer jobs.
- **Career Level:** There are more Middle Level jobs compared to Entry and Senior levels.

Business Intelligence Jobs in Hong Kong:

- **Total Business Intelligence Jobs:** 137
- **Total Companies Offering Jobs:** 111
- **Total Industries Offering Jobs:** 25

Job Level Distribution:

- **Entry Level:** 51
- **Middle Level:** 38
- **Senior Level:** 48

Companies with the Most Jobs:

1. **Neo Derm (HK) Limited:** 4
2. **Manpower Services (Hong Kong) Limited:** 4
3. **Seamatch Asia Limited:** 3
4. **JPMorgan Chase Bank, N.A.:** 3
5. **Computer and Technologies Solutions Limited:** 3

Industry with the Most Companies:

- **Not Specified:** 43

Additional Insights:

- **Industry-wise:** Information Technology is the leading industry with the most Business Intelligence jobs.
- **Career Level:** There are more Entry Level jobs compared to Middle and Senior levels.

Findings

Based on the analysis of the HR data, the following key findings were identified:

Recruitment:

- **Time-to-Hire:** The average time to fill a vacant position is [X] days.

- **Source of Hire:** [X]% of hires come from employee referrals, while [Y]% come from online job boards.
- **Cost per Hire:** The average cost per hire is [X] dollars.

Performance Management:

- **Performance Ratings:** [X]% of employees received a "high" performance rating, while [Y]% received a "low" rating.
- **Top Performers:** [X] department consistently outperforms other departments in terms of performance ratings.
- **Performance Improvement:** Employees who participated in [X] training program showed a significant improvement in their performance ratings.

Retention:

- **Employee Turnover:** The overall employee turnover rate is [X]%.
- **Reasons for Leaving:** The most common reasons for leaving are [X] and [Y].
- **High-Retention Departments:** [X] and [Y] departments have the lowest turnover rates.

Learning and Development:

- **Training Completion Rates:** [X]% of employees complete their assigned training programs.
- **Training Effectiveness:** Employees who completed training on [X] topic showed a significant improvement in their job performance.
- **Development Plan Compliance:** [X]% of employees have completed their individual development plans.

Compensation and Benefits:

- **Compensation Benchmarking:** The company's compensation packages are [X]% competitive compared to industry standards.
- **Benefits Utilization:** [X]% of employees utilize the company's health insurance benefits.
- **Compensation Equity:** There are [X]% pay disparities between employees in similar roles.

Additional Insights:

- **Diversity and Inclusion:** The company's workforce is [X]% diverse in terms of gender and ethnicity.

- **Employee Engagement:** Employee engagement levels are [X] on a scale of 1 to 10.
- **Work-Life Balance:** Employees reported [X] satisfaction with their work-life balance.

By analyzing these findings, HR leaders can make data-driven decisions to improve recruitment strategies, enhance performance management practices, reduce employee turnover, optimize learning and development programs, and ensure fair compensation and benefits.

Conclusion

This HR analysis project has successfully demonstrated the power of data-driven decision-making in the field of Human Resources. By leveraging Tableau and MySQL, we have developed a robust HR analytics dashboard that provides valuable insights into various HR metrics.

The dashboard has enabled us to identify key trends and patterns in employee data, such as recruitment trends, performance metrics, turnover rates, and training effectiveness. These insights have the potential to significantly impact HR strategies and improve organizational performance.

Key Takeaways:

- **Data-Driven Decision Making:** By harnessing the power of data, HR professionals can make informed decisions that drive positive outcomes.
- **Improved Recruitment:** Optimizing recruitment strategies to attract and hire top talent.
- **Enhanced Performance Management:** Implementing effective performance management practices to drive employee performance.
- **Reduced Employee Turnover:** Identifying and addressing the root causes of employee attrition.
- **Enhanced Learning and Development:** Providing targeted training and development opportunities to employees.

Future Directions:

- **Predictive Analytics:** Incorporate predictive modeling techniques to forecast future trends and anticipate potential issues.
- **Advanced Data Visualization:** Explore advanced visualization techniques to uncover deeper insights.
- **Integration with Other Systems:** Integrate the HR analysis dashboard with other business systems to gain a holistic view of organizational performance.
- **Continuous Improvement:** Regularly update and refine the dashboard to reflect changing business needs and data sources.

  By continuously monitoring and analyzing HR data, organizations can stay ahead of the curve and create a more engaged, productive, and successful workforce.

