

Employee Productivity Analysis

Report

**Title**

**Employee Productivity Analysis Report**

**Objective**

This dashboard was created to analyse **employee productivity trends** and identify key factors affecting workforce efficiency. It helps HR and management teams optimize **training programs, satisfaction levels, and overtime policies** to improve overall performance. The dashboard provides a **data-driven approach** to workforce planning, reducing inefficiencies and improving project management.

**Data Source & Preparation**

**Data Sources:**

* **Kaggle CSV dataset** containing employee details, department-wise distribution, training history, and project completion data.

**Data Cleaning & Transformation:**

* **Removed duplicate entries** and standardized data formats.
* **Handled missing values** using **mean imputation** for numerical fields and appropriate replacements for categorical fields.
* **Created custom calculated fields** to segment employees based on productivity levels.
* **Formatted the dataset for Tableau**, ensuring smooth integration and interactivity.

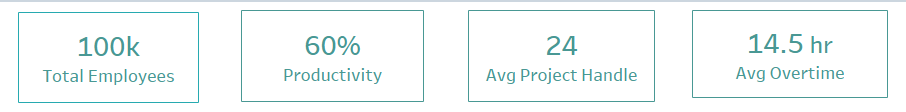
**Dashboard Overview**

The **Employee Productivity Dashboard** is designed to provide a **comprehensive view of workforce performance** through key metrics and visualizations. It includes:



**Key Visualizations Used**

* **Bar Charts** → Employee distribution by department, productivity by training period, and satisfaction-productivity correlation.
* **Stacked Bar Charts** → Productivity levels across employees.
* **Line & Bar Graphs** → Overtime vs. projects handled, showing trends over time.
* **KPI Cards** → Total employees, average projects handled, productivity percentage, and overtime hours.

