

# HR Analytics: Workforce Productivity Analysis in the Garment Industry

## Main Project Report

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Course: Data Analytics - Entri Elevate

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# Introduction

The garment industry is a labor-intensive sector where workforce productivity is central to profitability and operational efficiency. This project analyzes patterns and drivers of productivity using HR Analytics to derive actionable insights.

## Dataset Description

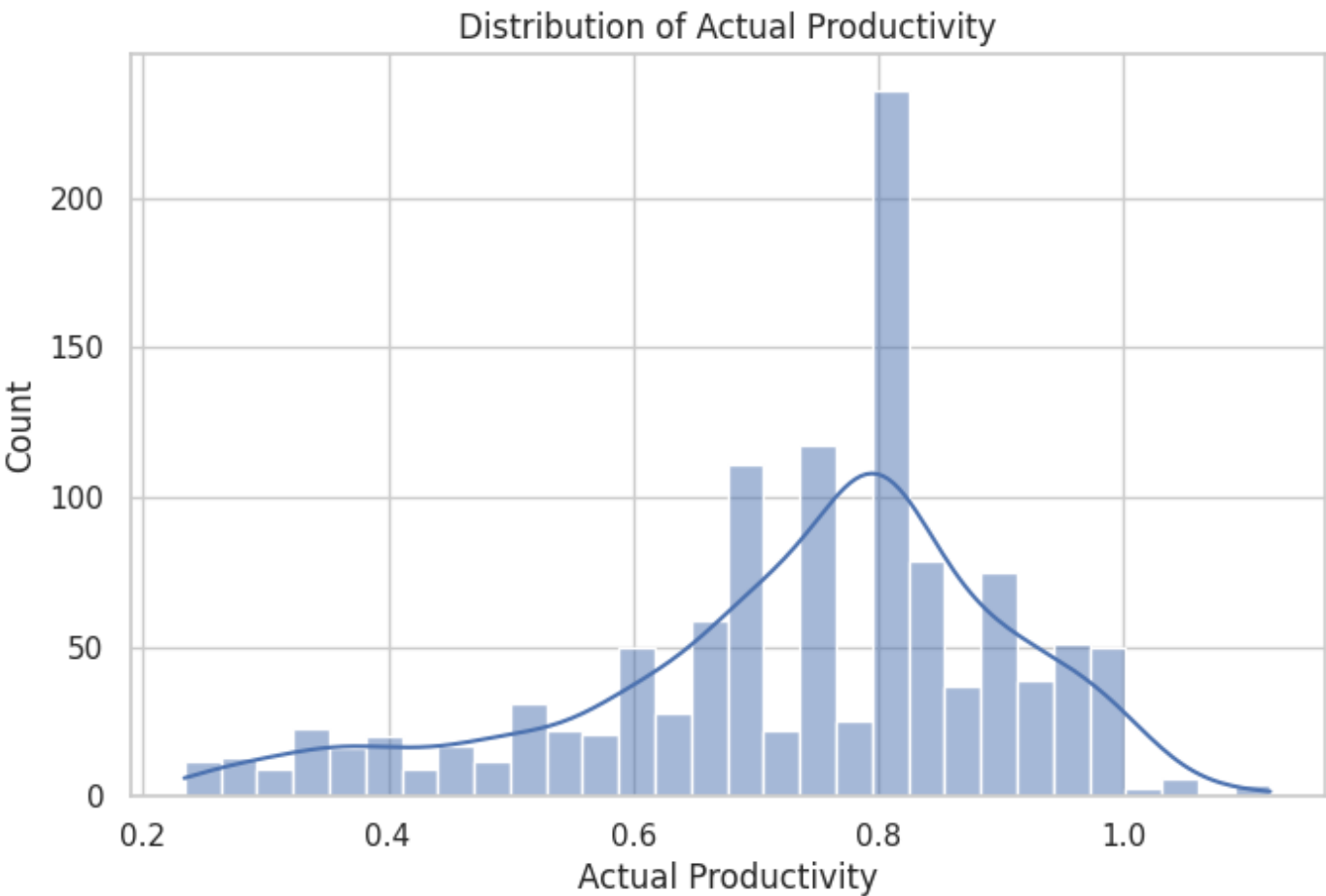
Dataset: Garment Worker Productivity - 1,197 rows x 15 columns (Date, Department, Quarter, Team, Targeted Productivity, Actual Productivity, Overtime, Incentives, Idle Time, etc.).

