

STRATEGIC HR ANALYTICS DASHBOARD

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Agenda

Introduction	3	Data Pre-Processing	8
Our Aim	4	Data Visualization	11
Work-Flow	5	Results and Analysis	14
Dataset Description	6	Conclusion	15
Data Cleaning	7		

Introduction

- The dashboard offers a detailed analysis of key HR metrics, enabling better understanding of workforce dynamics.
- It simplifies complex data into actionable insights for improving employee satisfaction and performance.



[Back to Agenda](#)

Our Aim

To analyze HR metrics for improving employee satisfaction and retention.

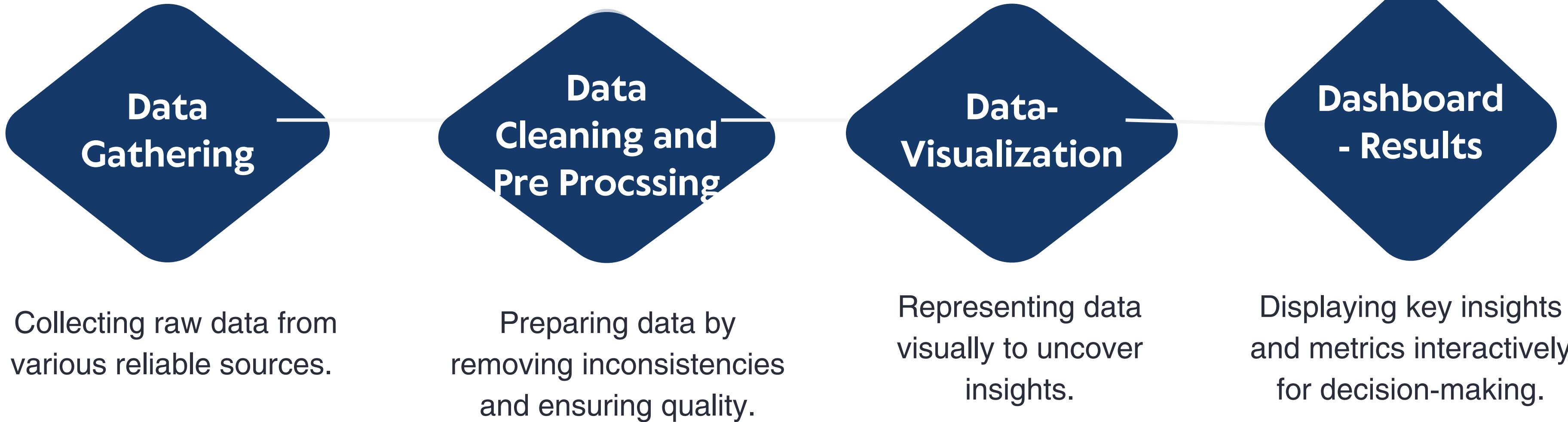
Aim

To clean, preprocess, and structure HR data for accurate and meaningful analysis.

Visualize

To visualize HR metrics and derive actionable insights through data interpretation.

