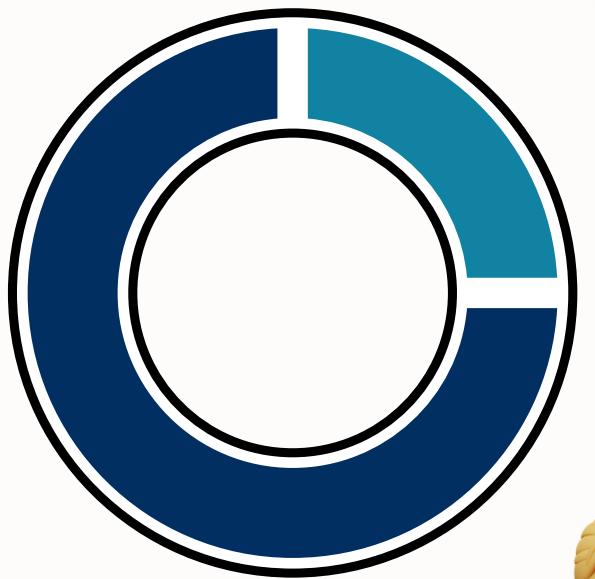




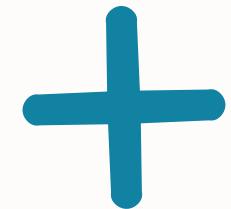
HR Analysis



+



Content



Analysis Questions

Cleaning Steps

Visualization

Driven Data Decisions



Team

**Osama
Mohamed**

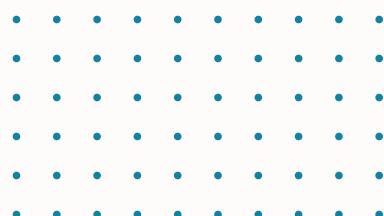
**Taha
Khalifa**

**Mohamed
Elbestawy**

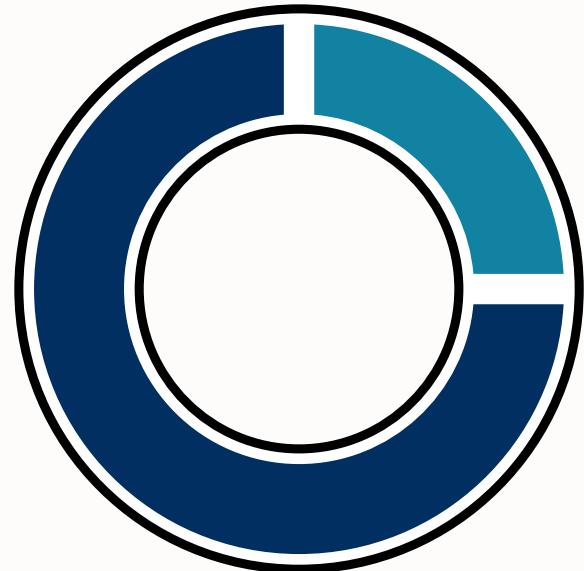


**Mariam
Elbadry**

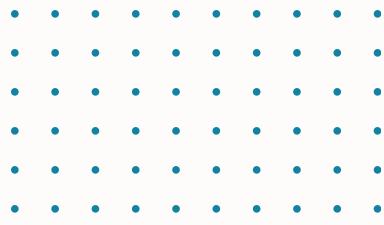
**Alaa
Usama**



Data + Visualization



The step of extraction the significant relations and our insights from the data



Overview

Dashboard

A presentation is a structured communication or demonstration of information, ideas, or concepts typically delivered to an audience in a formal or organized manner. It is often done using visual aids, such as slides, charts, graphs, videos, and other multimedia elements, to help convey the message effectively and engage the audience.





Overview KPIs

1

Avg Salary / Total Employees: 112.96K
average salary for 1K total employees.

Provides scale and core payroll metric.

2

3.54 satisfaction vs. 3.47 performance. Shows a close alignment between morale and measurable output.

3

Both metrics stand at 16%, with 237 total leavers. Highlights the consistent challenge of employee retention.

4

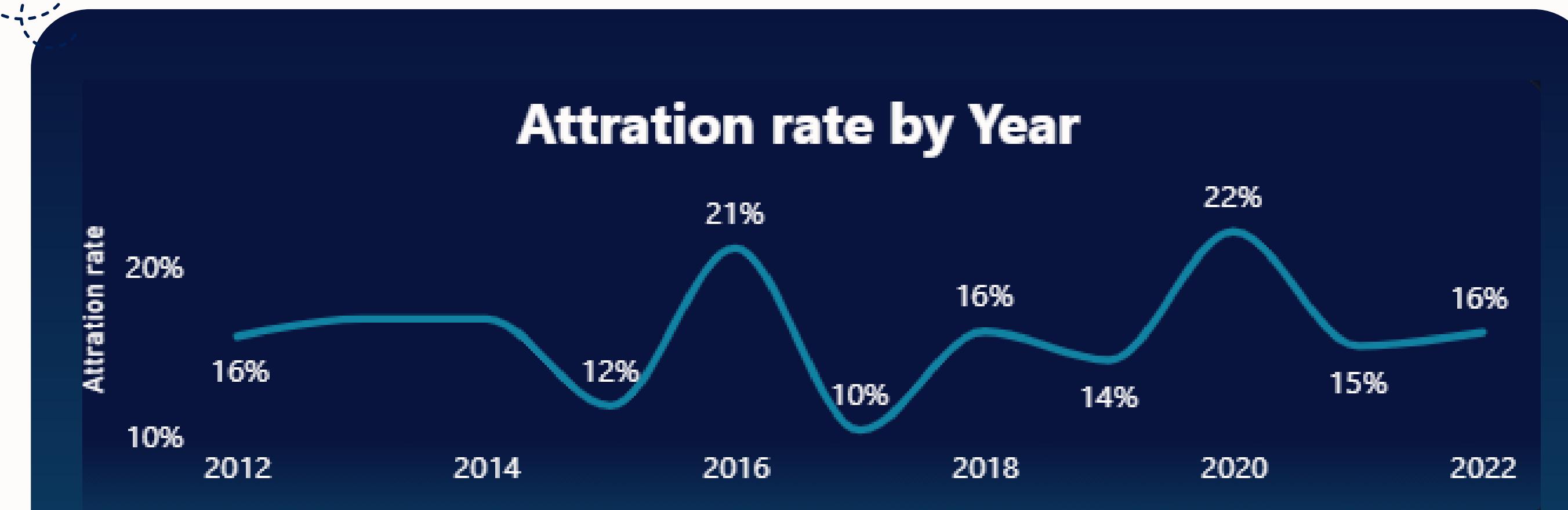
Avg Work-Life Balance: 3.41 score.
Indicates a healthy, but improvable, organizational work-life balance rating.



