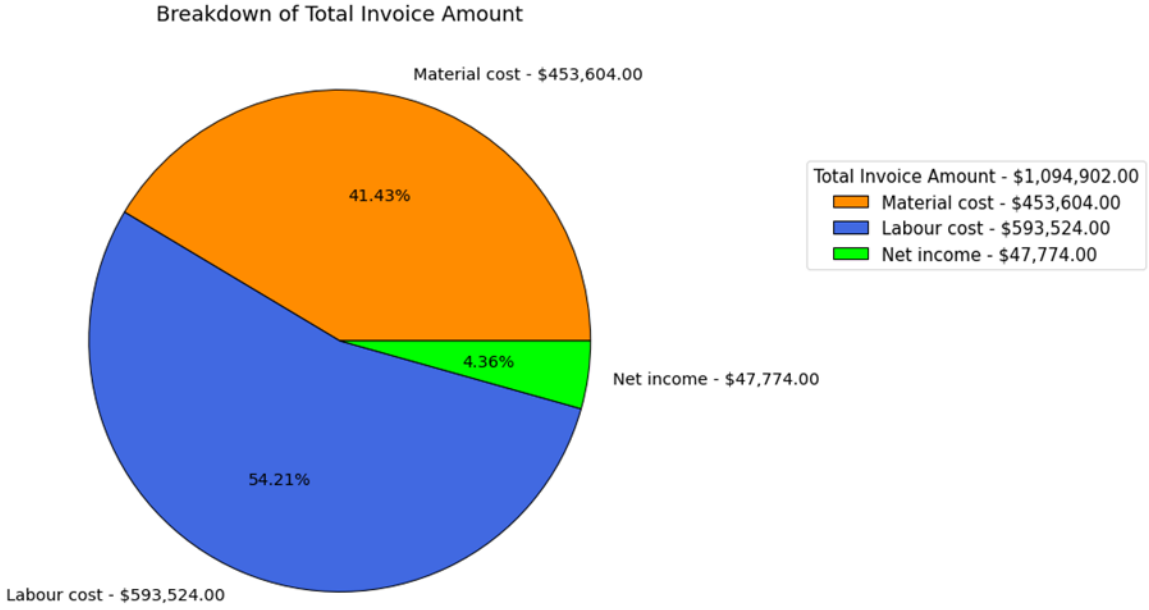
COMP 6934 – Project
Arun Prasadh K – 202095286

Given the data on a landscaping company, our main goal was to identify possible areas of improvement for the Company. This could be in terms of revenue, customer satisfaction, or time taken to complete certain jobs.