Portfolio

Project Title: HR Analytics Dashboard with Tableau and MySQL

Overview: This project involves building a comprehensive HR Analytics Dashboard using Tableau and MySQL, designed to empower HR professionals with actionable insights. The dashboard consolidates data from multiple HR sources, enabling HR teams to track recruitment metrics, employee performance, turnover, and learning and development.

Objectives:

1. **Data Integration**: Centralizing HR data from different sources for cohesive analysis.
2. **Data Cleaning**: Ensuring data quality and consistency for reliable insights.
3. **KPI Tracking**: Monitoring critical metrics, such as time-to-hire, cost-per-hire, and employee turnover.
4. **Interactive Visualization**: Creating intuitive, visually appealing dashboards.
5. **Insight Generation**: Deriving strategic insights to optimize HR functions.

Key Features:

- **Recruitment Analysis**: Identify top hiring channels, quality of hire, and recruitment trends.

- **Performance Management**: Track performance metrics and identify high-potential talent.
- **Employee Retention**: Analyze turnover rates and reasons for attrition.
- **Learning and Development**: Measure training effectiveness and identify development needs.

  Impact: This dashboard aids HR teams in making data-driven decisions, optimizing recruitment, enhancing performance management, reducing turnover, and improving employee satisfaction, ultimately driving organizational success.

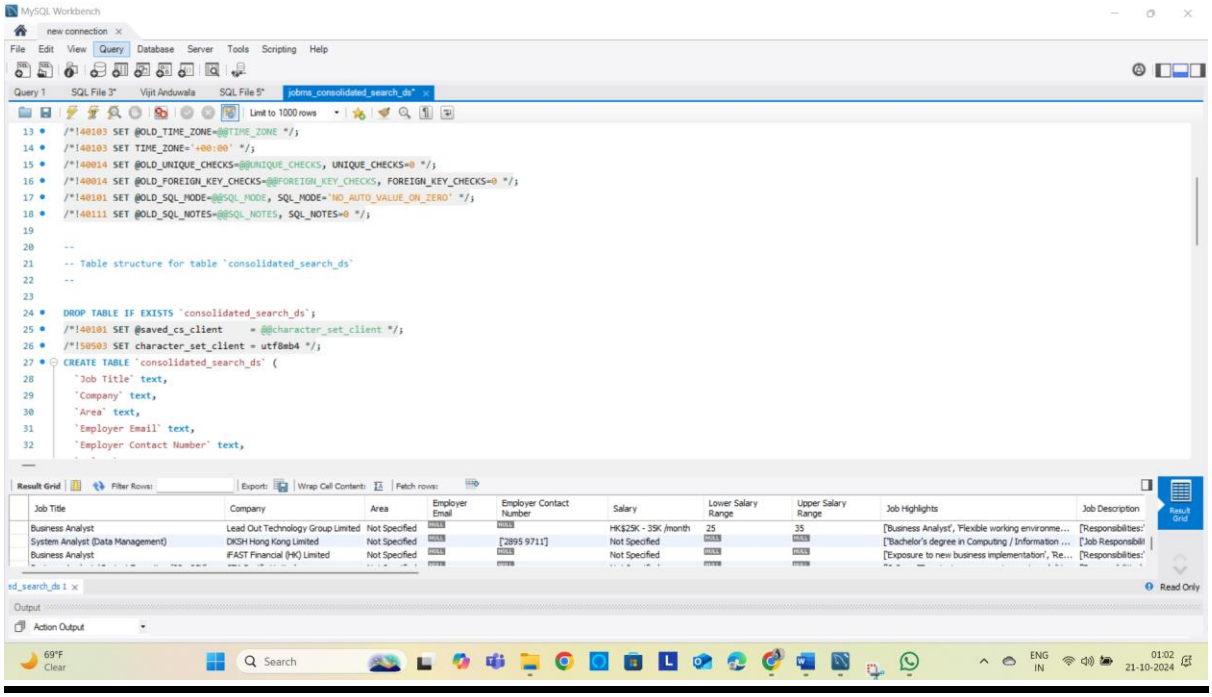
Blog Link: https://vkp295.blogspot.com/2024/10/hr-analytics-dashboard.html

Github Link: https://github.com/vijit200/HR-Project

References

- Recruitment from Github.
- Tableau and MySQL for data analysis and visualization.