Attrition Trend Analysis

Attrition Rate by Year (Line Chart):
Tracks annual attrition from 2012 to
2022, so drill down into quarters,
months, and days. Shows significant
volatility with a peak of 22% around
2020, then returning to 16% by 2022.

Insight: Reveals the workforce
stability impact of specific
organizational or market
events over the past decade.



Departmental Tree Map

Breakdown

Avg Salary, Avg Performance, and Avg Satisfaction by Department (Tree map):
Compares key features across major departments (Human Resources, Sales, Technology), drilled down into education field, job role then education level

Salary and Performance: HR (\$119.70K) and Sales (\$119.12K) have higher average salaries than Technology (\$109.66K).



Avg Salary, Avg Performance and Avg Satisfaction by Department

Human Resources	Sales	Technology
119.70K	119.12K	109.66K



Gender Tree Map

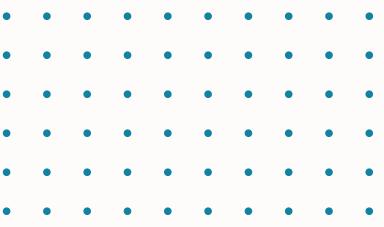
+ Breakdown

Avg Salary, Avg Performance and Avg Satisfaction by Gender

Prefer Not To Say	Female	Non-Binary
128.08K	113.94K	111.40K
Male		

Avg Salary, Avg Performance, and Avg Satisfaction by Gender (Table):
Compares metrics across various gender categories drilled into ethnicity, then age groups

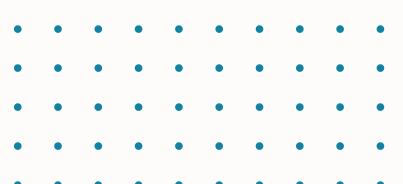
Salary Equity: Female Avg Salary (\$113.94K) is near to Male Avg Salary (\$111.77K), additionally to the equality in average salary in ethnicity groups



Workforce Landscape & Diversity



it gives a clear, data-driven overview of the entire workforce, helping leaders spot issues early and make better decisions. It tracks attrition, promotions, stagnation, tenure, diversity, and salary distribution, allowing HR to identify risks, plan staffing, improve retention, support career growth, and ensure diversity goals are met—all from one unified view.





Workforce Overview KPIs

1

Total Leavers: 237 leavers. Tracks attrition volume and stability month-over-month.

2

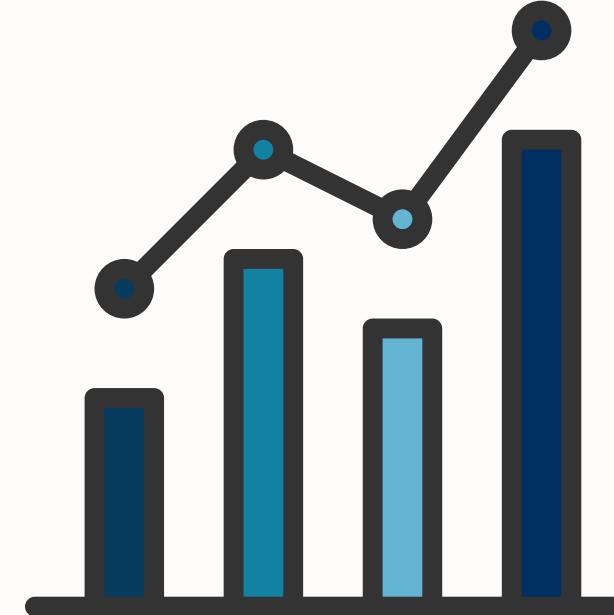
1,470 employees. Establishes current workforce size and headcount stability.

3

Turnover Rate: 16% turnover. Key indicator of organizational stability and employee retention challenges.

4

Turnover Rate: 16% turnover. Key indicator of organizational stability and employee retention challenges.



