



Hemraj Mahadeshwar, Mika Nguyen, Jenny Taconet

M A N U F A C T U R I N G D A S H B O A R D

VIZUALIZATION PROJECT

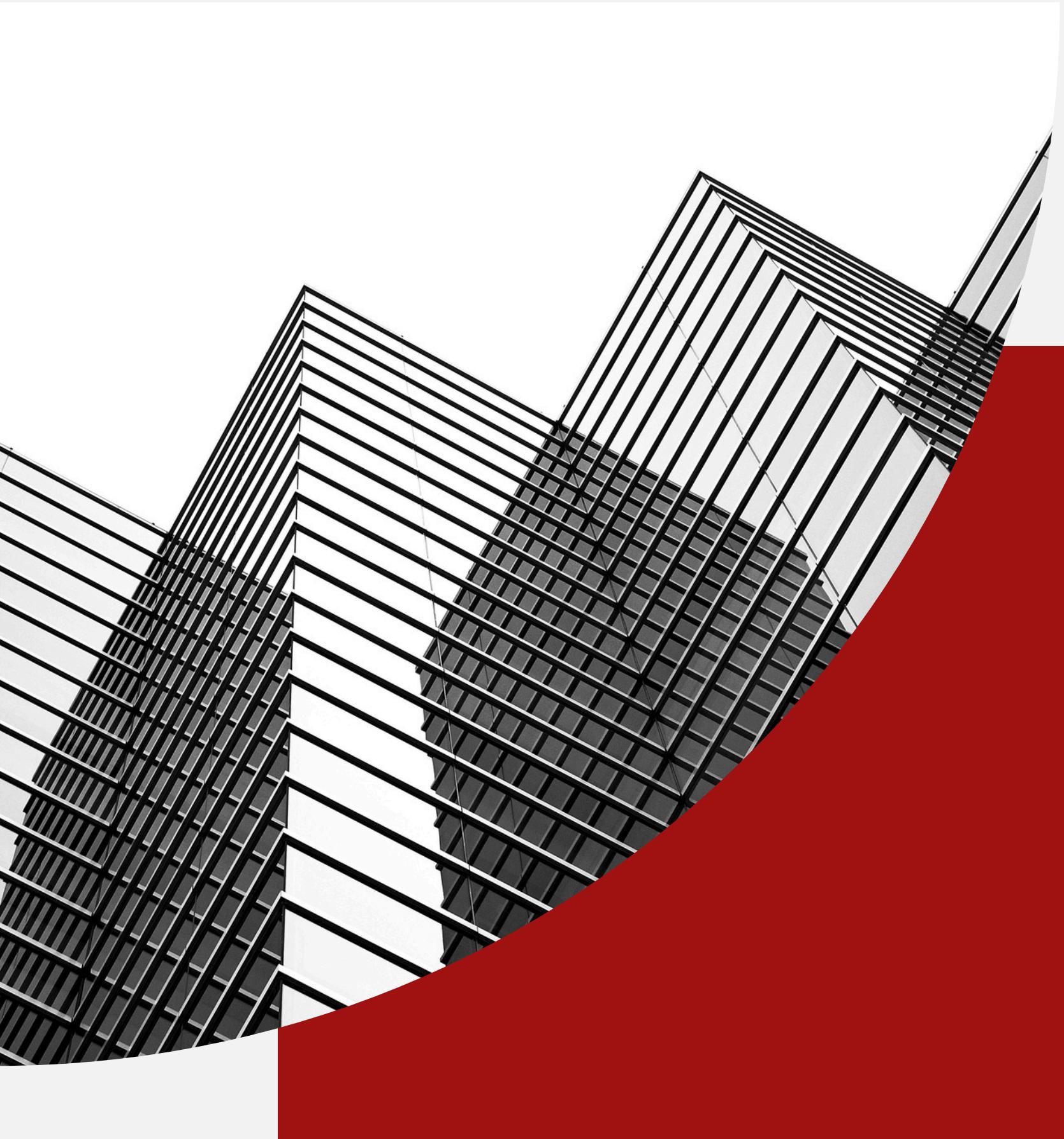
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A Q E N D A

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About The Project

- **Purpose and Benefits:** Developing a data visualization dashboard for manufacturing plants transforms raw operational data into actionable insights, improving decision-making and addressing challenges like production losses and equipment downtime.
- **Sector-Specific Focus:** The project targets the garment industry, emphasizing employee productivity as a critical factor in meeting global demand in this labor-intensive sector.
- **Tools and Techniques:** Data visualization methods such as time-series charts, heatmaps, and tables are used to track, analyze, and optimize team productivity effectively.



