

Employee Performance Analytics – Data Visualization Report

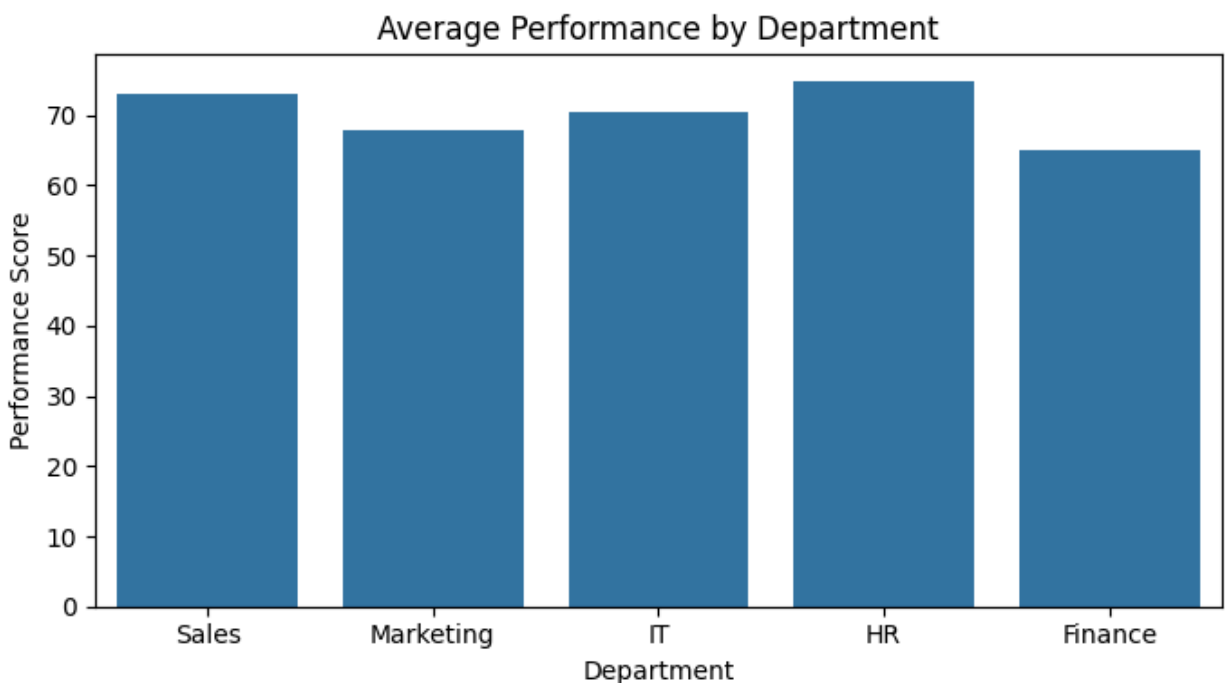
This report provides an analysis of employee performance, role distribution, attrition risks, and other workforce-related insights based on the dataset

employee_performance_analytics.xlsx.

The visualizations help HR teams, managers, and leadership understand trends and make data-driven decisions.

1. Average Performance by Department

Chart Type: Bar Chart



Objective:

To compare the **average employee performance scores** across different departments.

Explanation:

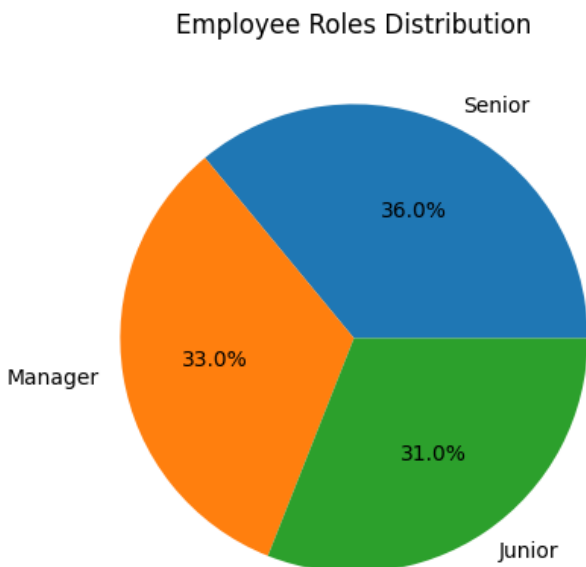
- **X-Axis:** Department names (e.g., Sales, HR, IT, Finance, Marketing, etc.)
- **Y-Axis:** Average performance score (numeric scale).
- Each bar represents the **mean performance score** of employees in a specific department.