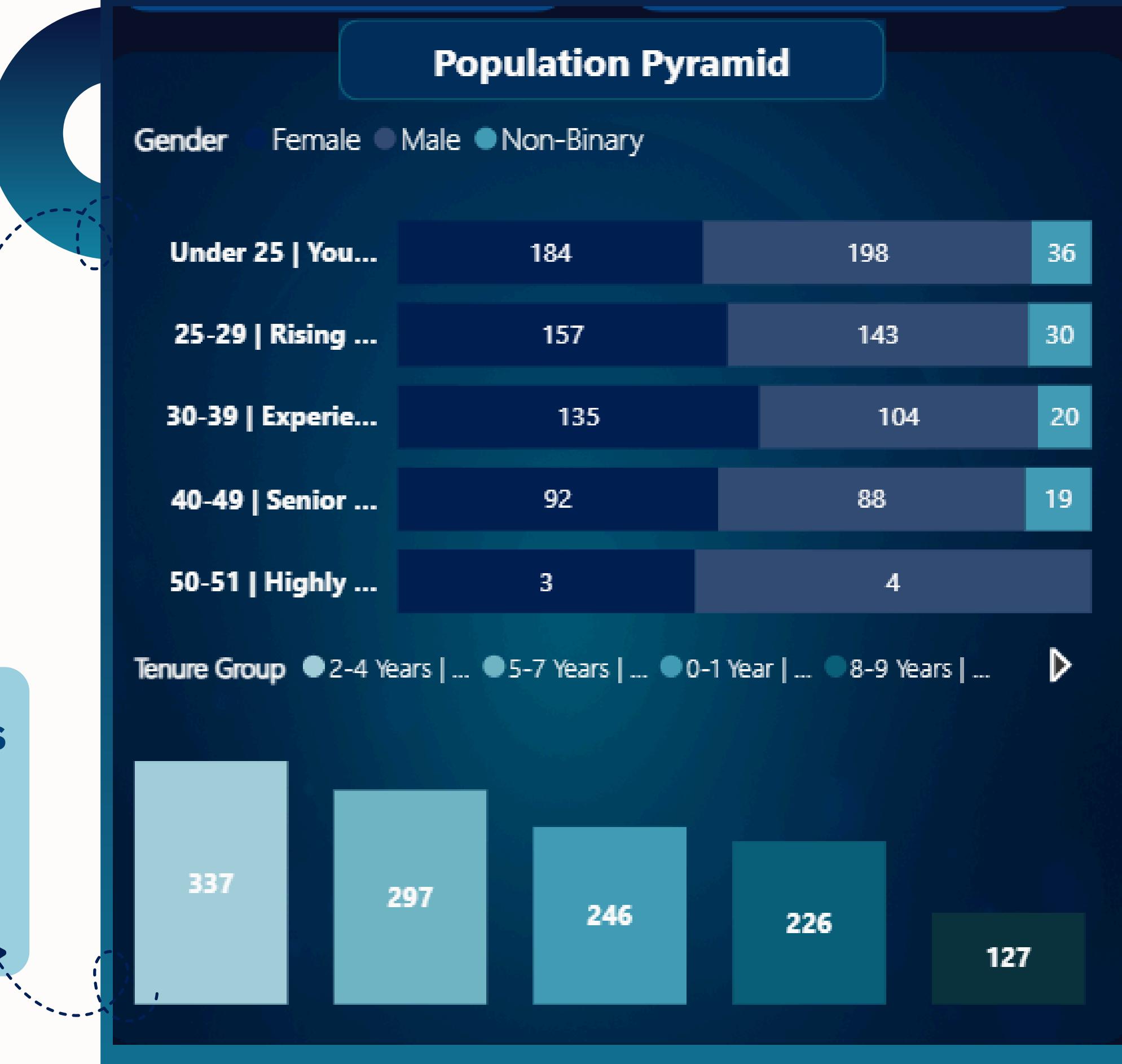
5

Total Promoted: 724 employees. Measures success in internal growth and career path advancement.



Demographic and + Tenure Distribution

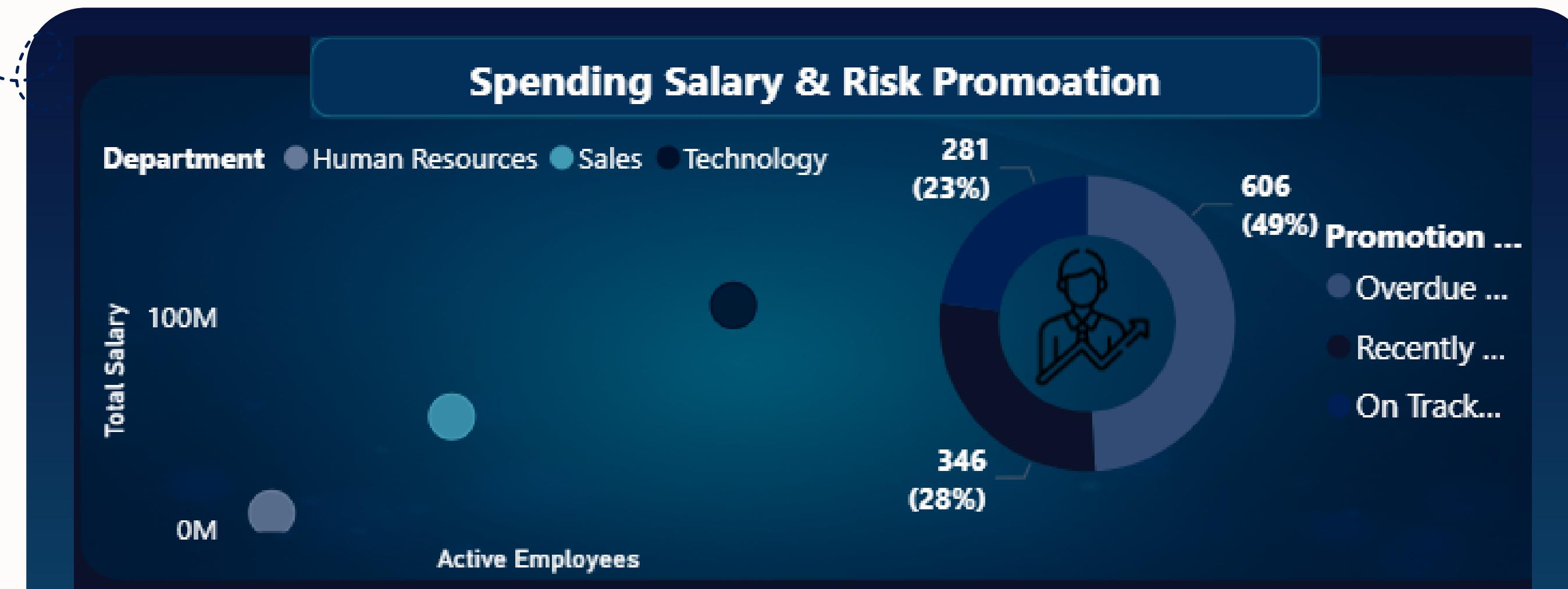
Population Pyramid (Age/Gender):
Distribution across 5 age bands and Gender.
Identifies concentrations (e.g., largest group is Under 25), crucial for succession planning.