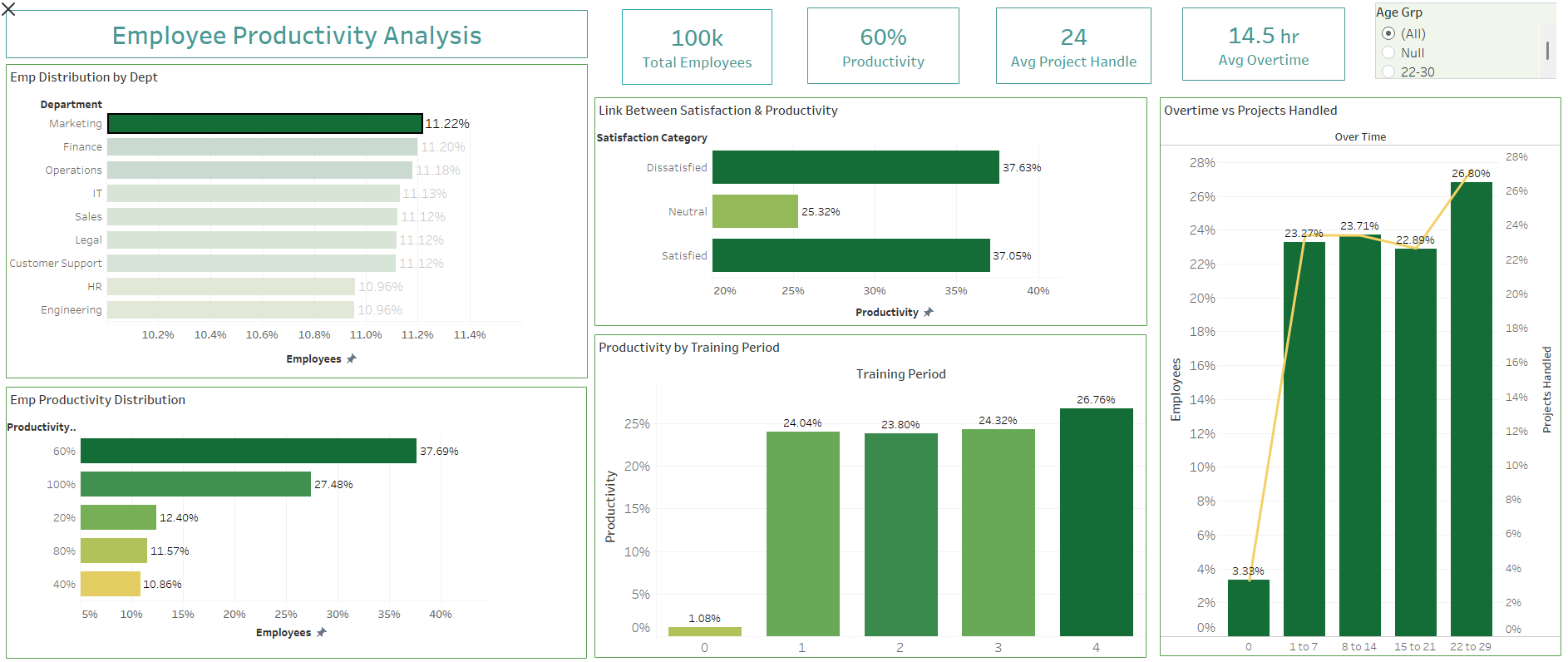


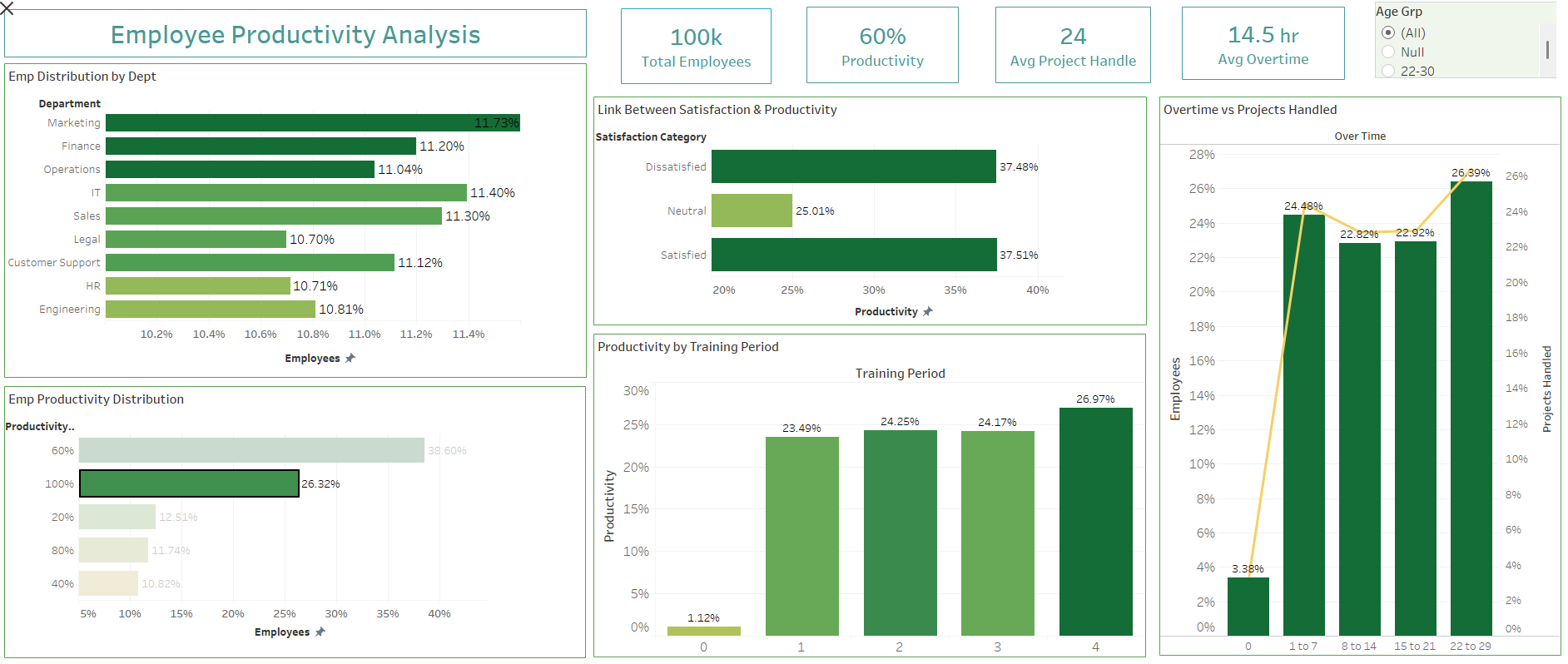
**Filters & Interactivity**

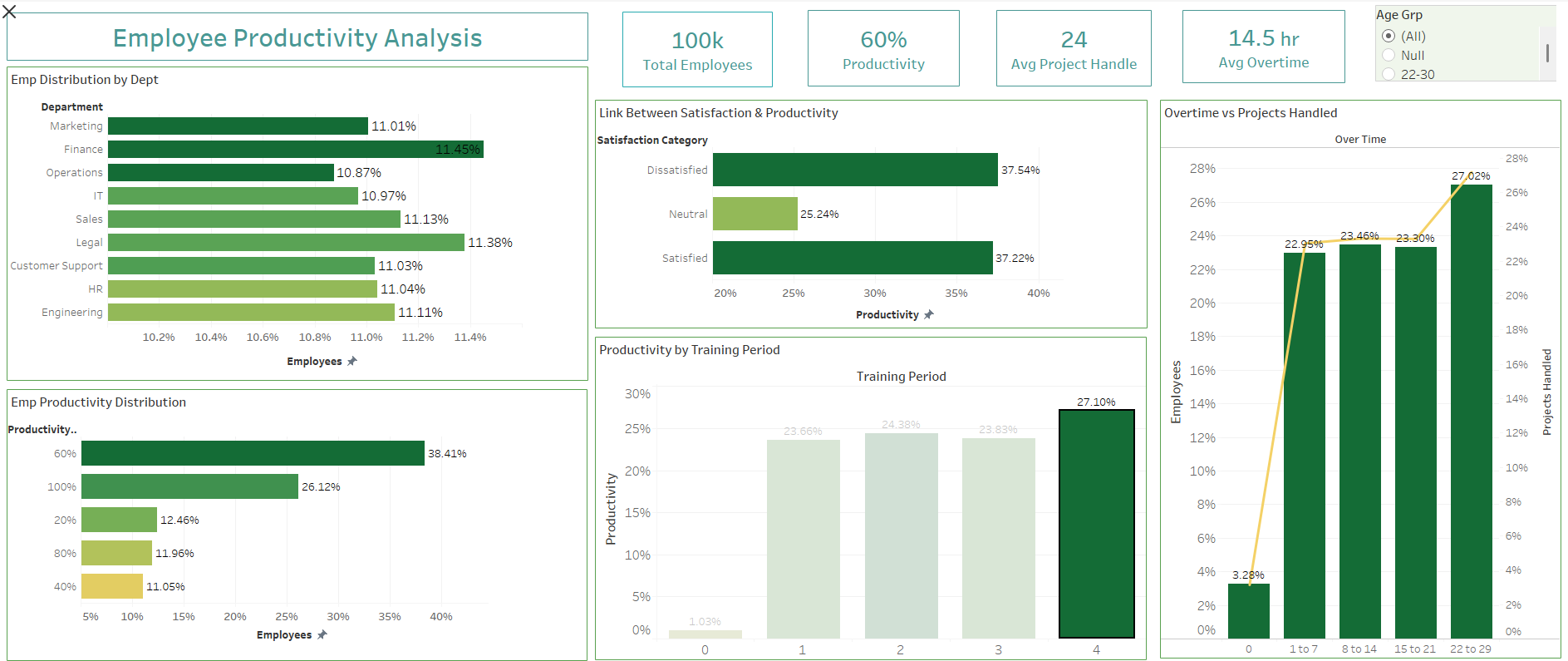
* **Department Filter** → Allows users to analyse performance at a departmental level.
* **Age Group Filter** → Helps compare productivity trends across different age groups.
* **Satisfaction Level Filter** → Enables analysis of how employee morale influences productivity.
* **Training Period Filter** → Evaluates the impact of training sessions on workforce efficiency.
* **Overtime Filter** → Examines how extra working hours affect project completion.