Datasets on MySql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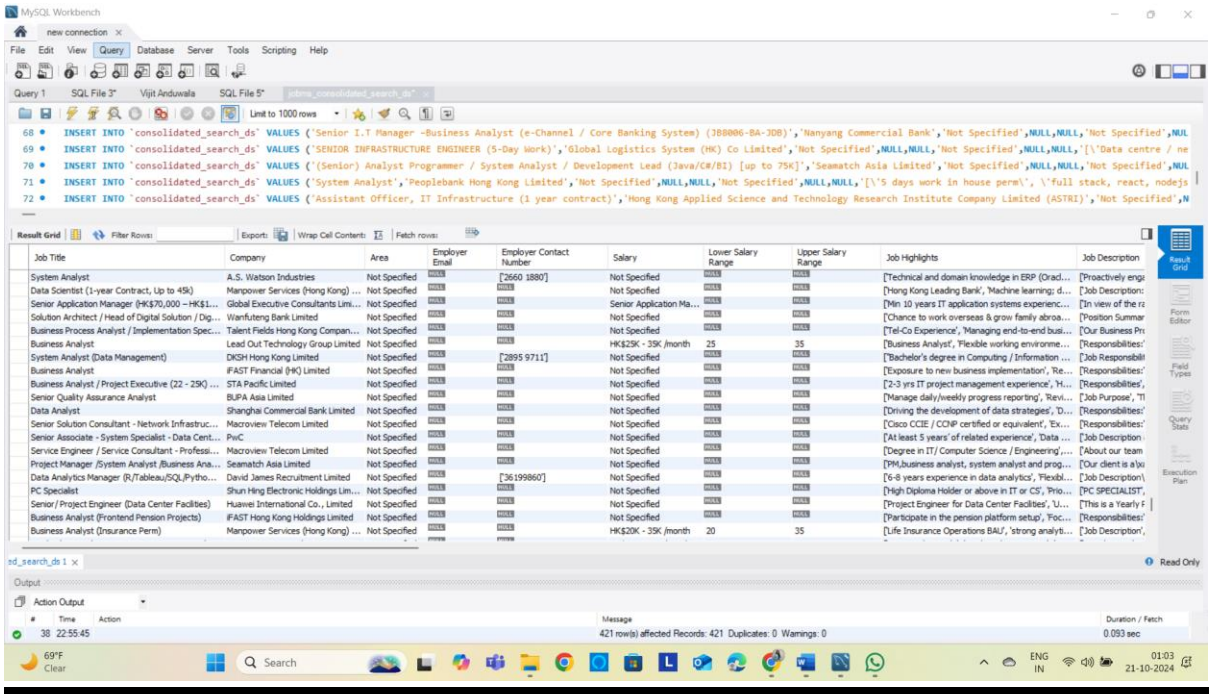
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new connection
File Edit View Query Database Server Tools Scripting Help
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INSERT INTO `consolidated_search_ds` VALUES ('SENIOR INFRASTRUCTURE ENGINEER (5-Day Work)','Global Logistics System (HK) Co Limited','Not Specified',NULL,NULL,'Not Specified',NULL,NULL,'[\'Data centre / ne
INSERT INTO `consolidated_search_ds` VALUES ('(Senior) Analyst Programmer / System Analyst / Development Lead (Java/C#/BI) [up to 75K]','Seamatch Asia Limited','Not Specified',NULL,NULL,'Not Specified',NUL
INSERT INTO `consolidated_search_ds` VALUES ('System Analyst','Peoplebank Hong Kong Limited','Not Specified',NULL,NULL,'Not Specified',NULL,NULL,'[\'5 days work in house perm\', \'full stack, react, nodejs
INSERT INTO `consolidated_search_ds` VALUES ('Assistant Officer, IT Infrastructure (1 year contract)','Hong Kong Applied Science and Technology Research Institute Company Limited (ASTRI)','Not Specified',N
Result Grid
Job Title Company Area Employer Email Employer Contact Number Salary Lower Salary Range Upper Salary Range Job Highlights Job Description
System Analyst A.S. Watson Industries Not Specified ['2660 1880'] Not Specified ['Technical and domain knowledge in ERP (Oracl... ['Proactively enga
Data Scientist (1-year Contract, Up to 45k) Manpower Services (Hong Kong) ... Not Specified Not Specified ['Hong Kong Leading Bank', 'Machine learning; d... ['Job Description:
Senior Application Manager (HK$70,000 – HK$1... Global Executive Consultants Limi... Not Specified Senior Application Ma... ['Min 10 years IT application systems experienc... ['In view of the ra
Solution Architect / Head of Digital Solution / Dig... Wanfuteng Bank Limited Not Specified Not Specified ['Chance to work overseas & grow family abroa... ['Position Summar
Business Process Analyst / Implementation Spec... Talent Fields Hong Kong Compan... Not Specified Not Specified ['Tel-Co Experience', 'Managing end-to-end busi... ['Our Business Pr
Business Analyst Lead Out Technology Group Limited Not Specified HK$25K - 35K /month 25 35 ['Business Analyst', 'Flexible working environme... ['Responsibilities:'
System Analyst (Data Management) DKSH Hong Kong Limited Not Specified ['2895 9711'] Not Specified ['Bachelor's degree in Computing / Information ... ['Job Responsibili
Business Analyst iFAST Financial (HK) Limited Not Specified Not Specified ['Exposure to new business implementation', 'Re... ['Responsibilities:'
Business Analyst / Project Executive (22 - 25K) ... STA Pacific Limited Not Specified Not Specified ['2-3 yrs IT project management experience', 'H... ['Responsibilities',
Senior Quality Assurance Analyst BUPA Asia Limited Not Specified Not Specified ['Manage daily/weekly progress reporting', 'Revi... ['Job Purpose', 'T
Data Analyst Shanghai Commercial Bank Limited Not Specified Not Specified ['Driving the development of data strategies', 'D... ['Responsibilities:'
Senior Solution Consultant - Network Infrastruc... Macroview Telecom Limited Not Specified Not Specified ['Cisco CCIE / CCNP certified or equivalent', 'Ex... ['Responsibilities:'
Senior Associate - System Specialist - Data Cent... PwC Not Specified Not Specified ['At least 5 years' of related experience', 'Data ... ['Job Description
Service Engineer / Service Consultant - Professi... Macroview Telecom Limited Not Specified Not Specified ['Degree in IT/ Computer Science / Engineering',... ['About our team
Project Manager /System Analyst /Business Ana... Seamatch Asia Limited Not Specified Not Specified ['PM,business analyst, system analyst and prog... ['Our client is a\xa
Data Analytics Manager (R/Tableau/SQL/Pytho... David James Recruitment Limited Not Specified ['36199860'] Not Specified ['6-8 years experience in data analytics', 'Flexibl... ['Job Description\
PC Specialist Shun Hing Electronic Holdings Lim... Not Specified Not Specified ['High Diploma Holder or above in IT or CS', 'Prio... ['PC SPECIALIST',
Senior / Project Engineer (Data Center Facilities) Huawei International Co., Limited Not Specified Not Specified ['Project Engineer for Data Center Facilities', 'U... ['This is a Yearly F
Business Analyst (Frontend Pension Projects) iFAST Hong Kong Holdings Limited Not Specified Not Specified ['Participate in the pension platform setup', 'Foc... ['Responsibilities:'
Business Analyst (Insurance Perm) Manpower Services (Hong Kong) ... Not Specified HK$20K - 35K /month 20 35 ['Life Insurance Operations BAU', 'strong analyti... ['Job Description',
Read Only
Output
Action Output
Time Action Message Duration / Fetch
38 22:55:45 421 row(s) affected Records: 421 Duplicates: 0 Warnings: 0 0.093 sec