## Methodology

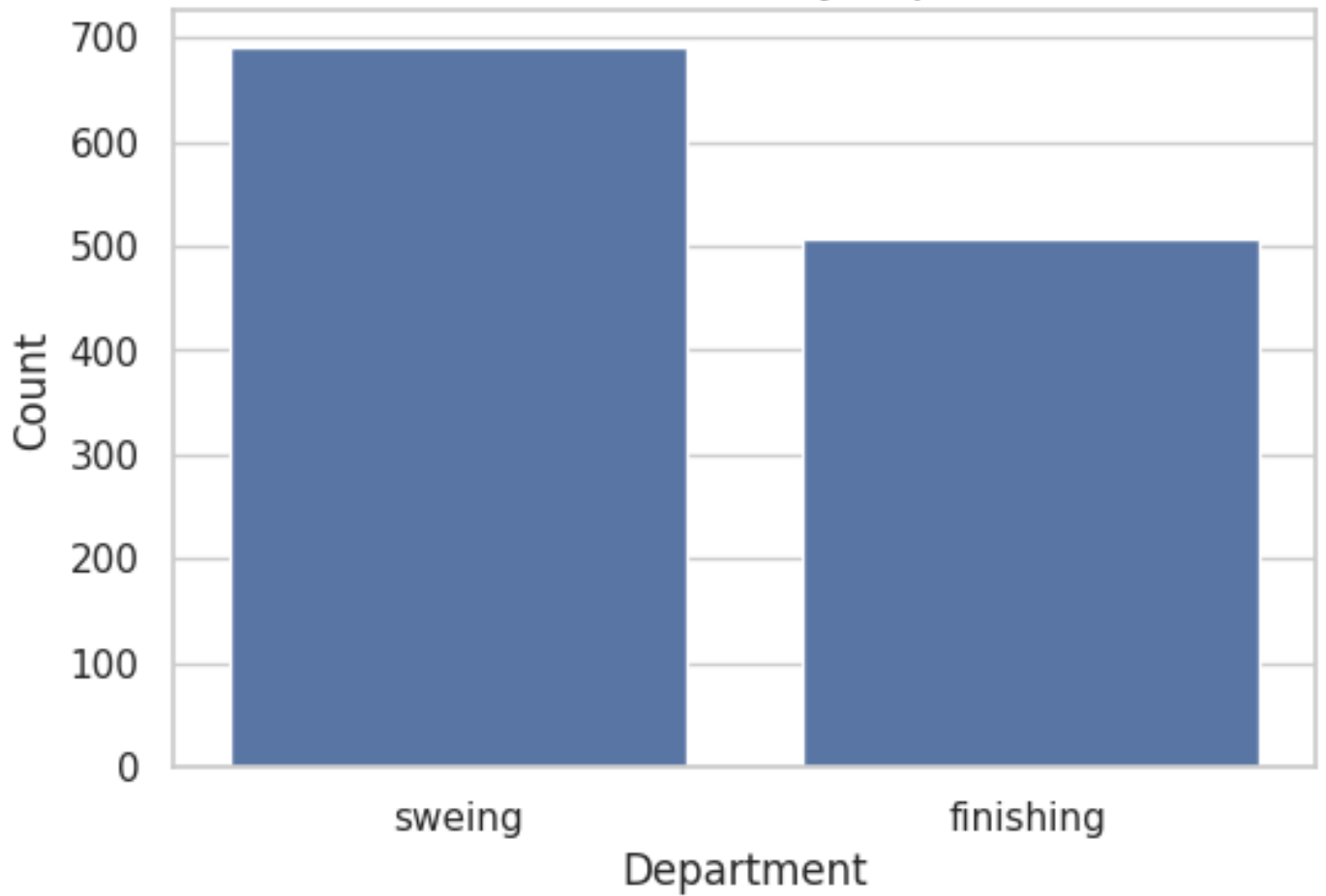
1) Data Cleaning (missing values, date parsing, categorical standardization). 2) Feature Engineering (Season, Quarter grouping). 3) EDA (distribution, time-series, department/team comparisons). 4) Relationship checks (overtime, incentives vs actual productivity).