Work-Flow



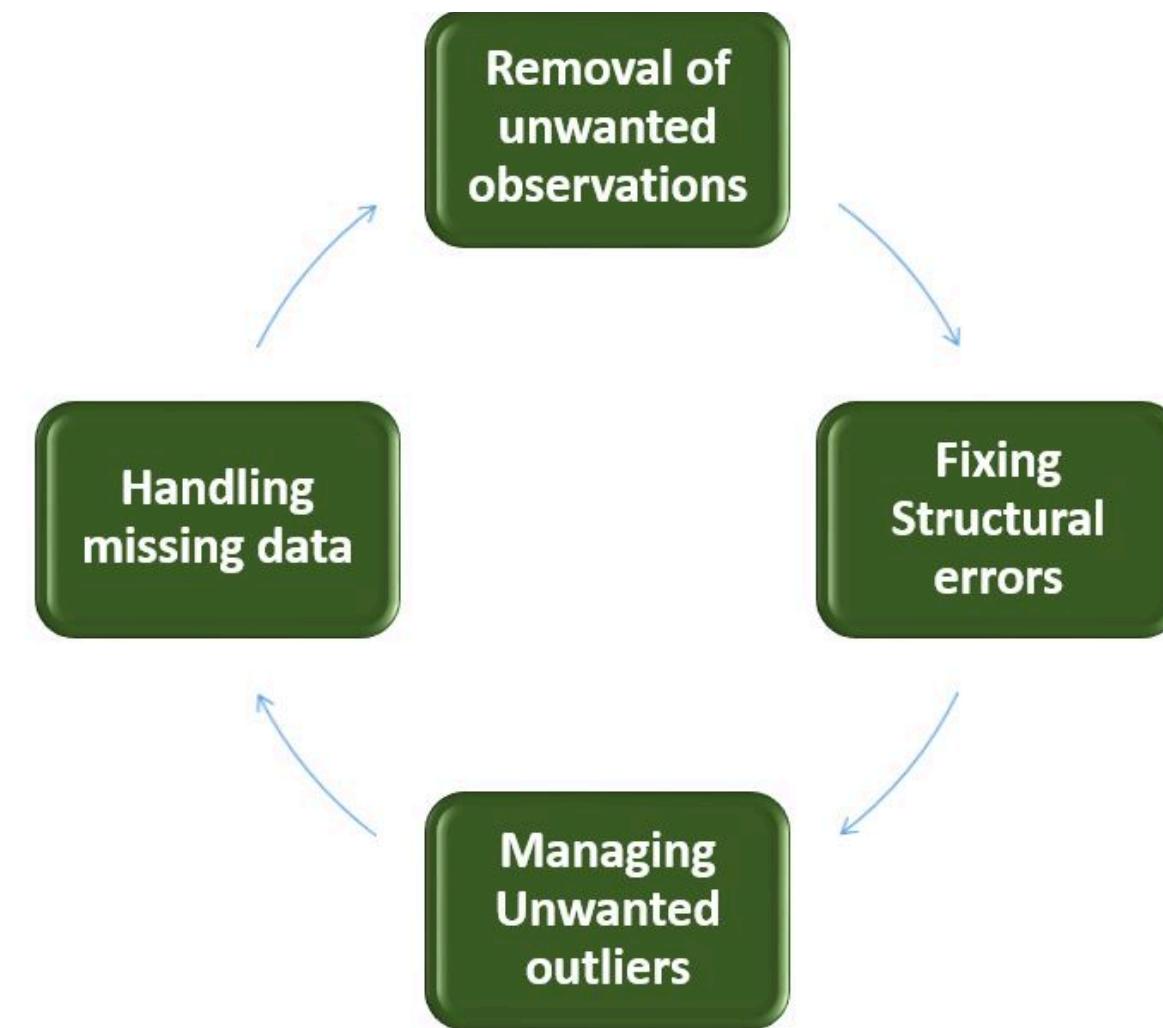
Dataset Description

what's in the dataset ?

About the Dataset

- Dataset Name: HR Employee Attrition
- Total Records: 1470 rows, 35 columns
- Key Features: Demographics: Age, Gender, Marital Status
- Job Details: Department, Job Role, Job Level
- Performance Metrics: Attrition, Monthly Income, Years at Company
- Purpose: Analyze factors influencing employee attrition.
- This dataset was sourced from Kaggle

Dataset Cleaning



- Removed Total Working Hours and Over 18 columns.
- Reason: Both columns had constant values, offering no significant contribution to the analysis.
- The dataset was already clean and pre-processed, with minimal outliers detected.

Data Pre-Processing

Getting the data ready for analysis. With DAX functions.

Data preprocessing ensures data quality, consistency, and relevance for accurate analysis and model performance.

Weighted Scoring:

Overall_Score = (WorkLifeBalance * 0.4) + (EnvironmentSatisfaction * 0.4) + (Overtime * 0.2)

Ratio Analysis:

Salary-Experience Ratio = MonthlyIncome / TotalWorkingYears

Classification:

Age Group = SWITCH(TRUE(), Age < 30, "Young", Age ≥ 30, "Middle Aged", ...)