Financial and Risk Analysis

Spending, Salary & Risk Promotion (Scatter Plot): Correlates Total Salary with Active Employees by Department. Useful for benchmarking departmental spending efficiency and risk.

Promotion/Risk Status (Donut Chart): Segments employees by status (Promoted, Overdue, Recent, On Track). 49% (606 employees) are Promoted, while 28% (346 employees) are "Overdue," flagging potential flight risk or morale issues.



Diversity and Education Breakdown

Ethnicity Table: Shows headcount by Ethnicity and Education Level. Provides quantitative data on workforce diversity composition.

Largest Ethnic Group: White (637 total) is the largest group. Provides key metrics for tracking diversity goals.

Education by Ethnicity: Highlights total headcounts across key education levels (Bachelors, Doctorate, High School, Masters). Bachelors (473) is the largest education cohort, informing recruitment strategy.

Ethnicity	Bachelors	Doctorate	High School	Masters	Total
American Indian or Alaska Native	15		6	14	35
Asian or Asian American	33	2	20	31	86
Black or African American	69	9	37	42	157
Mixed or multiple ethnic groups	68	8	28	45	149
Native Hawaiian	11		3	5	19
Other	2	1	5	3	11
White	275	23	139	200	637
Total	473	43	238	340	1094



Performance Analysis

It reveals how well employees are performing, how aligned they are with their managers, and how effectively training supports performance. It highlights talent strengths, risk areas, rating biases, and perception gaps - allowing HR to target development, improve calibration, strengthen succession planning, and track performance trends over time. It also uncovers key correlations (experience vs. performance, training vs. performance) that guide smarter talent and learning strategies.





High-Impact KPIs

1

Rating Alignment: -51.1% Average Rating Gap. Signals severe employee/manager perceptual misalignment; urgent need for calibration.

2

Performance Baseline: 3.47 Average Performance. Establishes a solid organizational performance standard.

3

L&D Engagement: 61.6% Training Utilization. Moderate adoption; must assess training quality and encourage higher participation.



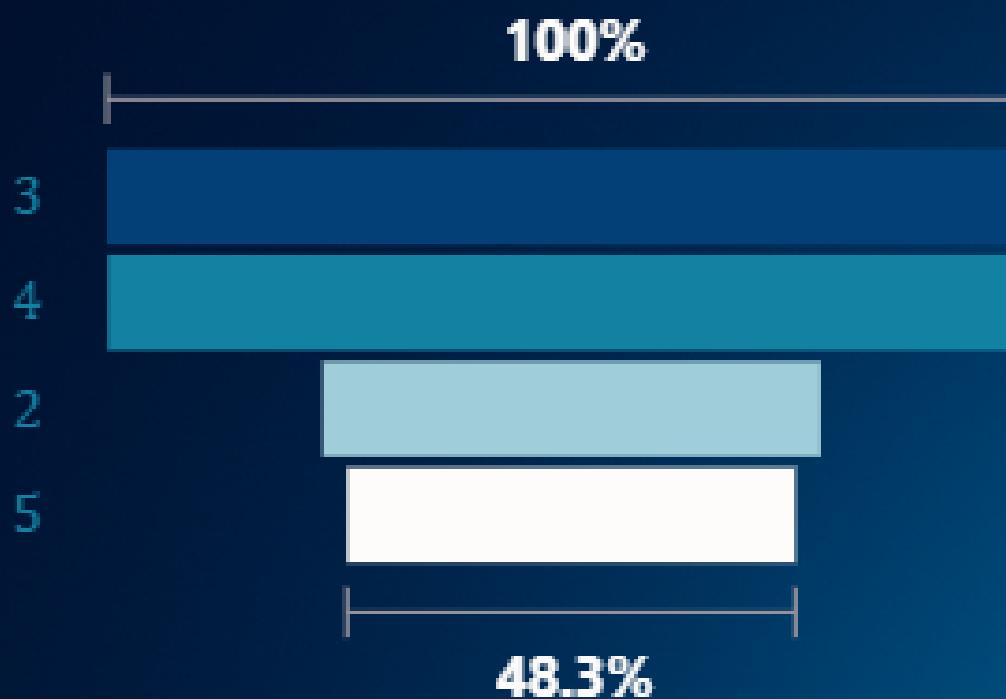
Distribution and Talent Strategy

+

Talent Quadrant: Segments workforce into "Star," "High Potential," and "Risk." Essential for succession planning and targeted development.

Performance Distribution: Shows how ratings are concentrated. Used to check for rater bias and rating scale health.

Performance Distribution Talent Quadrant Distribution



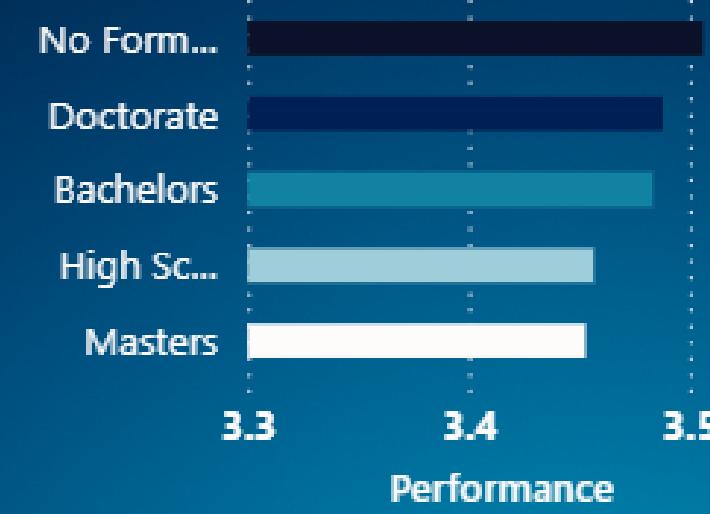
- Talent Qua...
- Passeng...
- Star (Hig...
- Dead W...
- Risk (Hi...

