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Final Project Visualizations for St. John's Landscaping company

Broader Goal of the company

The broader goal is to find the scope of improvement of the company from the user satisfaction perspective, keeping customers happy is the key to company success then to observe the Profits share across various areas to analyze and decide the areas requiring cost tweaking and to observe the performance of timely delivery and trying to see where more time is being spent and if it can be reduced.

Sub-Goals

How is this improvement possible?

- First, we will explore the satisfaction levels for the company based on the customer ratings for the Job performed and work on improving it.
- Then we will explore the customer satisfaction for the 5 highly paid workers and see if there is a scope of improvement in their job areas where they can improve?
- We will analyze profit margins across different areas based on different situations using interactive plot.
- We will analyze the area where most time is being spent to get a job done across different months.

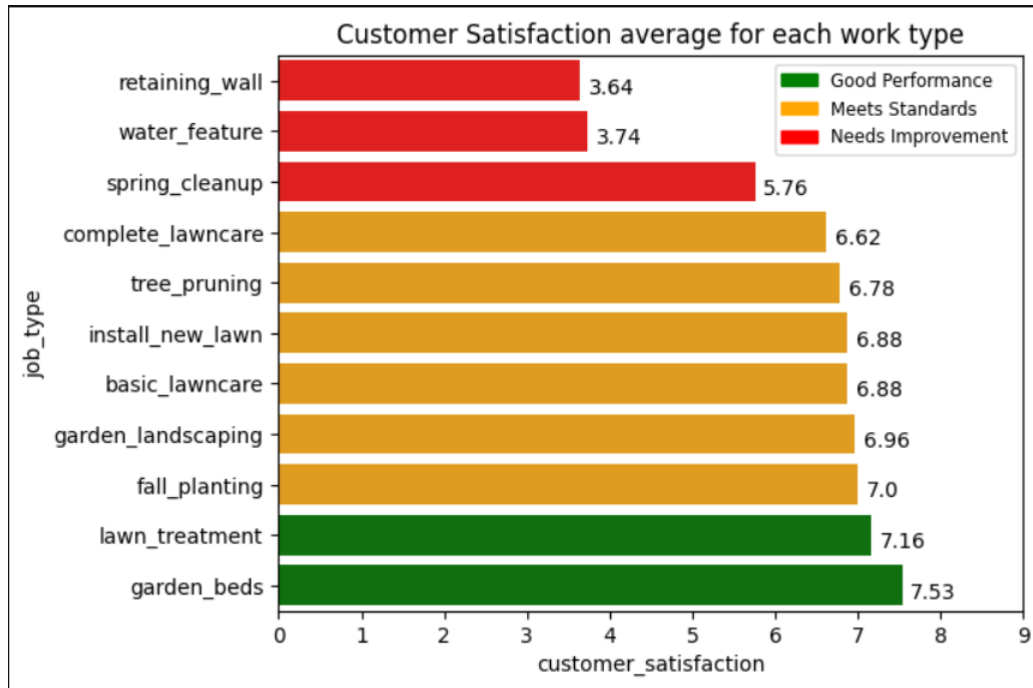
Visualizations

1. Explanatory Visualization - Horizontal Bar Plot

The below visualization describes the Average customer satisfaction for each work type. From the bar chart we can see tasks like water feature and retaining wall have very less customer satisfaction levels; these areas need an improvement to improve the company reputation.

Have represented each of them into 3 classification classes based on the performance.

Ratings above 7 are classified into good category and below 6 needs a performance review.