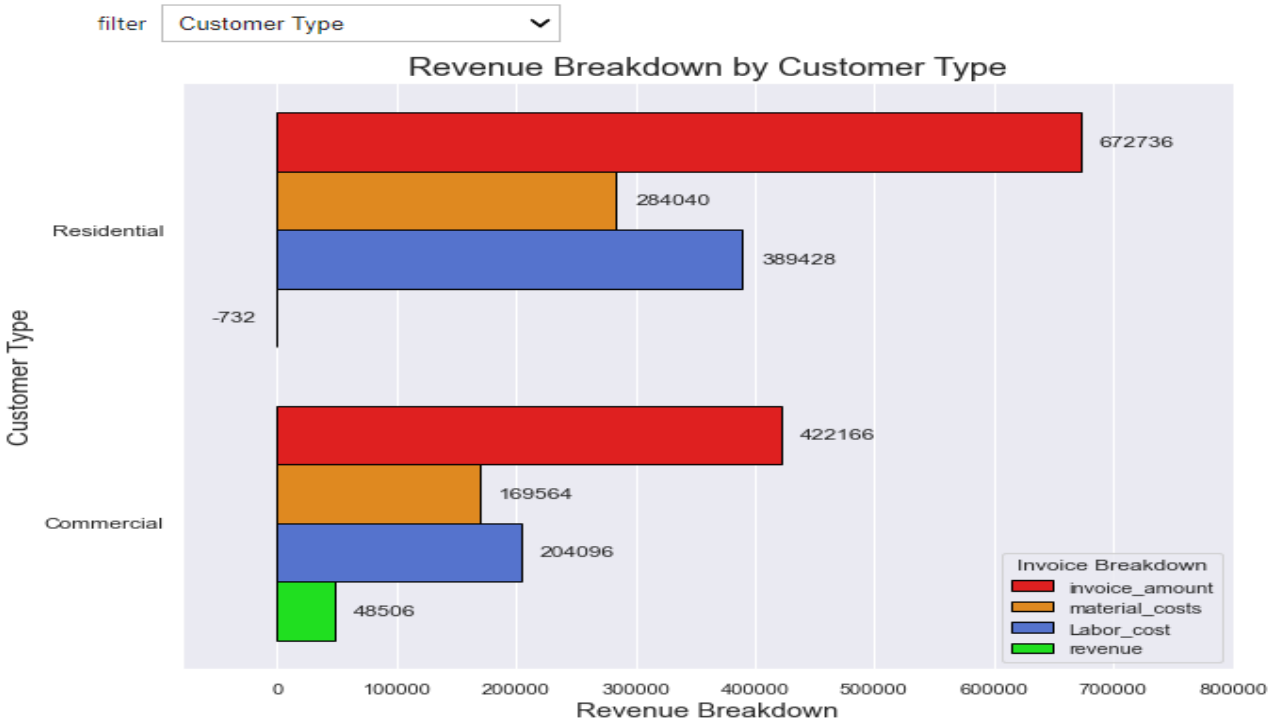
To achieve this broke down the analysis below

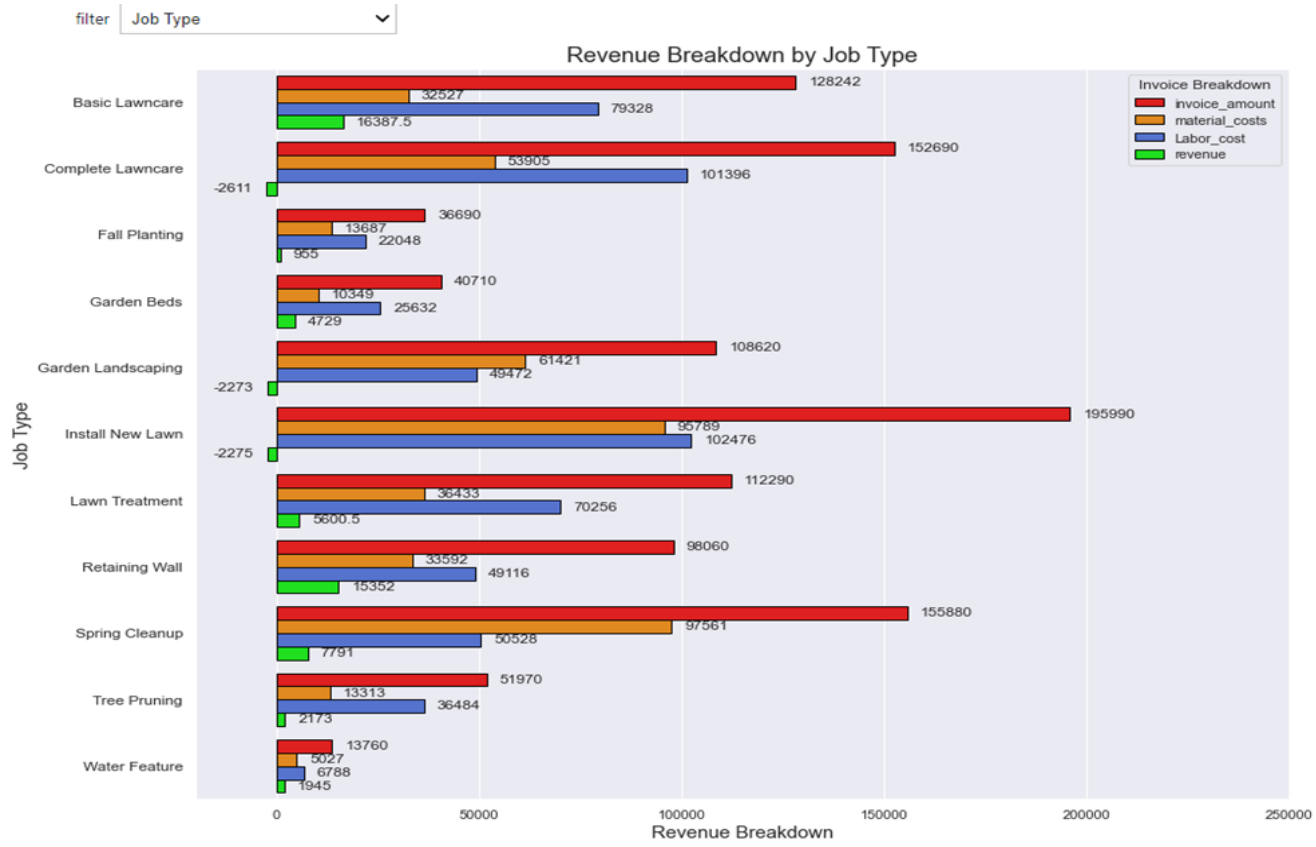
- Understanding the revenue breakdown and establishing if there is a pattern.
- Evaluating if the Company is utilizing all its resources judicially, including the lead time between the requested date and completion date, and employee work schedules.
- Exploring the potential correlation between customer satisfaction, lead time, and geographic location.