+

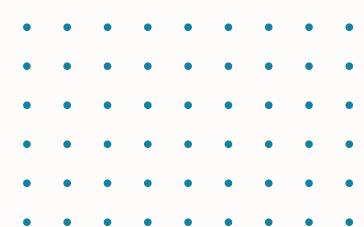
Manager vs. Self Rating



Performance vs. Education



Rating Gap by Role: Manager vs. Self Rating. Pinpoints specific Job Roles where perception gaps are largest, guiding targeted manager training.



Trends and Correlations

+

Performance Over Time: Tracks annual trends (2012–2022). Identifies impacts of initiatives, such as the noticeable performance peak around 2020.

Training vs. Performance: Non-linear correlation; requires assessing training quality and relevance to ensure positive impact on output.

Experience vs. Performance: Non-linear relationship suggests experience alone is insufficient; informs career path design.



Organizational Health & Well-Being



It provides a complete view of employee well-being, satisfaction, and stress levels across the organization. It shows how employees feel about their work, their managers, their environment, and their work-life balance—making it easier to detect risks early, strengthen engagement, and improve organizational health. By connecting satisfaction, stress, managerial relationships, and performance, it helps leadership understand where issues exist, which roles are most at risk of burnout, and where to focus interventions to improve morale, retention, and productivity.





Satisfaction KPIs

1 Overall Satisfaction: 3.54 score . Establishes the current organizational morale baseline

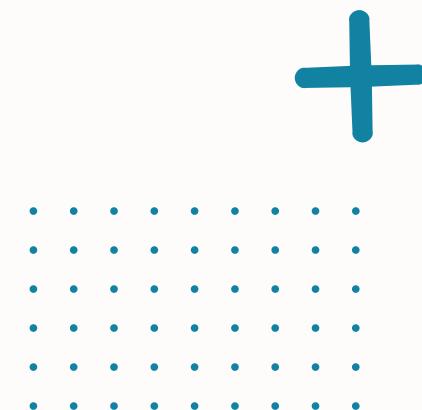
2 Performance Rating: 3.47 score. Tracks general employee performance level (consistent with previous dashboard).

3 Target Work-Life Balance: 3.45 score (Goal: 3.40). Indicates the organization is currently exceeding its WLB goal (+1.51%).

4 Training Utilization: 61.6%. Measures engagement with learning and development resources.



5 Job Satisfaction: 3.43 score. Key metric for assessing how content employees are with their roles.



Manager Relationship Detail

Managerial Relationship Phase (Donut Chart):
Segments relationships into four phases (New, Established, Dependent/Co., Productive).
Productive Phase (48%) is the largest segment, indicating maturity and effectiveness.

Relationship Satisfaction (Gauge Chart): 3.43 satisfaction score. Measures the health and quality of manager-employee interactions.

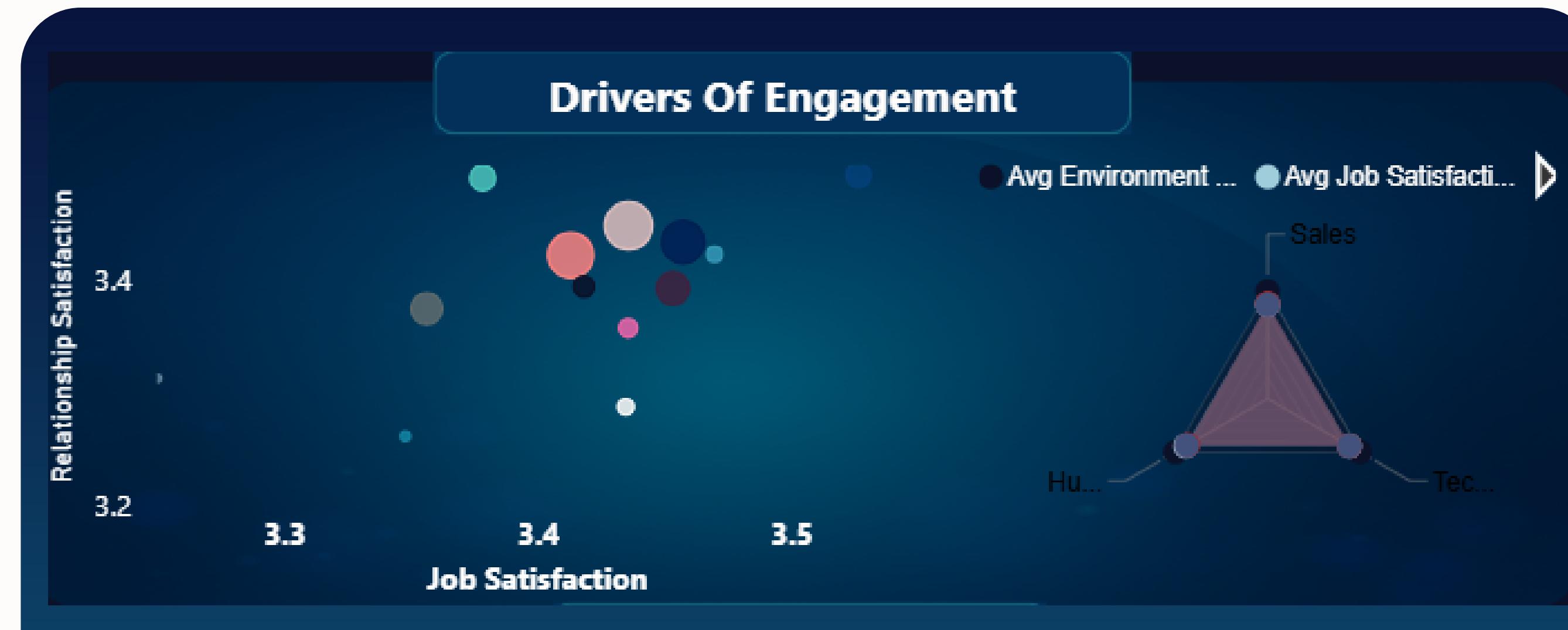


Managerial Relationship Details (Side Chart):
Provides raw counts for relationship phases (e.g., Productive: 589 (48%)). Quantifies the distribution of relationships across the employee base.