Attrition Prediction:

Attrition Likelihood = (DistanceFromHome / 10 * 0.3) + ...

Flexibility Index:

Flexibility Index = WorkLifeBalance * 0.7 - Overtime * 0.3

Data Pre-Processing

Getting the data ready for analysis. With DAX functions.

- ◆ **VariablePay:** Calculates the difference between MonthlyRate and MonthlyIncome.

- ◆ **Overall_Score:** Weighted score combining WorkLifeBalance, EnvironmentSatisfaction, and Overtime impact.

- ◆ **Age Group:** Categorizes employees into age groups like Young, Middle-Aged, Old, and Oldest.

- ◆ **Total Compensation:** Sums MonthlyIncome and a bonus based on StockOptionLevel..

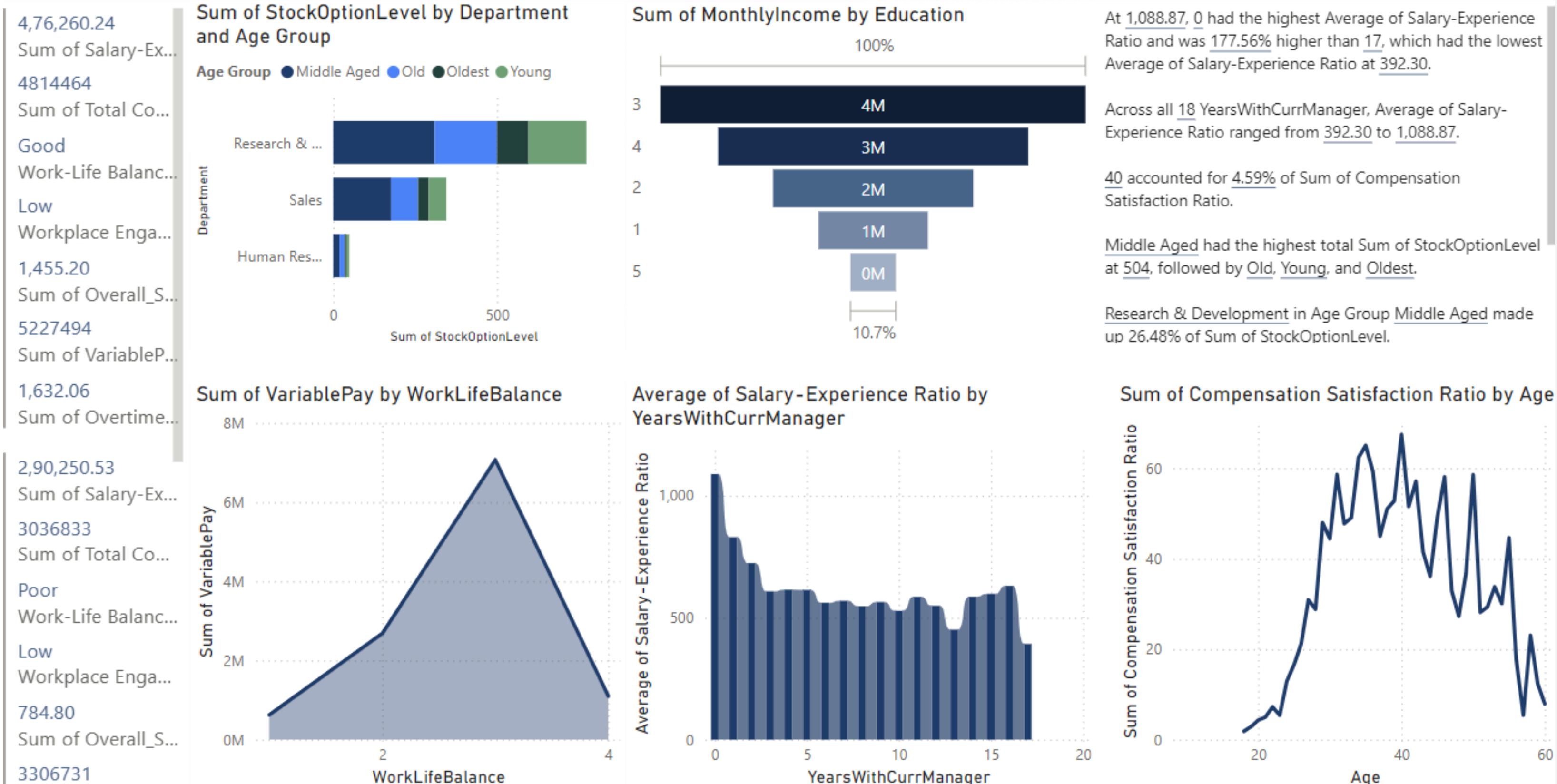
Data Pre-Processing

Getting the data ready for analysis. With DAX functions.

- ◆ **Work-Life Balance Flag:** Flags WorkLifeBalance as "Good" if ≥ 3 , otherwise "Poor."
- ◆ **Workplace Engagement:** Classifies engagement as "High" or "Low" based on satisfaction levels.
- ◆ **Attrition Likelihood Score:** Predicts attrition likelihood based on distance, work-life balance, overtime, and job satisfaction.
- ◆ **Compensation Class:** Categorizes employees' compensation as Low, Moderate, Average, or High.

Data Visualization

HR ANALYTICS DASHBOARD



Data Visualization

Key influencers Top segments

What influences Overall_Score to **Increase** ?

When... ...the average of Overall_Score increases by

Workplace Engagement is High → 0.64

Work-Life Balance Flag is Good → 0.56

Sum of WorkLifeBalance goes up 0.71 → 0.26

HR-employee-attrition (2) department
HR-employee-attrition (2) year with curr manager

Research & Dev...
Sales
Human Resourc...

Department

Sum of YearsWithCurrManager

Workplace Enga...

Low

Sum of Total Competencies

10726309

Low 7851297

High

Work-Life Balance Flag, Workplace Engagement

✓ Good

✓ Poor

Work-Life Balance Flag

	1.60	1.63	1.64	1.67	1.71	1.74	1.75	1
Good	232	31	20	194	50	12	93	
Poor	40	12		99	18		54	