## Key Findings & Insights

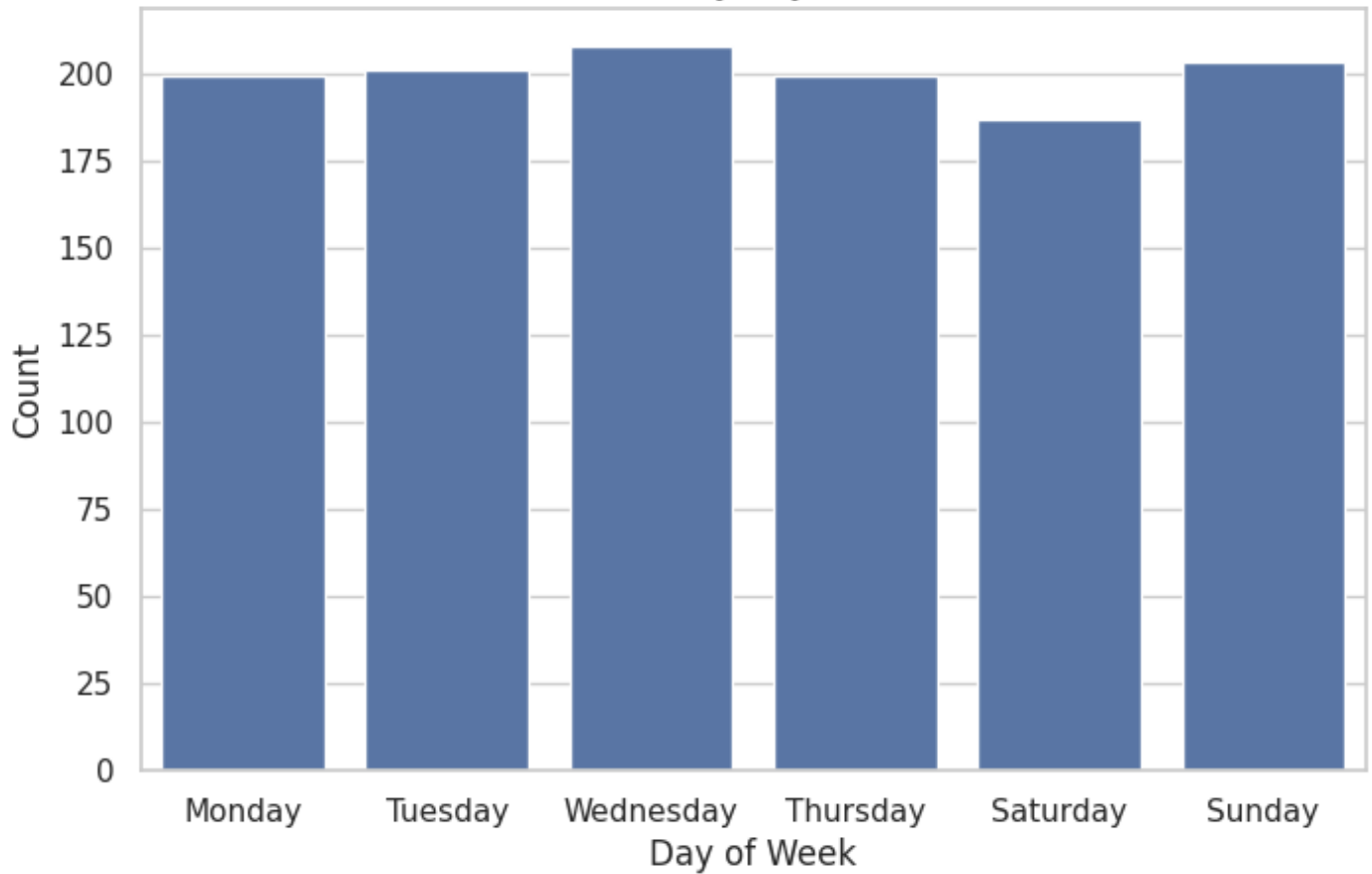
Selected plots below illustrate the most decision-relevant patterns observed during analysis.