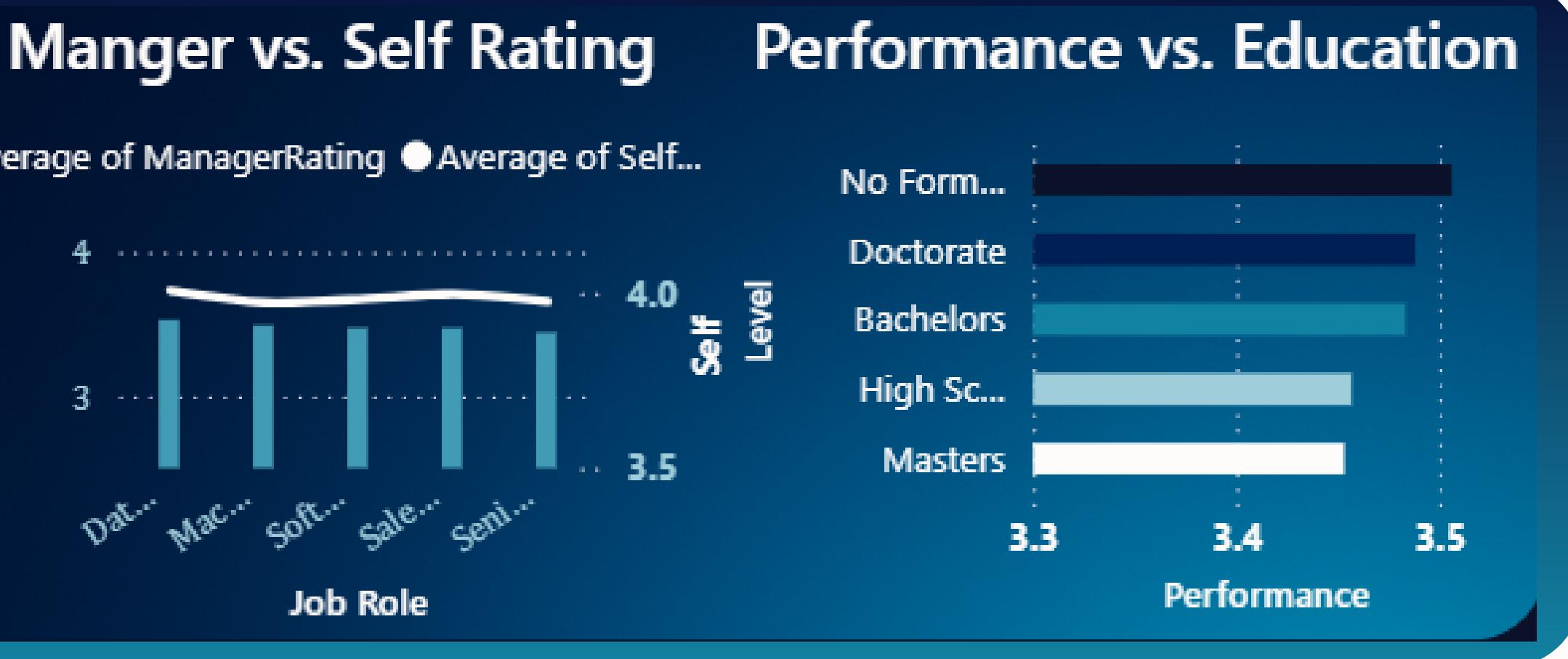


Engagement Analysis

Drivers of Engagement (Scatter Plot): Correlates Job Satisfaction and Relationship Satisfaction. Used to identify clusters and potential departmental outliers driving or hindering engagement (e.g., Sales vs. HR).



Stress, Burnout & Environment



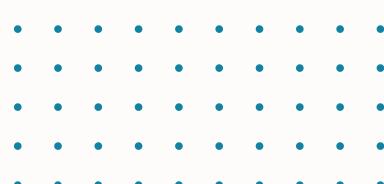
Stress & Burnout by Job Role (Table):
 Tracks employee self-reported responses (Yes/No) to stress/burnout questions.
 Highlights specific roles like Analytics Manager (3.38 score) with the highest total stress levels.

Stress/Burnout Total: Overall total score is 3.41. Used to benchmark the organization's average stress level.

Payroll and Equity Analysis



it shows whether compensation is fair, competitive, and aligned with performance. It highlights pay equity issues across gender, ethnicity, education, and performance levels, helping identify risks like high performers being underpaid. It also tracks salary trends, total payroll spending, and key drivers of compensation, allowing leadership to correct inequities, improve retention, and make data-driven compensation decisions.





Salary KPIs

1

YOY Salary % Change: Indicates average salaries have remained stable year-over-year.

2

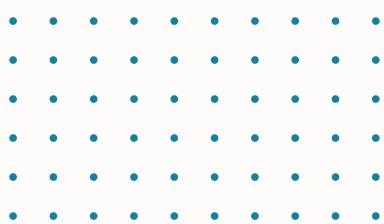
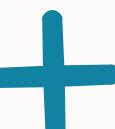
Median Salary: 71.20K. Provides the middle salary figure, useful for spotting non-normal distribution issues.

