### Employee Data Analysis using Excel

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## PROJECT TITLE

**Salary and compensation analysis thourgh excel data Modelling**

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# AGENDA



1. Problem Statement
2. Project Overview
3. End Users
4. Our Solution and Proposition
5. Dataset Description
6. Modelling Approach
7. Results and Discussion
8. Conclusion

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3/21/2024 **Annual Review**

## PROBLEM STATEMENT

Your company is experiencing growth, and management wants to ensure that its compensation structure is competitive and fair. You are tasked with conducting a salary and compensation analysis using Excel data to provide insights into the current state of employee compensation. The goal is to identify disparities, understand trends, and make recommendations for adjustments to enhance employee satisfaction and retention.

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## PROJECT OVERVIEW

To analyze salary and compensation data to provide insights into compensation structures, identify disparities, and support decision-making for compensation adjustments or policy changes.

**Steps and Components**

1. **Data Collection and Preparation**
2. Data Import and Structuring
3. Data Analysis
4. **Visualization**
5. **Comparative Analysis**
6. **Advanced Analysis**
7. **Reporting**
8. **Documentation and Presentation**

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### WHO ARE THE END USERS?

When performing salary and compensation analysis through Excel data modeling, the end users typically include a variety of stakeholders who use the analysis to make informed decisions and drive strategic actions. Here are some common end users:

1. \*\*HR Professionals\*\*: They use the analysis for benchmarking salaries, planning compensation structures, and ensuring competitive pay scales. This helps in attracting and retaining talent.

2. \*\*Finance Departments\*\*: Finance teams use salary and compensation analysis to budget effectively, forecast compensation costs, and manage payroll expenses.

3. \*\*Executives and Senior Management\*\*: High-level decision-makers use this data to align compensation strategies with overall business goals, assess the impact of compensation on organizational performance, and make strategic adjustments.

4. \*\*Recruiters\*\*: Recruiters use compensation analysis to set competitive salary ranges for new hires and to negotiate offers with candidates.

5. \*\*Compensation Analysts\*\*: These specialists use the data to conduct detailed analysis, create reports, and provide insights on compensation trends and disparities.

6. \*\*Employees and Employee Representatives\*\*: They might use aggregated, anonymized data to understand compensation trends within the organization or industry, and to advocate for fair compensation practices.

7. \*\*External Consultants\*\*: Consultants hired to review or improve compensation practices will use the analysis to provide recommendations and implement best practices.

**OUR SOLUTION AND ITS VALUE PROPOSITION**

**Solution**

**1. Data Collection and Integration:**

* **Data Sources:** Import and integrate various data sources such as payroll data, industry salary benchmarks, employee records, and compensation surveys.
* **Data Cleaning:** Ensure the data is accurate and free from errors or inconsistencies by cleaning and validating it.

**2. Data Modeling and Analysis:**

* **Compensation Structure Analysis:** Model different compensation structures to evaluate their effectiveness. This includes base salary, bonuses, benefits, and other perks.
* **Benchmarking:** Compare your organization’s compensation against industry standards and competitors to identify gaps and opportunities.



* **Trend Analysis:** Track historical compensation trends to forecast future salary adjustments and budget requirements.
* **Equity Analysis:** Assess pay equity across different demographics, roles, and levels to ensure fair compensation practices.

# Dataset Description

#### **1. Basic Employee Information**

* **Employee ID:** Unique identifier for each employee.
* **Name:** Employee’s full name (or anonymized ID if privacy is a concern).
* **Department:** The department in which the employee works.
* **Position/Job Title:** The employee’s role or job title.
* **Location:** The geographical location or office where the employee is based.
* **Hire Date:** Date when the employee was hired.
* **Employment Status:** Full-time, part-time, contract, etc.

#### **2. Compensation Details**

* **Base Salary:** The employee’s annual base salary.
* **Bonus:** Any performance or annual bonus payments.
* **Commissions:** Commission payments, if applicable.
* **Stock Options/Equity:** Details of stock options or equity grants.
* **Benefits:** Value of benefits (healthcare, retirement plans, etc.) if quantified.
* **Total Compensation:** Total of base salary, bonus, commissions, and benefits (optional but useful).

## THE "WOW" IN OUR SOLUTION

**1. Interactive Dashboards**

**Dynamic Visualizations:**

* **Real-Time Data Interaction:** Use Excel’s advanced features like PivotCharts and slicers to allow users to interact with the data dynamically. Users can filter by department, role, location, or time period to view tailored insights.
* **Trend Analysis:** Incorporate visual trend analysis tools such as sparklines or moving averages to visualize salary trends over time.

**Customizable Reports:**

* **User-Defined Views:** Provide customizable templates where users can select specific metrics or parameters to generate personalized reports.
* **Drill-Down Capabilities:** Allow users to click through summary data to view more detailed information or underlying data points.



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# MODELLING

**1. Data Preparation**

**1.1. Data Collection:**

* **Gather Data:** Collect raw data from various sources, including payroll systems, HR databases, and industry reports. This may include employee details, salary information, benefits, and external benchmarking data.

**1.2. Data Cleaning:**

* **Remove Duplicates:** Ensure there are no duplicate records.
* **Handle Missing Values:** Address any missing or incomplete data. This might involve filling in gaps, removing incomplete records, or using average values where appropriate.
* **Standardize Formats:** Ensure consistency in data formats (e.g., currency, dates).

**1.3. Data Integration:**

* **Combine Data Sources:** Integrate data from different sources into a single dataset. Use Excel Power Query for merging data tables if necessary.

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# RESULTS

A graph showing different colored squares

Description automatically generated

**Conclusion**

**1. Data Preparation**

* **Collect Data**: Ensure you have accurate data on employee salaries, bonuses, benefits, and other compensation elements. This might include employee demographics, job titles, departments, and performance metrics.
* **Clean Data**: Remove any inconsistencies, errors, or missing values to ensure the integrity of your analysis.

**2. Data Modelling**

* **Create Pivot Tables**: Use pivot tables to summarize compensation data by various dimensions (e.g., department, job title, location).
* **Calculate Averages and Medians**: Compute average and median salaries for different job titles, departments, or locations to understand central tendencies.
* **Perform Trend Analysis**: Analyze how salaries have changed over time, or how compensation compares to industry standards.
* **Benchmarking**: Compare your data against industry benchmarks to gauge competitiveness.