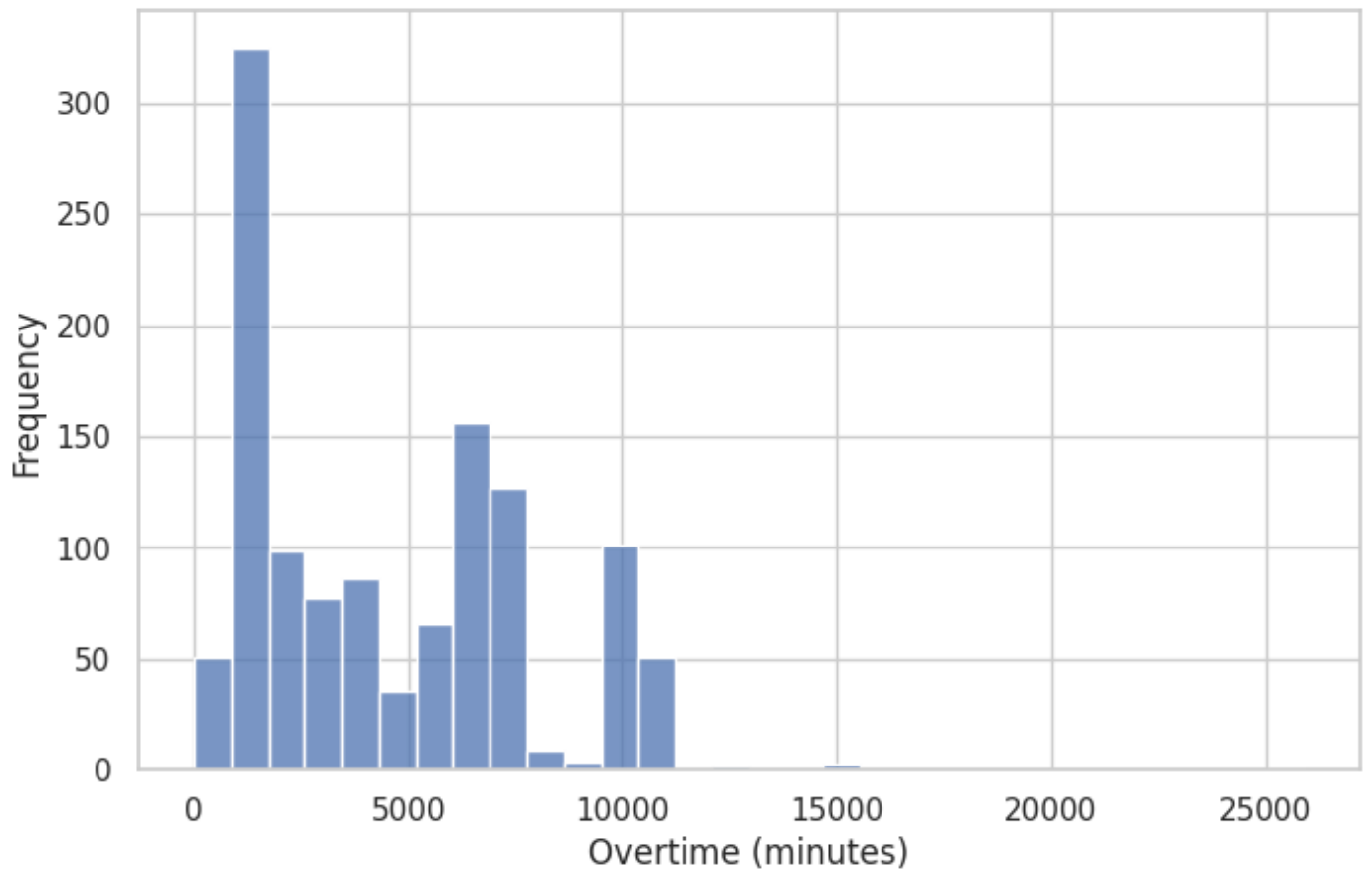
Number of Records by Department



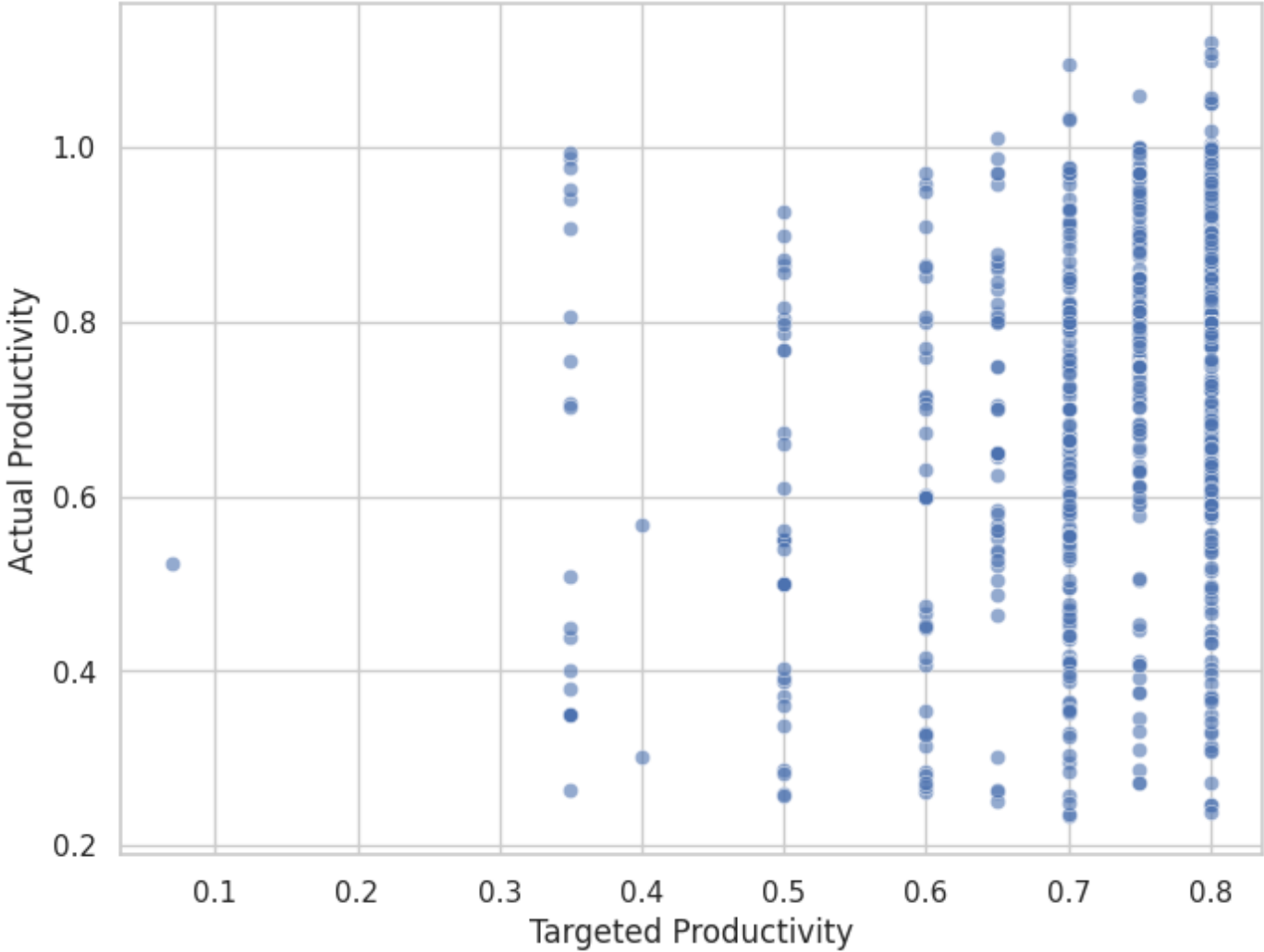