L I T E R A T U R E R E V I E W

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- IoT & Edge Computing**
 - Sustainability in Industry 4.0**
 - Visualization & Decision Support**



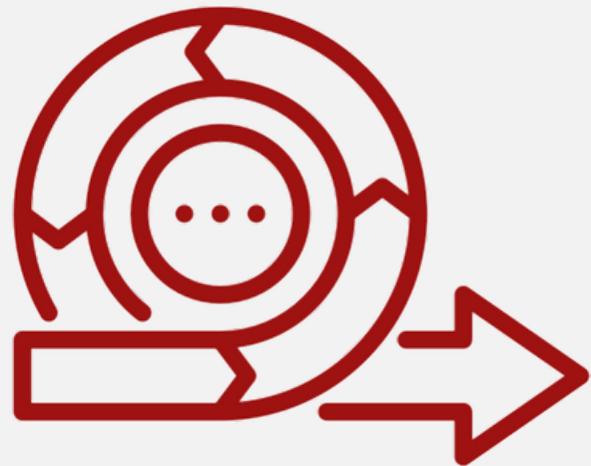
Objectives & Goals

- Develop a data visualization dashboard.
- Enable manufacturing executives to monitor key metrics.
- Enhance employee productivity.



Scope

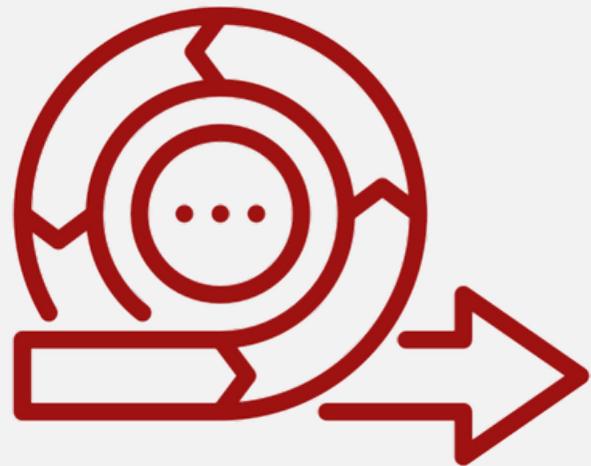
- Focus on creating a dashboard tailored for the garment manufacturing sector.
- Leverage visualization techniques.
- Address real-world challenges.



Methodology

Data Collection

- **Dataset Selection:** A static dataset focused on employee productivity in the garment industry was chosen to align with the project's objectives.
- **Key Attributes:** The dataset includes detailed information about garment manufacturing processes and worker productivity.
- **Goal:** Insights from the dataset will be visualized to support data-driven decision-making and enhance performance within the garment sector.



Methodology

Data Preprocessing

- **Data Cleaning:** Missing values were identified and resolved.
- **Feature Engineering:** KPIs were calculated to assess performance at team and department levels.
- **Aggregation and Structuring:** Data was aggregated to provide actionable insights into operational efficiency, enabling informed decision-making and visualization.