Total	272	43	20	293	68	12	147	

Average of EnvironmentSatisfaction by Department

● Increase ● Decrease ● Total

Department	Avg Satisfaction	Count
Research & Development	~2.5	~100
Human Resources	~5.5	~100
Sales	~6.5	~100
Total	~7.5	~300

Sum of Attrition Likelihood Score by Department

Department

- Research & Development: 0.08K (4.2%)
- Sales: 0.56K (30.12%)
- Human Resources: 1.22K (65.68%)

Data Visualization

Chat with me!

Ask me a question... Ask ➤ ...

Describe Total Compensation by Age Group for Good.

 Overall, the Total Compensation breakdown by Age Group for Good in descending order is Middle Aged (2.91 million), Old (2.43 million), Oldest (1.33 million) and Young (1.01 million).

Results & Analysis

- Stock Options: R&D employees, especially middle-aged, lead stock contributions (26.48%).
 - Income Trends: Higher education levels increase income, peaking at Level 5.
 - Work-Life Balance: Better balance boosts pay, poor balance lowers it.
 - Compensation Satisfaction: Mid-aged employees are more satisfied than younger ones.
 - Attrition Risk: R&D faces highest attrition, with Sales and HR moderate.
 - Engagement & Performance: High engagement improves scores (+0.64) and satisfaction.
 - Environment Satisfaction: Sales leads satisfaction; R&D scores lowest.
 - Manager Tenure: R&D has longer manager tenures, while Sales and HR are shorter
- Chatbot: Provides real-time data on stock options, income, work-life balance, attrition, engagement, and satisfaction.

Conclusion

The visualizations highlight key HR metrics, such as stock option levels, variable pay trends, salary-experience ratios, and workplace balance impacts. Insights reveal age and departmental variations, the influence of work-life balance on satisfaction, and attrition risks. These findings enable targeted strategies to enhance employee satisfaction, optimize engagement, and reduce attrition across departments.