Insights:

- Departments with **higher average performance scores** indicate better team efficiency and output.
 - Departments with **lower average performance scores** may require additional training, mentoring, or process improvements.
 - Useful for **resource allocation, promotions, and policy adjustments**.
-

2. Employee Roles Distribution

Chart Type: Pie Chart



Objective:

To understand the **distribution of employees across different job roles**.

Explanation:

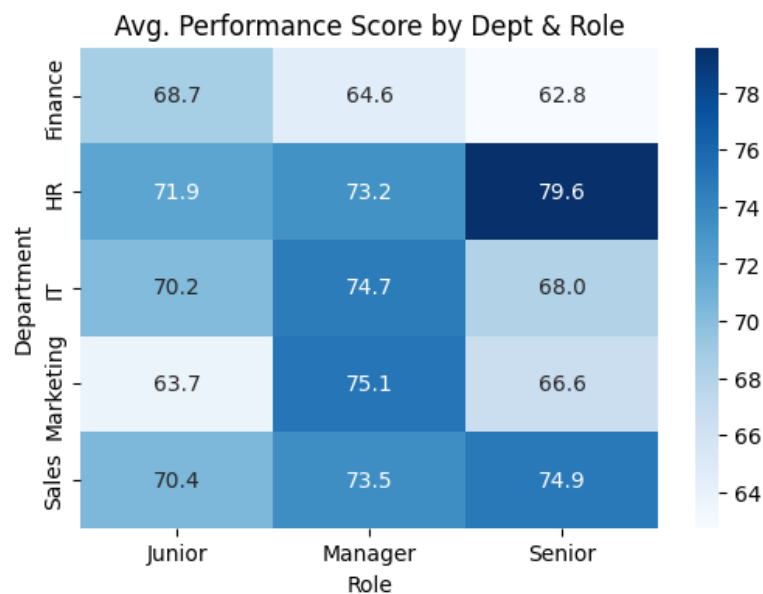
- Each slice of the pie chart represents the **percentage of employees** belonging to a specific role.
- Labels indicate the role names, and the percentage shows the **proportion of employees** in that role.

Insights:

- Helps HR understand **staffing distribution** across job roles.
 - Identifies **overstaffed** or **understaffed** roles.
 - Useful for **recruitment planning** and **workforce balancing**.
-

3. Average Performance Score by Department & Role

Chart Type: Heatmap



Objective:

To analyze how **average performance scores** vary **across departments and roles**.

Explanation:

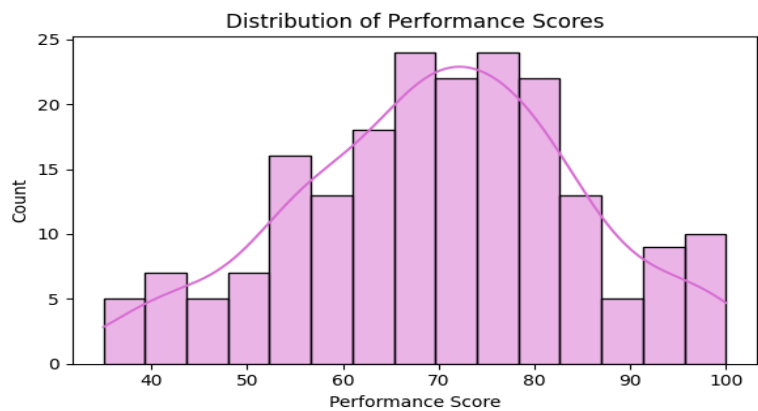
- **Rows (Y-Axis):** Departments.
- **Columns (X-Axis):** Roles.
- **Color Intensity:** Represents the average performance score — **darker shades indicate higher scores**.
- Annotated numbers show the exact average score for each combination.

