Pricing Strategy Analysis: Evaluating Competitiveness and Cost Trends of Digihaul

Abstract:

This analysis examines the pricing strategy of Digihaul, a transportation service provider, by analyzing cost trends and comparing them with competitor rates. The study spans several weeks and aims to evaluate the competitiveness of Digihaul's pricing strategy and identify key insights and trends. By conducting a comprehensive cost-rate analysis, this study provides valuable insights into Digihaul's pricing performance and its ability to attract and retain customers in a competitive market. The findings of this analysis contribute to a deeper understanding of pricing dynamics and offer strategic implications for Digihaul's future pricing strategies.

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GitHub Link: click_to_open

Introduction:

In today's dynamic and competitive business environment, understanding pricing strategies and their impact on market competitiveness is crucial for any company's success. This analysis delves into the pricing dynamics of Digihaul, a transportation service provider, to evaluate their cost trends and compare them with competitor rates over a span of several weeks. By examining the historical data and conducting a comprehensive cost-rate analysis, this study aims to shed light on the competitiveness of Digihaul's pricing strategy and identify any notable insights or trends that could offer strategic advantages. Through this analysis, we seek to provide valuable insights into Digihaul's pricing performance and draw conclusions on their ability to attract and retain customers in an increasingly competitive market.

Steps involved in the analysis:

➢ Exploratory Data Analysis (EDA):
  Calculate summary statistics, such as mean, median, minimum, maximum, and standard deviation, for competitor rates and Digihaul costs. Examine the distribution of rates and costs.

➢ Compare Competitor's Rates and Digihaul's Costs:
  Calculate the difference between competitor rates and Digihaul costs for each lane and week. Analyze the differences to understand how Digihaul's costs compare to the competitor's rates.

➢ Identify Factors Influencing Competitor's Pricing:
  Explore the relationship between competitor rates and other variables, such as Total Loads or lead time. Analyze any trends or patterns in competitor rates based on different factors or combinations of factors.

➢ Visualize Trends and Insights:
  Create visualizations, such as line charts, bar plots, or heatmaps, to showcase trends in rates/costs over time or across regions. Highlight any notable insights or observations from the data.

Exploratory Data Analysis (EDA):

Based on the exploratory data analysis, the following findings and insights can be highlighted:

Competitor Rates Summary Statistics:

The mean rates for competitor services range from approximately 411 to 471 across different lead times (24h, 48h, 72h, and 96h). The rates show relatively low standard deviations, indicating consistency in competitor pricing. The minimum and maximum rates vary depending on the lead time, with the highest rates exceeding 800.

Digihaul Costs Summary Statistics:

Digihaul's average costs are higher than the competitor rates, with a mean cost of approximately 520. The standard deviation suggests some variability in Digihaul's costs. The cost distribution ranges from around 270 to 820, indicating a broader range compared to competitor rates.
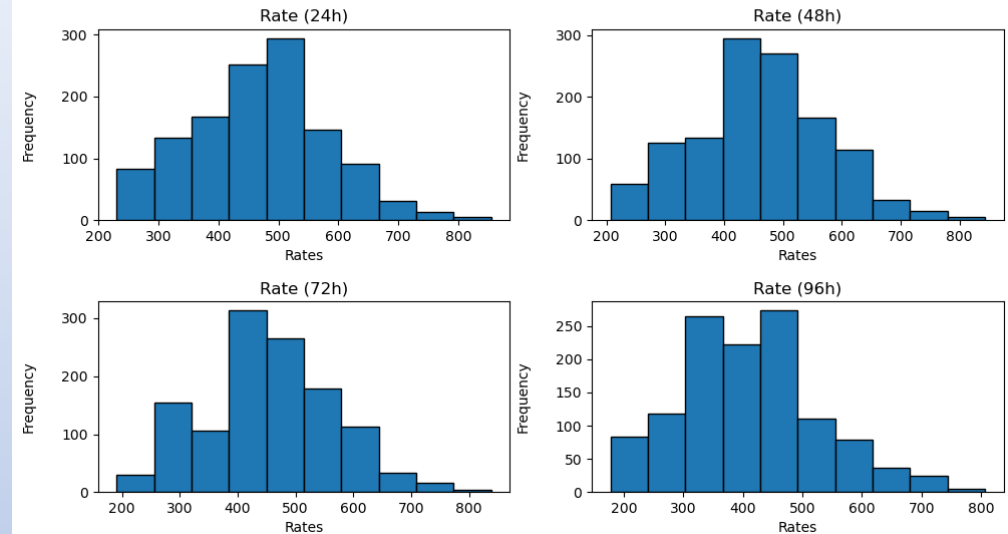
Distribution of Competitor Rates:

The distribution of competitor rates shows peaks at specific rates for each lead time. For 24h, 48h, and 72h lead times, the most frequent rate is around 450, while for 96h lead time, both 350 and 450 rates have similar frequencies.
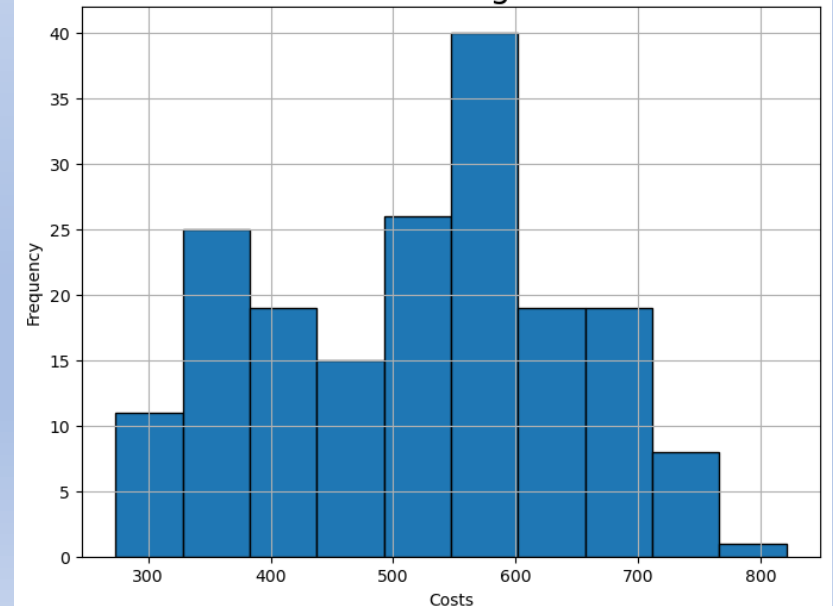
Distribution of Digihaul Costs:

Digihaul's cost distribution exhibits three prominent peaks at approximately 350, 500, and 550. The frequencies of these cost peaks vary, with the highest frequency observed at the 550 cost level.

Distribution of Competitor Rates

Distribution of Digihaul Costs

Outliers:

Outliers were identified in the competitor rates dataset but not in the Digihaul costs dataset. The outliers in competitor rates show higher rates compared to the majority of observations, potentially indicating special circumstances or premium services.

Insights and Explanations:

