Row Insurance

Human Resources Summary Dashboard

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Overview

Context

This project aims to provide a **data-driven dashboard** that delivers **valuable insights** and informs **evidence-based recommendations** for the company's human resources practices.

The dashboard should be divided into three main sections: Overview, Demographics, and Income Analysis.

Context - Section Requirements

Overview

The Overview section should provide a snapshot of the overall HR metrics, including:

- Display the total number of hired employees, active employees, and terminated employees.
- Present a breakdown of total employees by department and job titles.
- Compare total employees between headquarters (HQ) and branches (New York is the HQ)
- Show the distribution of employees by city and state.

Demographics

The Demographics section should offer insights into the composition of the workforce, including:

- Present the gender ratio in the company.
- Visualize the distribution of employees across age groups and education levels.
- Present the correlation between employees' educational backgrounds and their performance ratings.

Income Analysis

The income analysis section should focus on salary-related metrics, including:

- Compare salaries across different education levels for both genders to identify any discrepancies or patterns.
- Present how the age correlate with the salary for employees in each department.

Data Source

Data Source

- The data used in this project is generated using a combination of ChatGPT prompts and the Python Faker library.
- This dataset simulates a set of employee information typically found in HR systems, including demographics, job details, salary, performance evaluations, and attrition data.

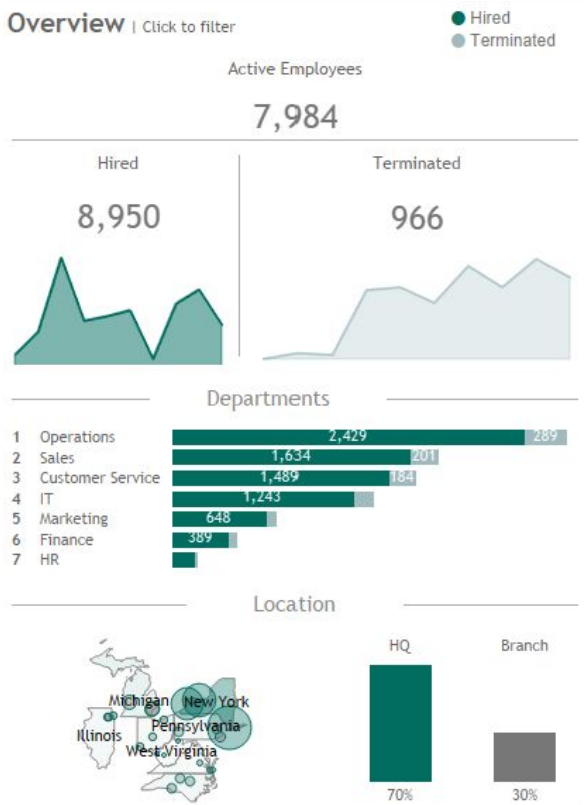
```
# Apply the function to the DataFrame
df['salary'] = df.apply(calculate_adjusted_salary, axis=1)

# Convert 'hiredate' and 'birthdate' to datetime
df['hiredate'] = pd.to_datetime(df['hiredate']).dt.date
df['birthdate'] = pd.to_datetime(df['birthdate']).dt.date
df['termdate'] = pd.to_datetime(df['termdate']).dt.date

print(df)

# Save to CSV
df.to_csv('HumanResources.csv', index=False)
```

Abc HumanResources.csv Employee ID	Abc HumanResources.csv First Name	Abc HumanResources.csv Last Name	Abc HumanResources.csv Gender	HumanResources.csv State	HumanResources.csv City
00-95822412	Danielle	Johnson	Female	New York	New York City
00-42868828	John	Taylor	Male	North Carolina	Charlotte
00-83197857	Erica	Mcclain	Male	New York	New York City
00-13999315	Brittany	Johnson	Male	New York	New York City
00-90801586	Jeffery	Wagner	Female	New York	New York City
00-97226012	Anna	Baldwin	Female	New York	New York City
00-70291817	Amy	Robinson	Male	New York	New York City
00-31429110	Joshua	Booth	Female	New York	New York City
00-30868105	Linda	Wolfe	Male	New York	New York City
00-22448136	Joshua	Lewis	Female	New York	New York City
00-56164955	Matthew	Davis	Female	New York	New York City

Insights Deep-Dive

Operations and Sales Lead Hiring Growth, Terminations Remain Low Across All Departments.

- 8,950 employees were hired, while 966 employees were terminated.
  - This suggests the company is expanding its workforce significantly more than losing employees.
- Operations is the largest department, with 2,442 hires and 287 terminations, followed by Sales (1,634 hires), and Customer Service (1,489 hires).
- The HR and Finance departments have the smallest number of hires and terminations, indicating they are more stable or have less turnover.
- The majority of employees (70%) are located at the headquarters, while 30% are distributed across branches, indicating a centralization of operations.