Records by Day of Week



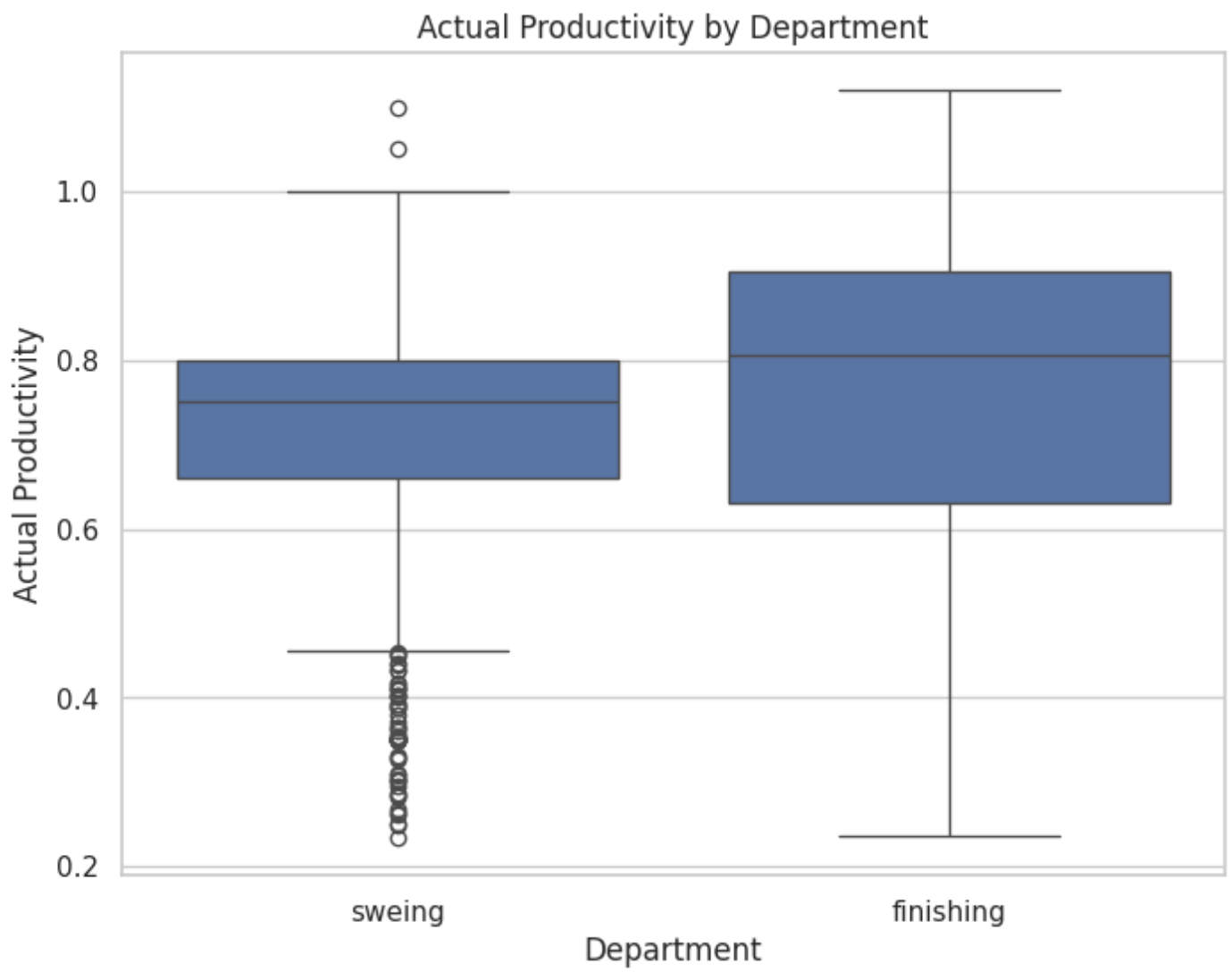
Distribution of Overtime (minutes)