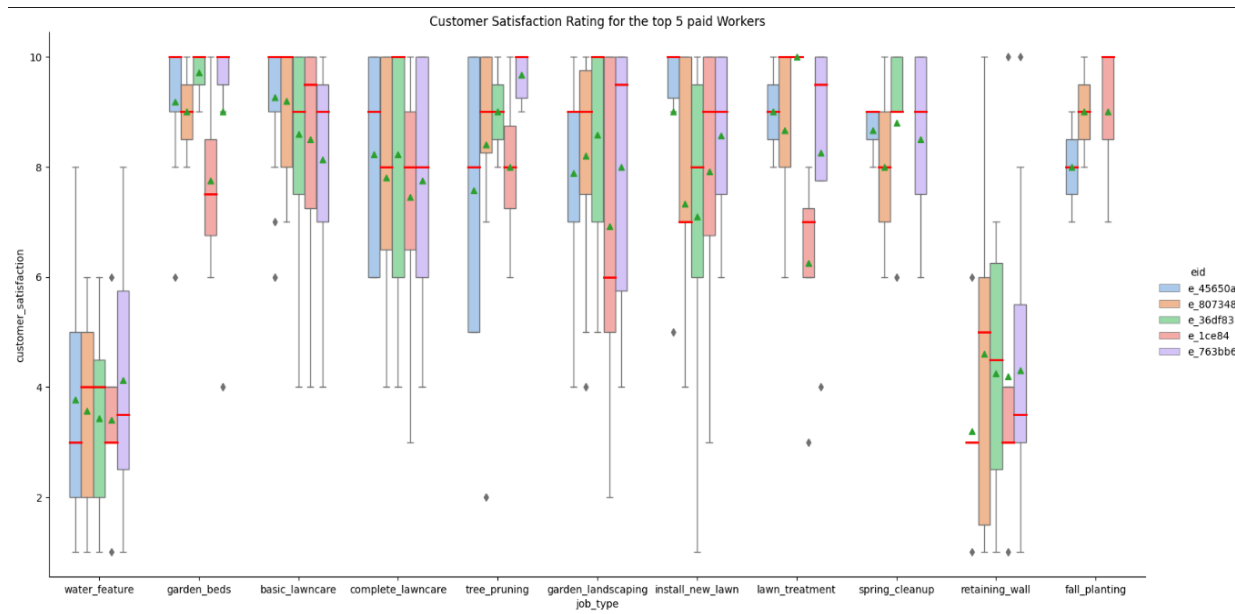


2. Exploratory Visualization – Box Plots

The below box plot visualization shows the performance metrics of its highly paid employees grouped categorically with wages > \$22/hour for every work item.

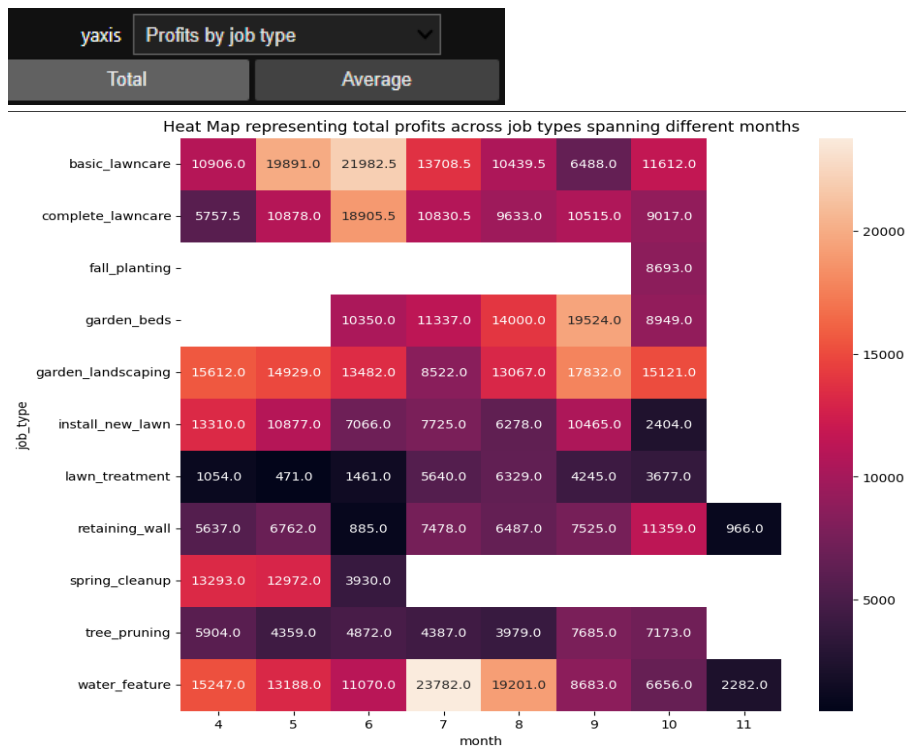
1) This will help the company to explore the skills where each employee is lacking and the tasks where the employee can see a scope for improvement. For ex: the low paid employee performs better than the highest paid employee in tree pruning by observing their medians in the box plots.

2) This metrics will help the company decide which tasks need to be allocated to which employee to maximize the profits and improve the company reputation. This data is extracted from the Calendar and employee datasets.