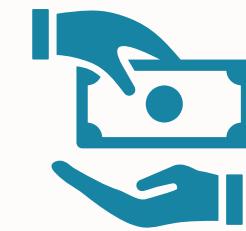
3

Avg Salary / High Performers Avg Salary: 112.96K vs. 111.71K. Suggests high performers are paid slightly less than the overall average, which is a major compensation risk.

4

Total Salary: 166M. The total annual compensation expenditure for the organization.





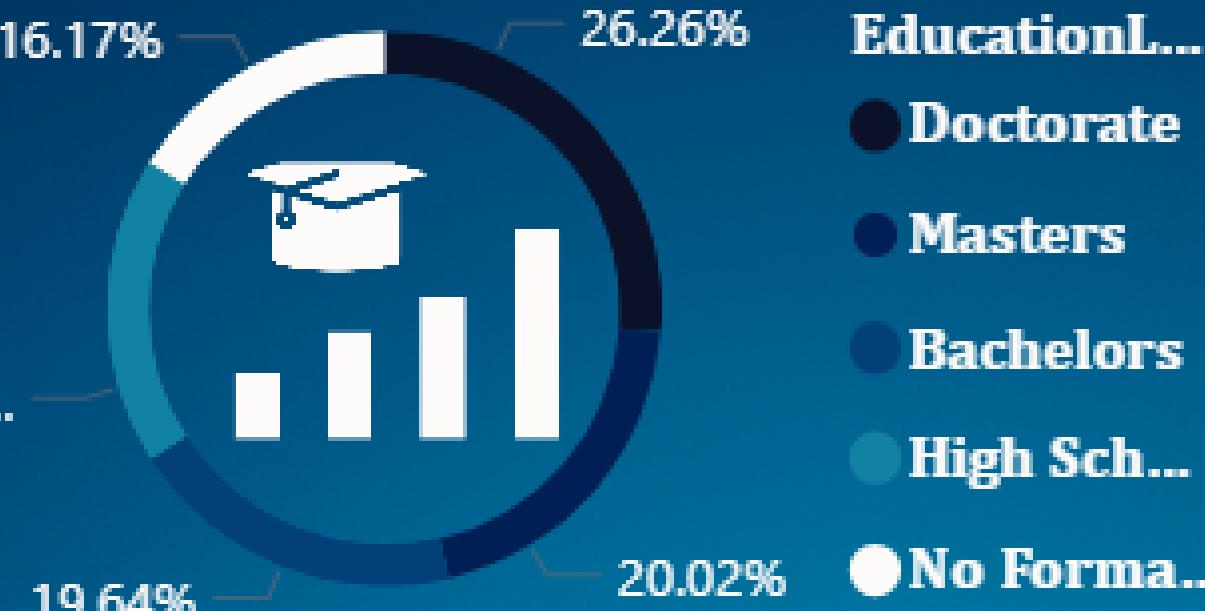
Equity in Salary Analysis

+

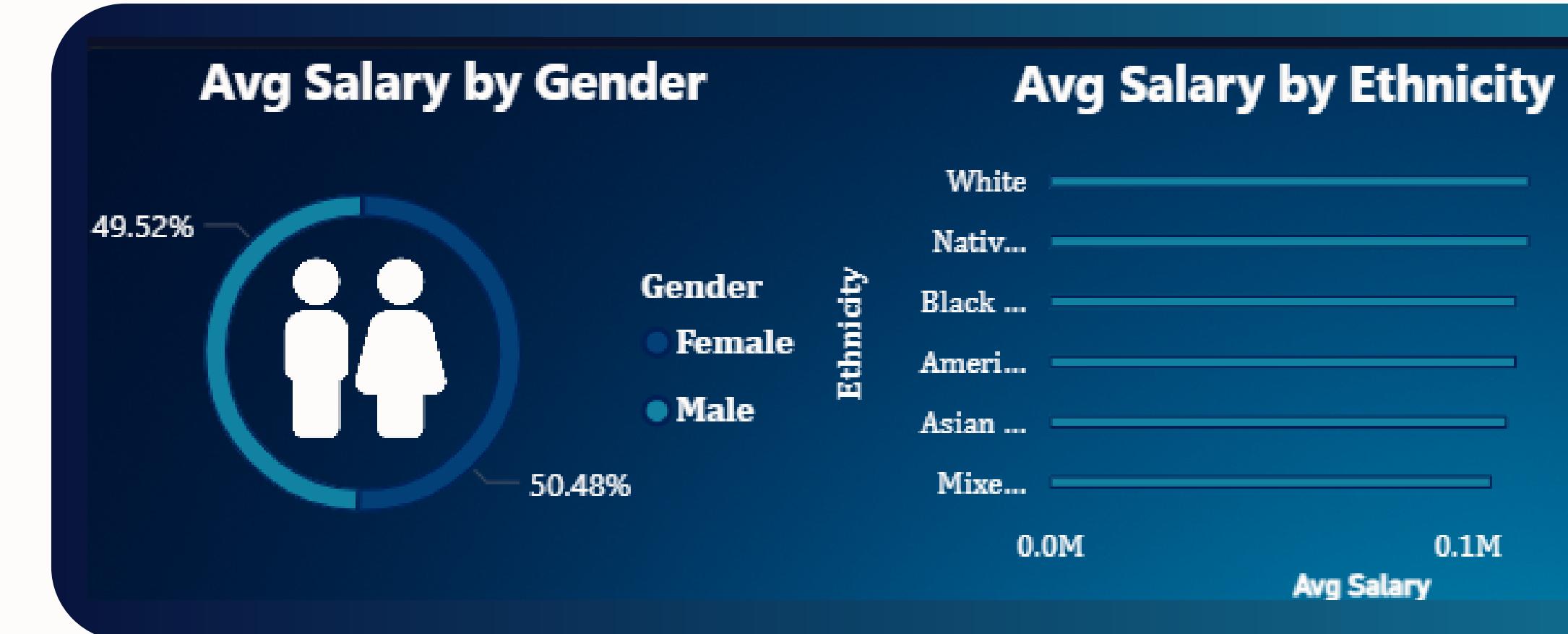
Avg Salary by Gender (Donut Chart): Shows a near 50/50 split in total workforce, with 50.48% Male and 49.52% Female. Primary tool for detecting gender pay parity issues.