Insights:

- Helps identify **high-performing roles** within specific departments.
 - Reveals departments where **certain roles are underperforming**.
 - Useful for **targeted training programs** and **performance improvement plans**.
-

4. Distribution of Performance Scores

Chart Type: Histogram



Objective:

To visualize the **distribution of employee performance scores** across the organization.

Explanation:

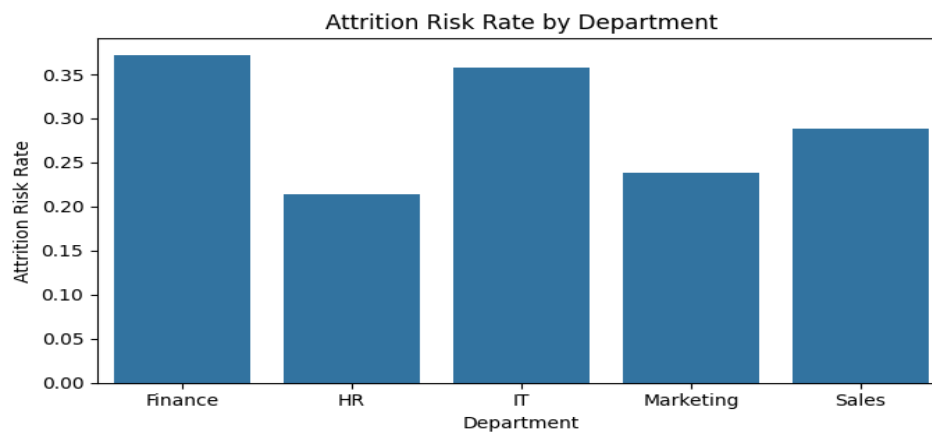
- **X-Axis:** Performance score range.
- **Y-Axis:** Number of employees falling within each performance range.
- The plot uses a **kernel density estimation (KDE)** line to visualize the **overall shape of the distribution**.

Insights:

- If the histogram is **normally distributed**, performance levels are balanced.
 - A **right-skewed distribution** means most employees perform below average.
 - A **left-skewed distribution** suggests that most employees are high performers.
 - Helps HR decide on **performance appraisal criteria**.
-

5. Attrition Risk Rate by Department

Chart Type: Bar Chart



Objective:

To compare the **average attrition risk** across different departments.

Explanation:

- **X-Axis:** Department names.
- **Y-Axis:** Average attrition risk score (ranging from 0 to 1).
- Each bar shows the **likelihood of employees leaving** within that department.

Insights:

- Departments with **high attrition risks** may require immediate HR intervention.
- Possible actions include:
 - Improving **employee engagement**
 - Offering **better incentives**
 - Revising **workload distribution**
- Low attrition departments can be studied to **replicate retention strategies**.

Summary of Findings

Aspect	Best Performing	Needs Improvement	Actionable Insights
Performance	Departments with higher scores	Departments with low scores	Offer targeted training
Role Distribution	Balanced workforce	Overstaffed/Understaffed roles	Adjust hiring plans
Performance vs. Role	High-performing roles within key departments	Low-performing roles in some areas	Provide skill development

Score Distribution	Check if scores are balanced	Identify skewness	Update evaluation criteria
Attrition Risk	Departments with low attrition	High attrition departments	Focus on retention strategies

Conclusion

These visualizations provide actionable insights into **employee performance**, **role allocation**, and **attrition risks**.

HR teams can leverage these findings to:

- Optimize **resource planning**
- Improve **performance management systems**
- Reduce **employee attrition**
- Ensure a **balanced workforce distribution**