Analysis

Productivity Gap

Productivity Ratio

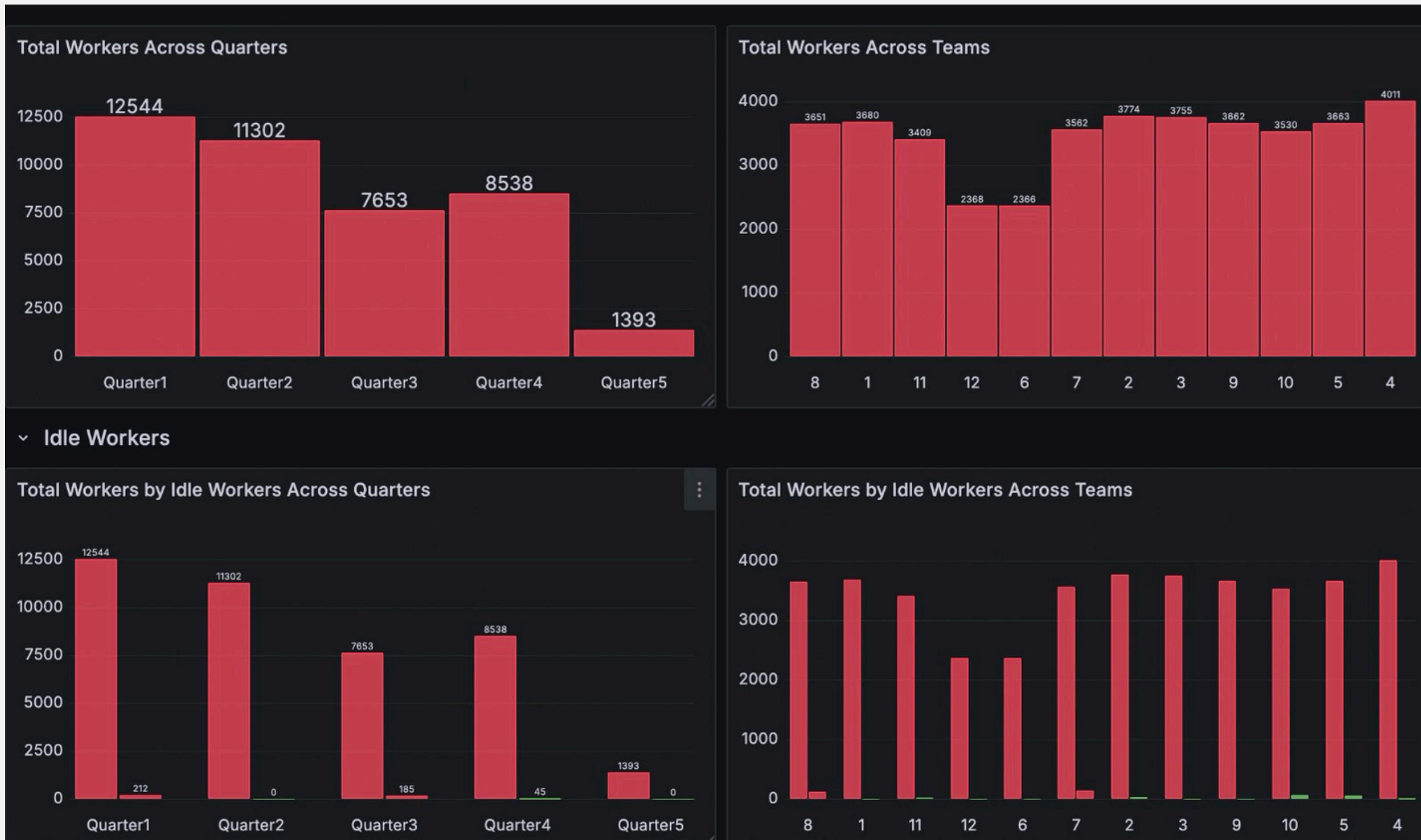
Overtime per Worker

Incentive per Worker

Worker Efficiency

Idle Time per Worker

Results



Results



Discussions

Workforce Fluctuations

Unfinished Products & Overtime

Productivity Challenges

Opportunities for Improvement

Conclusion

- Optimize workforce allocation by reallocating idle workers to high-demand projects.
- Address productivity gaps with skill development, workflow enhancements, and proactive task scheduling.
- Streamline production workflows, manage unfinished products, and review overtime policies to reduce workload imbalances and improve resource utilization.

Thank you

Questions?