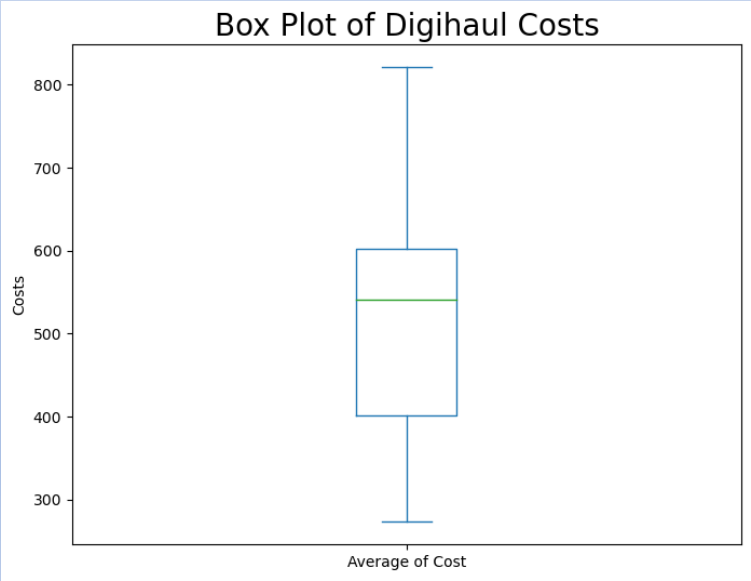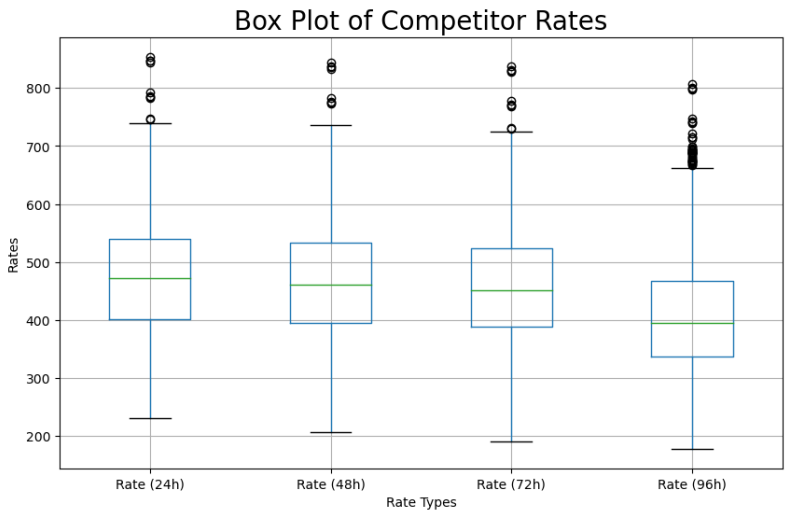### Comparing Competitor Rates and Digihaul Costs:

Digihaul's costs are generally higher than the competitor rates, suggesting that Digihaul may be charging a premium for its services or offering additional value compared to competitors. The absence of outliers in Digihaul's costs indicates that their pricing strategy is consistent and does not have extreme pricing variations. Digihaul's costs have multiple peaks, indicating that they offer different pricing tiers or packages to cater to various customer needs.

Factors Influencing Competitor's Pricing:

Further analysis is required to explore the relationship between competitor rates and variables like total loads or lead time to understand the factors influencing pricing more comprehensively. By examining the trends or patterns in competitor rates based on different factors or combinations of factors (e.g., region or week number), additional insights can be gained to explain the variations in pricing.

Recommendations:

Digihaul should leverage its competitive advantage and unique value proposition to justify its higher costs compared to competitors. It could highlight specific features or benefits that differentiate its services and justify the premium pricing. Digihaul could also consider optimizing its pricing strategy based on customer preferences, as indicated by the distribution of competitor rates and the presence of different cost peaks in Digihaul's data. These findings provide valuable insights into the pricing landscape and opportunities for Digihaul to position itself effectively in the market.