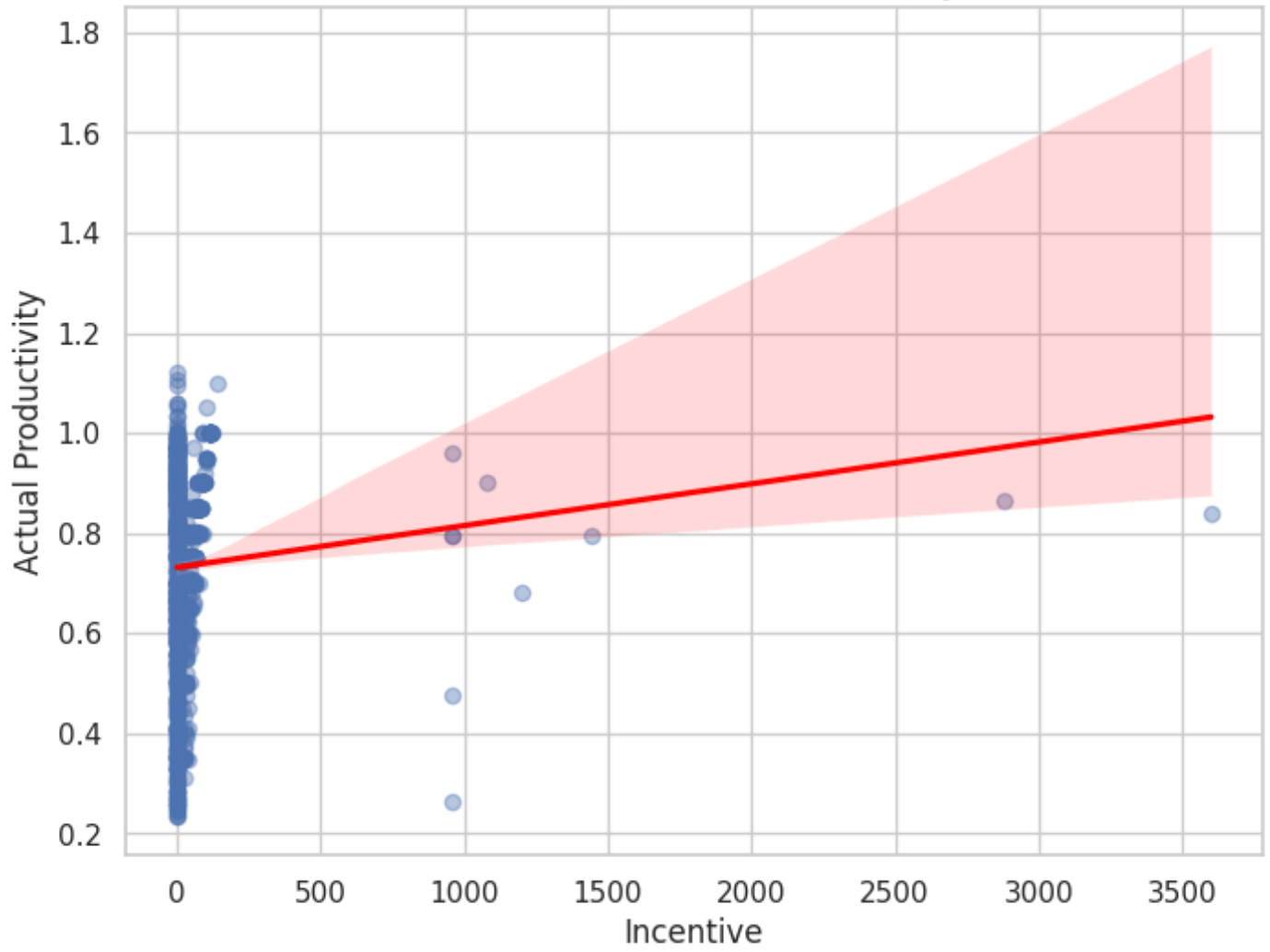
Targeted vs Actual Productivity

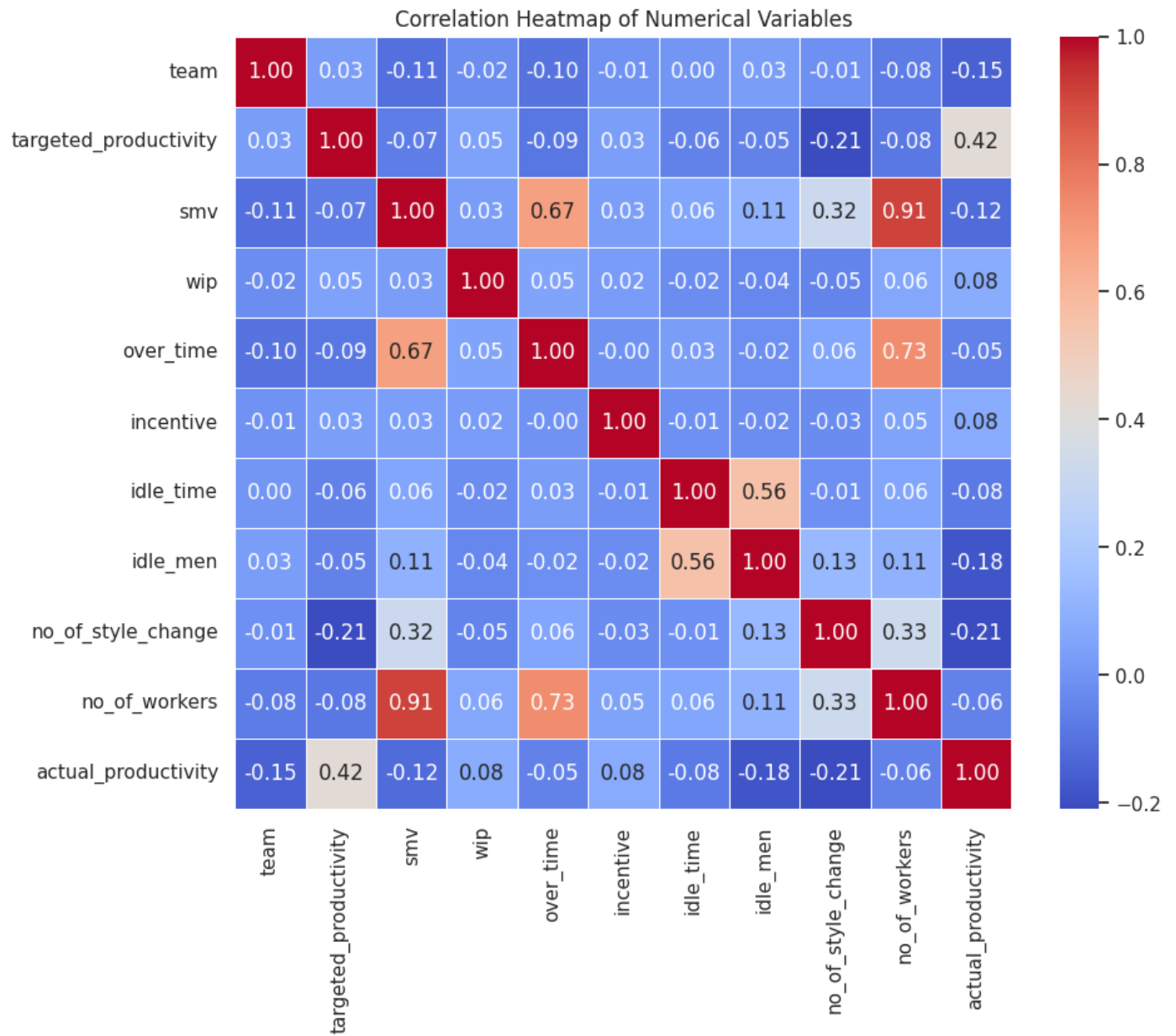