To begin with, we need to understand the revenue breakdown for the Company. An explanatory pie plot that depicts the current percentage/amount of revenue and costs based on the invoice amount can provide insight into the Company's financials. The pie plot shows that the Company makes just over 4% of the overall invoice amount. The takeaway from this plot is how slim the margins are currently, which leads us to our next plot.



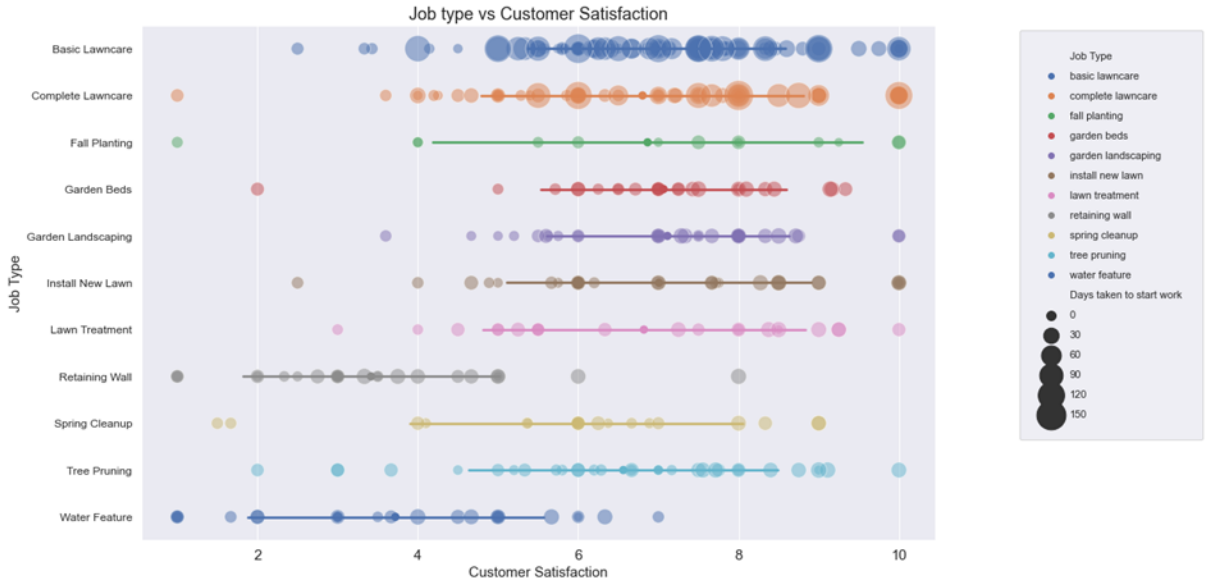
We need to break down the revenue by customer and job type to see if there is a way to reduce expenses, either on material or labor costs. The interactive element here is a drop-down that lets the user select the expense breakdown based on customer type (residential/commercial) or job type (11 categories).