+

Average of Salary by EducationLevel



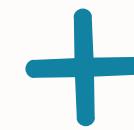
Avg Salary by Education Level (Donut/Bar Chart): Breaks down average salary by highest degree attained (e.g., Masters, Bachelor's, Doctorate). Shows Master's (26.26%) and Bachelor's (20.02%) as major groups, linking pay to education level.



Avg Salary by Ethnicity (Bar Chart): Compares average salaries across various Ethnicities (e.g., White, Black, Asian). Essential for monitoring and addressing pay equity gaps.



Compensation Drivers and Trends



Average of Salary by Manager Rating (Line Chart): Shows a strong inverse correlation: average salary significantly decreases as Manager Rating increases (from 114K down to 111K). This is a critical risk indicator for paying high performers poorly.

Avg Salary by Training Utilization (Line Chart): Illustrates the relationship between compensation and L&D engagement. Shows a fluctuating, non-linear pattern, indicating high training use doesn't always guarantee linearly higher pay.

Total Employees, Avg Salary, and Total Salary by Year (Bar/Line Chart): Tracks all three metrics from 2015 to 2020. Shows trends in headcount and total payroll spend over time.





HR Attrition Analysis

It is crucial for understanding why employees leave and where the organization is most at risk. It highlights turnover levels, salary-based attrition patterns, high-risk employee groups, and tenure-related stagnation. It also pinpoints which roles and departments suffer the highest attrition, helping HR focus retention efforts, address low-salary turnover, and strengthen workforce stability.





Attrition KPIs

1

Total Attrition: 237 leavers (16% turnover rate). The primary metric tracking employee departures.

2

Total Employees / Active Employees: 1,470 total vs. 1,233 active. Provides the current workforce size context for attrition.



3

Avg Performance of Leavers: 3.47 score. Suggests that attrition is occurring across average performance levels.

4

Attrition by Salary Tier: 166 Low Salary vs. 2 High Salary. Indicates attrition is overwhelmingly concentrated in the lower salary bands.

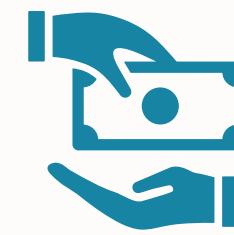


Risk and Demographic Analysis

Total Employees by Promotion Risk Band (Donut Chart): Segments employees by risk status (Low Risk, Extreme Risk, High Risk). 33.67% are currently in a High or Extreme Risk band, flagging potential future leavers.

Stagnation Risk: Attrition by Tenure (Bar Chart): Shows the attrition rate based on years of service. Likely indicates high attrition rates during early tenure (e.g., Year 1) or specific mid-tenure stagnation points.

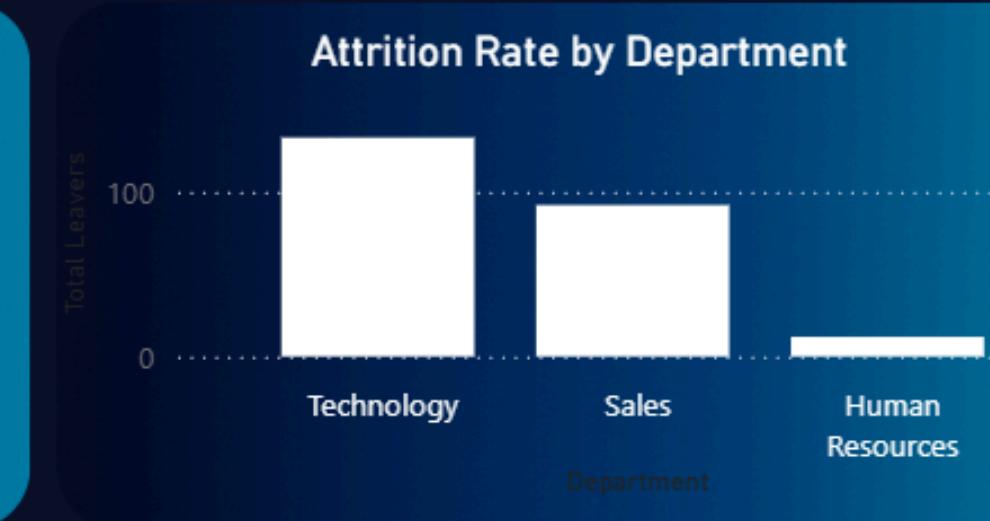




Attrition Trends and Impact

+

Attrition Rate by Job Role (Table):
Ranks roles by total leavers and attrition rate. Sales Representative (40%) and Recruiter (38%) show the highest attrition rates, highlighting pressure points.



JobRole	Total Leavers	Attrition rate
Sales Representative	33	40%
Recruiter	9	38%
Data Scientist	62	24%
Sales Executive	57	17%
Software Engineer	47	16%
HR Executive	3	11%
Machine Learning Engineer	10	7%
Senior Software Engineer	9	7%
Analytics Manager	3	6%
Manager	2	5%
Engineering Manager	2	3%
Total	237	16%

Attrition Rate Trend by Year (Line Chart):
Tracks the average performance of leavers over time (2012–2022). Identifies cyclical patterns or specific years where the quality/performance level of leavers significantly changed.

Attrition Rate by Department (Bar Chart): Compares total leavers by major departments (Technology, Sales, Human Resources). Technology and Sales departments likely have the highest total attrition counts.