## Appendix: Additional Visualizations



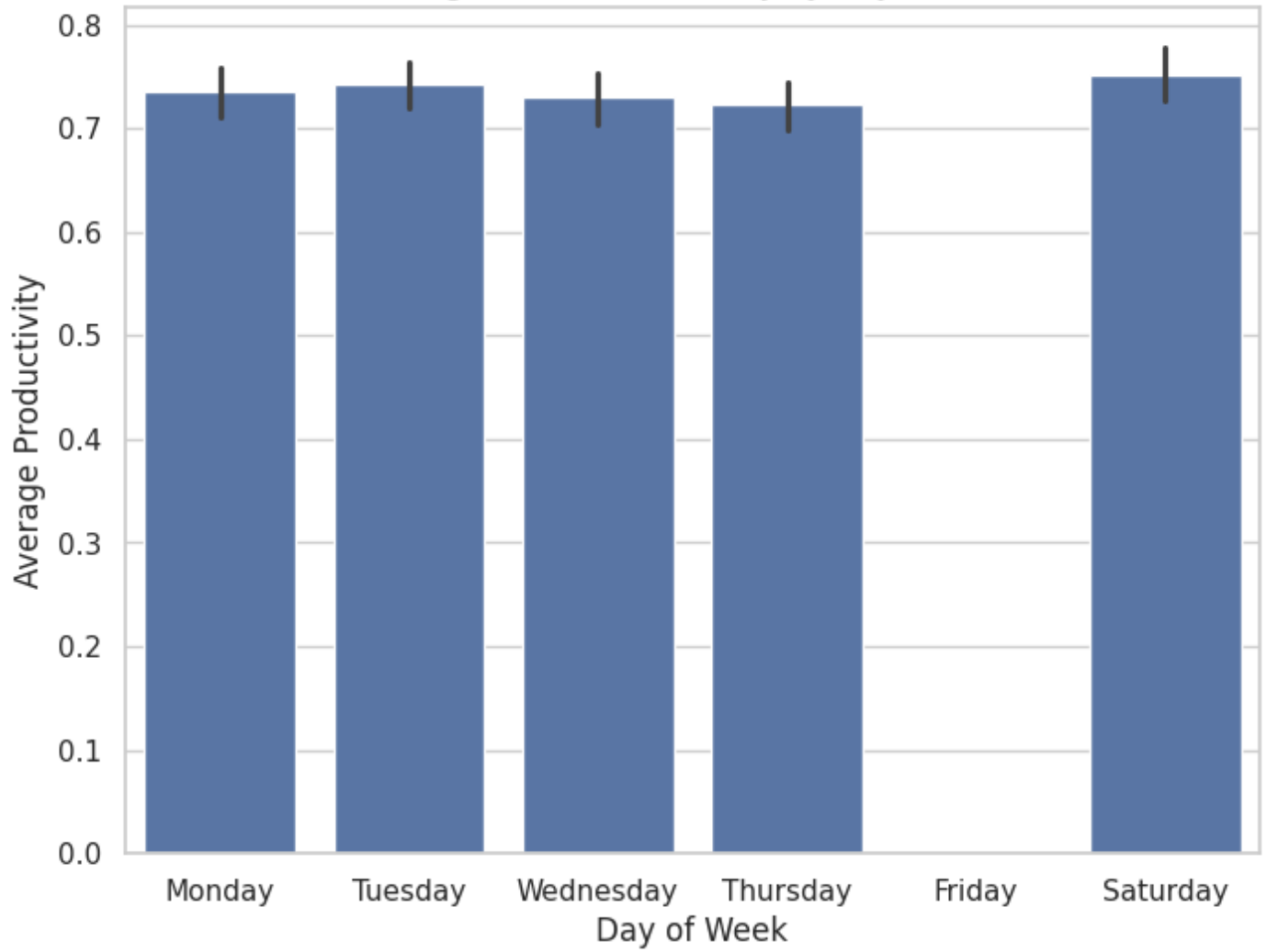
Effect of Incentives on Productivity







Average Actual Productivity by Day of Week



Average Actual Productivity by Quarter