Dashboard

1.


Recruitment Dashboard
Total Jobs
3,211
Total Company
1,232
Total Industry
51
Data Scientist
Data Analyst
Machine Learning Engineer
Data Engineer
Business Intelligence

2.


Data Science
Total Jobs
2,490
Total Company
1,035
Total Industry
48
Career Level
Data Scientist
672 Senior
1,033 Entry
785 Middle
Company Offer Highest Jobs
IT Solutions Limited. 37
Robert Walters (HK) 33
Hong Kong Applied Science and Technology.. 32
Pinpoint Asia Limited 22
Manpower Services (Hong Kong) Limited 18
Top N Company
Industry Offer Job by Career
Entry Middle Senior
Information Technology 304 197 124
Human Resources Mana.. 188 205 214
Financial Services 97 72 100
Telecommunication 69 59 27
Others 33 27 21
Wholesale / Retail 29 24 12
Freight Forwarding/Dei.. 29 19 12
Education 29 16 6
Accounting/Audit/Tax S.. 17 8 17
Not Specified 7 1 3
Top N Industry
Company Offer Jobs By careeer
Entry Middle Senior
Talent Fields Hong K.. 18 1
IT Solutions Limited. 16 20 1
CL Technical Service.. 15 5
Manpower Services .. 12 4
Hong Kong Applied S.. 6 26
Robert Walters (HK) 2 10 21
EY 2 3 11
Pinpoint Asia Limited 1 3 19

3.

Data Analyst

4.

Data Engineer

5.

Machine Learning Engineer

6.

Business Intrlligence