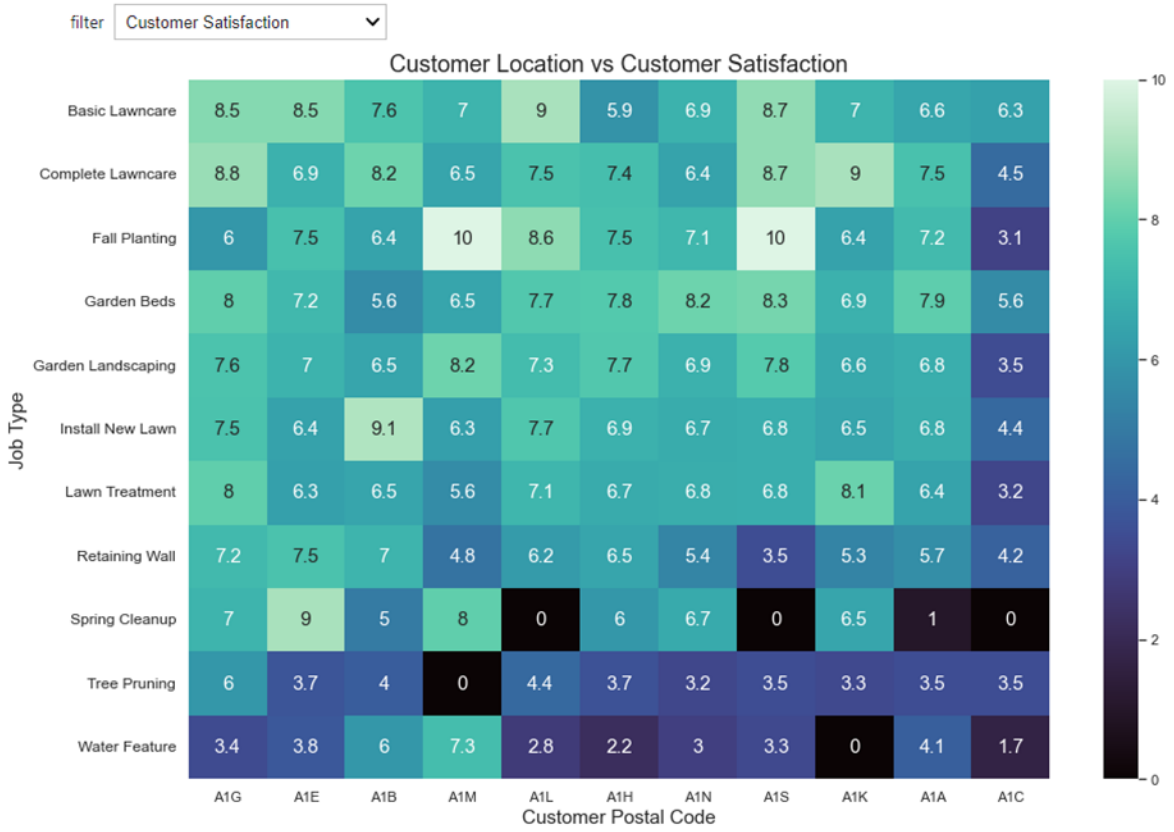


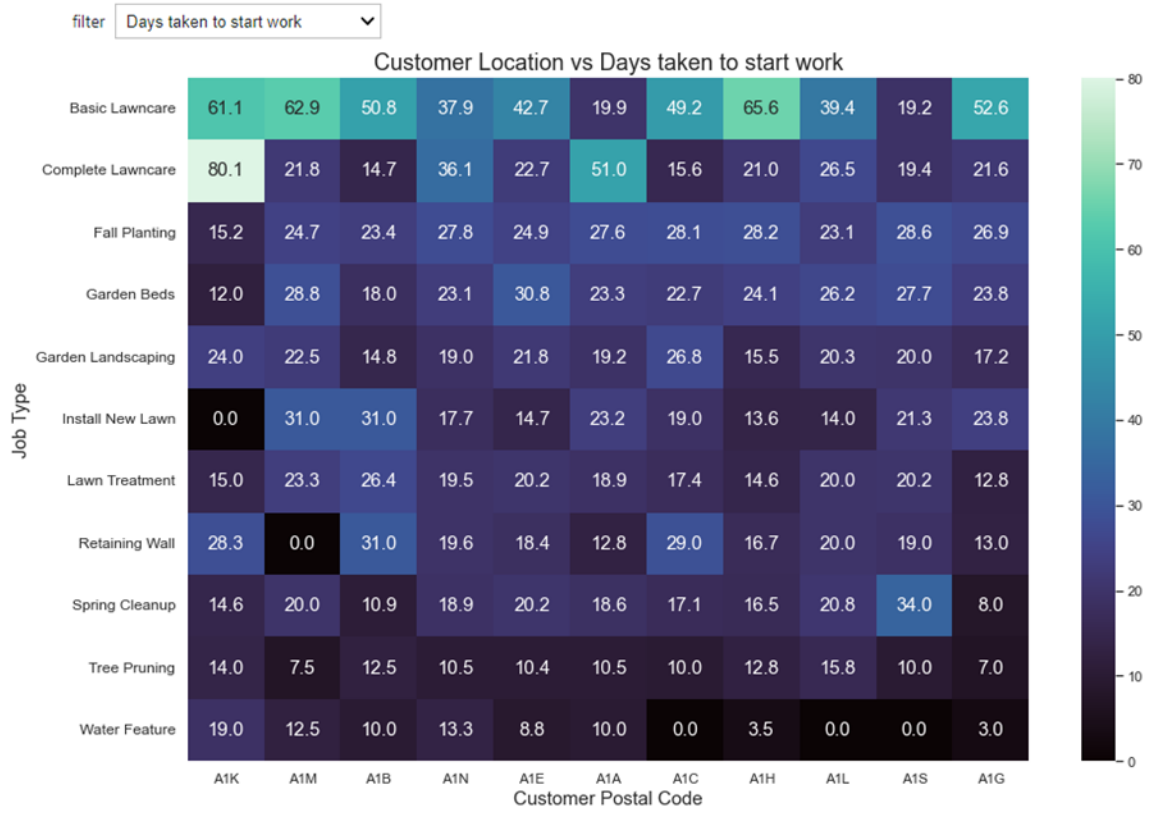
These graphs show us that the company is losing money by doing residential jobs and there are at least 3 job types (complete lawn care, garden landscaping, and installing new lawn) that are also loss generators. The company can decide if they want to continue with these revenue streams and if so, what steps can they take to turn them into revenue generators.

Moving forward, we investigate whether the time taken to start the job affects customer satisfaction. To achieve this, we can use an exploratory scatterplot that shows the distribution of customer ratings across various types of jobs. The time taken to start a job from the date of request is represented based on the size of the marker. This aims to provide insights into how better the schedule/utilization of employees can be managed and why certain jobs are started in a short duration while others take a longer time to start. A point plot is used to show the standard deviation of the customer rating.



Finally, we investigate if the geographical location of the customer affects their satisfaction or the lead time. A heatmap is used to establish if there is an underlying pattern to the geographical location of the customer and their satisfaction rating. Additionally, we can compare the mean of the time taken to start the work based on the geographical location of the customer.





In conclusion, understanding the revenue breakdown, evaluating resource utilization, and exploring customer satisfaction, lead time, and geographic location can all provide insight into possible areas of improvement for the Company. Through this analysis the Company can make informed decisions to increase revenue streams, reduce expenses, and improve customer satisfaction.