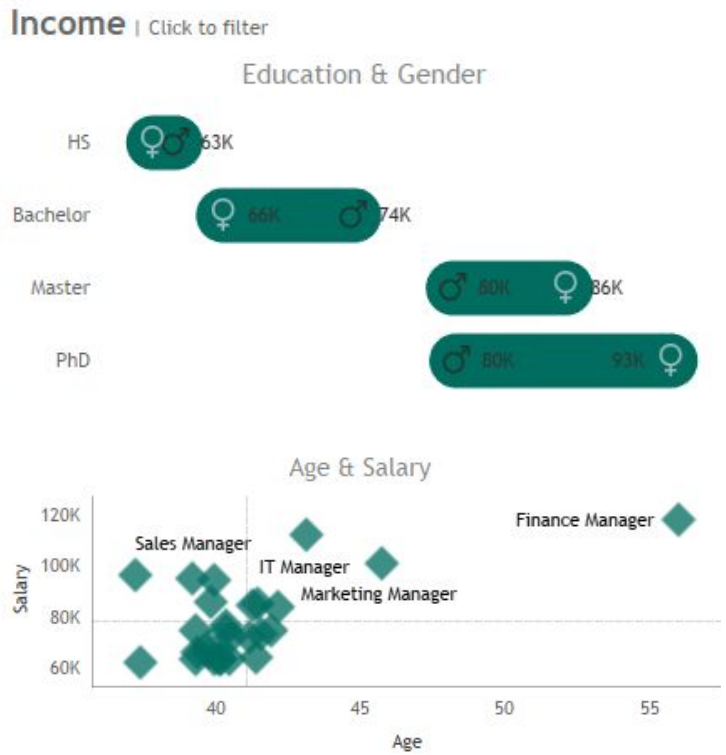


Bachelor's Degree Holders in Their 30s Dominate Workforce, Performance Strong Across Higher Education Levels.

- The gender distribution is relatively balanced (54% male and 46% female).
- The majority of employees have a Bachelor's degree (most common in the 25-34 age group)
- Employees aged 35-44 with Bachelor's degrees make up a significant portion of the workforce (19%), suggesting this is the most common demographic in terms of education and age.
- Employees with a PhD appear to perform better, while those with a high school diploma have more employees needing improvement, suggesting a correlation between education level and performance.

Higher Education and Experience Drive Salaries, with Notable Gender Pay Gaps at Higher Levels.

- Men earn more than women at high school and bachelor levels, but women earn more at Master's and PhD levels.
- The salary gap is widest at the PhD level and narrowest at the high school level.
- Men with Master's or PhD degrees earn the same average salaries.
- Higher salaries are generally correlated with older employees.
- Finance Managers and IT Managers appear to earn the highest salaries (up to $120k), while roles like HR Assistants are at the lower end of the salary spectrum (around $60k).



Recommendations

Key Recommendations

Focus on Retention in Key Departments

- Insight: Operations, Sales, and IT departments have the highest number of hires and terminations.
- Recommendation: Implement targeted retention programs for high-termination departments like Sales and IT. Exit interviews and employee satisfaction surveys should be utilized to understand why employees leave, allowing for targeted improvements in working conditions, benefits, or career development opportunities.

Leverage the Education-Performance Relationship

- Insight: Employees with higher education levels (Bachelor's, Master's, PhD) generally perform better.
- Recommendation: Invest in education and professional development programs for employees to encourage them to pursue higher education. Providing tuition reimbursement or skill development incentives could further boost performance, leading to better organizational outcomes.

Expand Branch Locations Strategically

- Insight: The majority of employees are based at the HQ (70%), with only 30% at branch locations.
- Recommendation: Consider expanding the number of branch offices to enhance regional presence, potentially improving market penetration and customer service in underrepresented regions. This could also alleviate pressure on the HQ by distributing workload more evenly across locations.

Technical Process

Dataset stats:

- **8,951 unique rows** were analyzed in HumanResources.csv

The analysis utilized a customers dataset and campaigns dataset containing the following key campaign dimensions:

- **Employee ID: unique employee identifier**
- **Education:** high school, bachelor, masters, PhD
- **Birth date:** Date of birth (dd/mm/yyyy)
- **Hire date:** Date of hire (dd/mm/yyyy)
- **Term date:** Date of termination (dd/mm/yyyy)
- **Salary**: in US dollars ($)
- **Performance Rating**: needs improvement, satisfactory, good, excellent

The technical process included:

- Calculating metrics and extracting insights in **Tableau**
- Building a self-service dashboard for visualization in **Tableau**

Thank you!