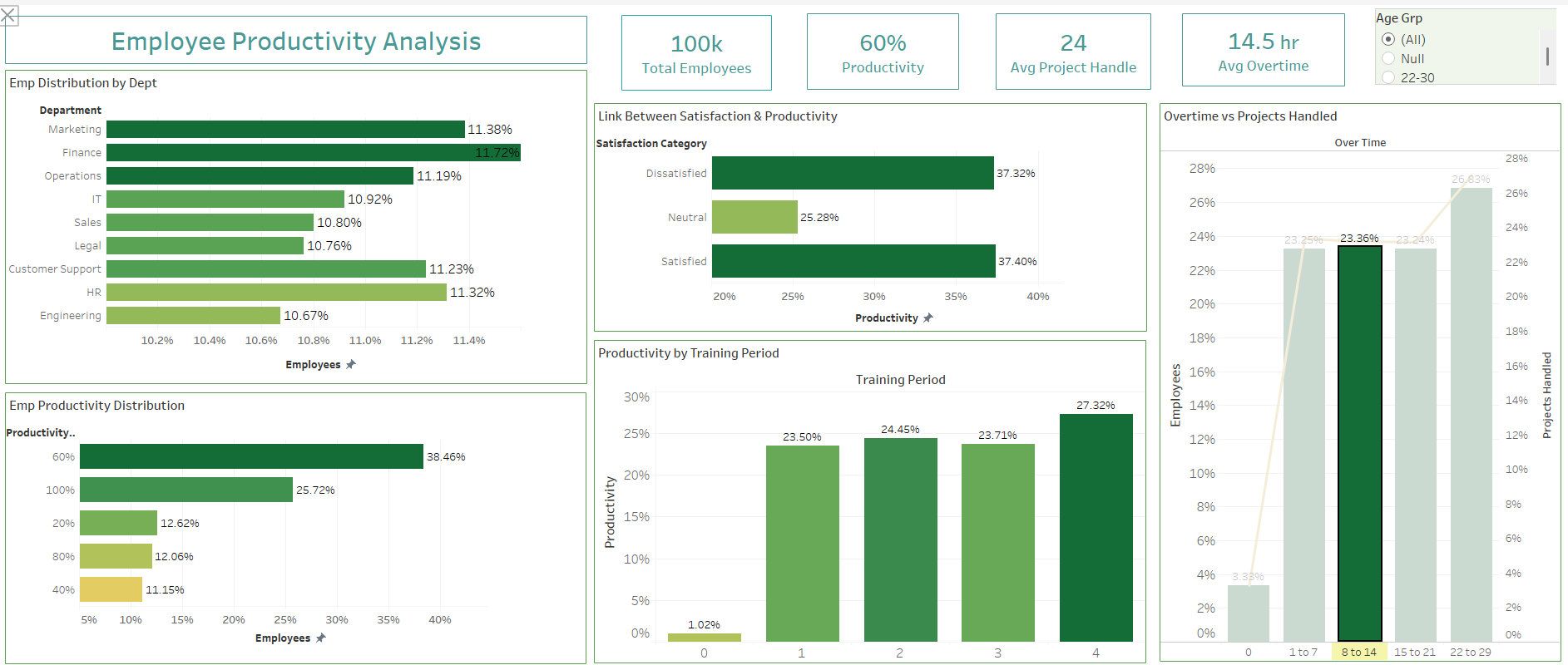
Each Visualization as a Filter → Every can be used as a filter, allowing dynamic drill-down analysis for deeper insights.











This **interactive approach** ensures that HR teams and decision-makers can easily **explore different workforce segments** and identify **areas for improvement** in productivity and engagement.

**Key Insights**

* **Balanced employee distribution across most departments**, with Marketing, Finance, and Operations having the highest share (~11.2%).
* **38.6% of employees operate at 60% efficiency**, while only **26.3% reach 100% productivity**.
* **Neutral employees have lower productivity (24.93%)**, while satisfied and dissatisfied employees show similar performance (~37.5%).
* **Employees with more training perform better**, with those attending **four training sessions reaching 27.1% productivity**, while untrained employees perform the worst (1.03%).
* **Overtime impacts project completion**—employees working **22-29 extra hours handle the most projects (26.83%)**, but excessive overtime may risk burnout.

**Challenges & Solutions**

**Handling Data Gaps:**

* Used **mean imputation for missing numerical values** and appropriate replacements for categorical data.

**Segmenting Productivity Levels:**

* Created **custom calculated fields** to classify employees into different productivity tiers (**20%, 40%, 60%, 80%, 100%**).

**Enhancing Dashboard Interactivity:**

* Added **filters and slicers** for age, training, satisfaction, and overtime, allowing deeper analysis of productivity trends.

**Conclusion & Future Improvements**

**Project Outcome:**

* The dashboard provides a **clear, data-driven perspective on employee productivity**, helping businesses make informed HR decisions.
* It highlights **the impact of training, satisfaction, and overtime on workforce efficiency**.

**Future Improvements:**

* **Integrate real-time data updates** for more accurate insights.
* **Expand analysis to include employee engagement and sentiment data**.
* **Implement predictive analytics** to forecast productivity trends and optimize workforce planning.