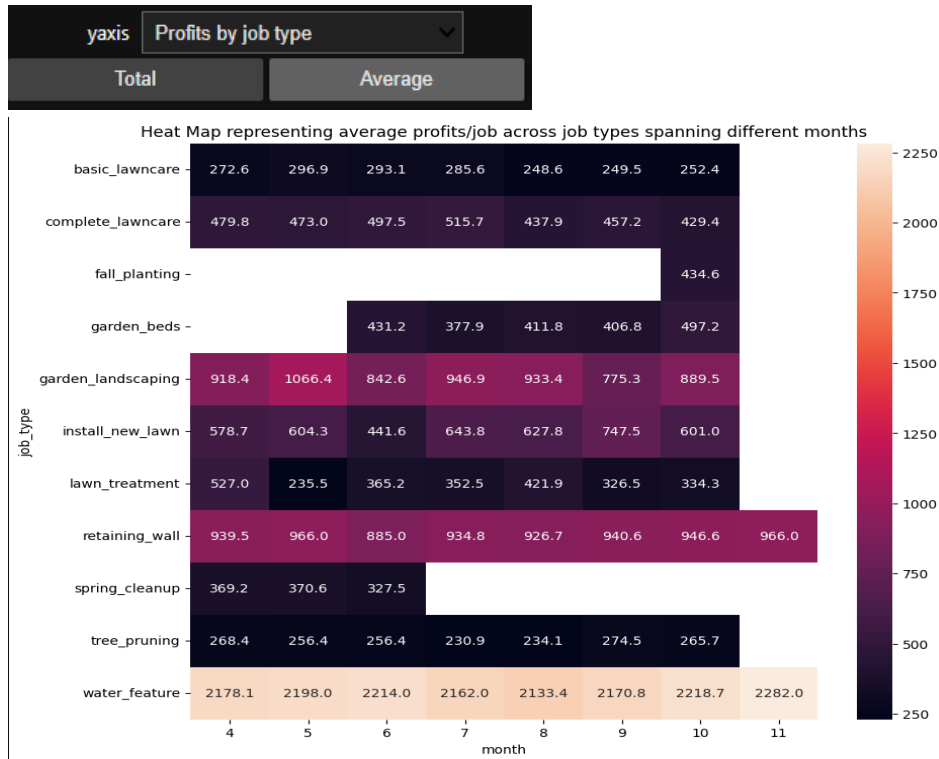


Vizualization 2

3. Exploratory Visualization - Interactive Heatmap



Vizualization 3 Fig.1



Visualization 3 Fig.2



Visualization 3 Fig.3

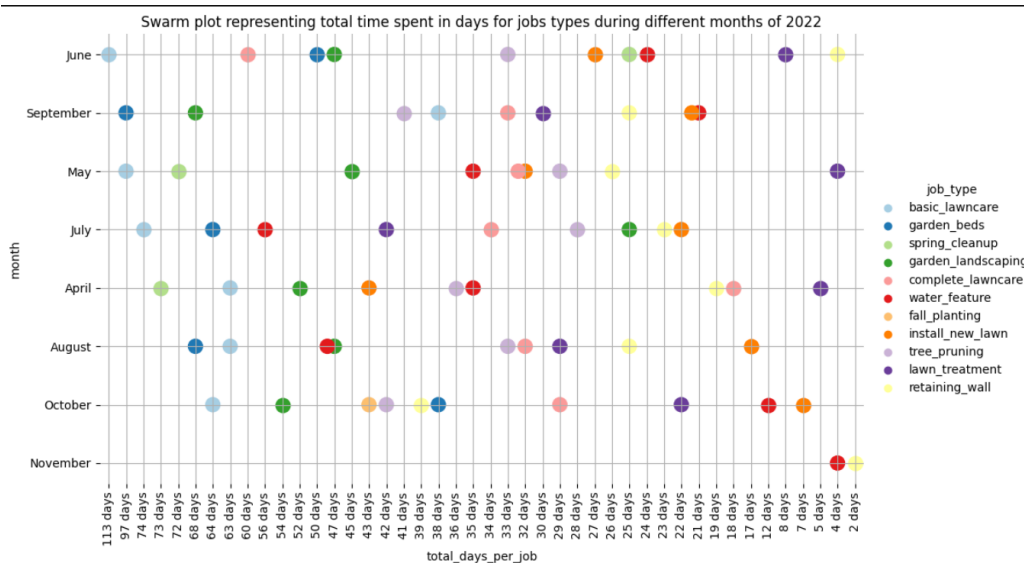
Shown above are few interactive scenarios of the single heatmap visualization representing the total/average profit margins across different job types for different parameters. \

Some of them are:

- 1) Heat Map representing total/Average profits across job types spanning different months. This will help company explore the trends of months when business is best
- 2) Heat Map representing total/Average profits across job types spanning top 10 paying customers. This will give insights on the spending habits of the clients.
- 3) Heat Map representing total/Average profits across job types spanning different postal codes. This will give insights on the spending habits of the clients from different areas.
- 4) Heat Map representing total profits across job types among satisfied/unsatisfied customers. This will give insights on whether satisfaction impacts profit margins anyhow.

Above are the 8 scenarios that can be handled by the single interactive plot.

4. Visualization that contains derived data types.



Visualization 4

The above swarmplot displays the total time/effort taken in days spent by the employees to execute jobs from a particular jobtype across different months.

This will help the company to find out any discrepancy in any work taking place and if anything seems out of the ordinary.