Box Plot of Competitor Rates

Box Plot of Digihaul Costs

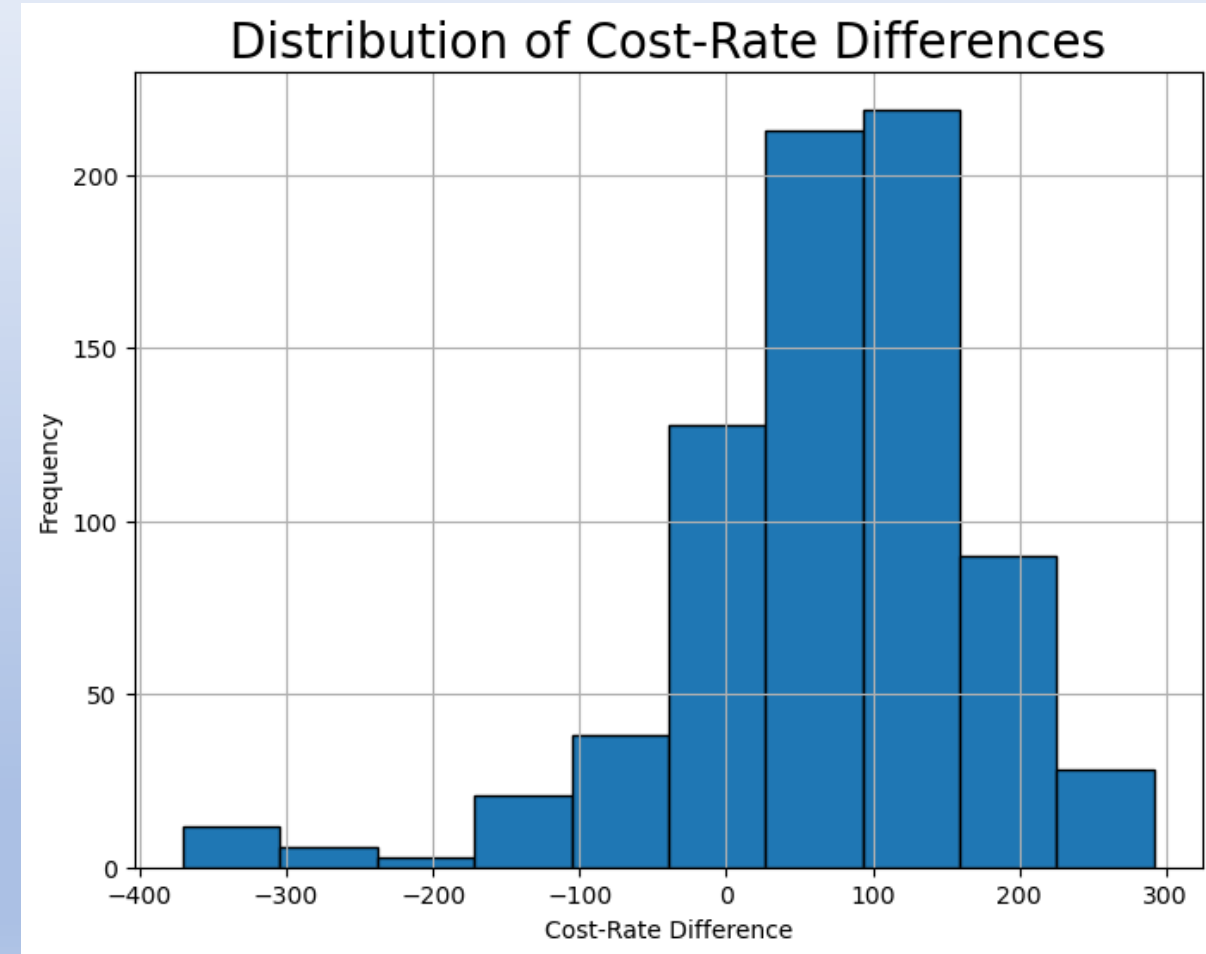# Compare Competitor's Rates and Digihaul's Costs:

The analysis reveals several important findings when comparing Competitor's Rates and Digihaul's Costs:

Difference between Digihaul Costs and Competitor Rates:

The average difference between Digihaul's Costs and Competitor's Rates is approximately £66.44. The standard deviation of the difference is £103.05, indicating a relatively wide range of variations. The minimum difference observed is -£370.49, indicating instances where Digihaul's costs are lower than Competitor's Rates. The maximum difference observed is £291.77, indicating instances where Competitor's Rates are higher than Digihaul's Costs.

Distribution of Cost-Rate Difference:

The distribution of the Cost-Rate difference shows three distinct peaks. The first peak occurs at a difference of 0, which suggests instances where Digihaul's Costs and Competitor's Rates are equal. This peak has a frequency of 125. The second peak occurs at a difference of £50, indicating cases where Digihaul's Costs are higher than Competitor's Rates. This peak has a frequency of 240. The third peak occurs at a difference of £125, indicating instances where Competitor's Rates are higher than Digihaul's Costs. This peak has a frequency of 250.

Distribution of Cost-Rate Differences

Distribution of Competitor Rates and Digihaul Cost:

Among the competitor rates, the peak frequency of 300 is observed for the rate of £425 when considering a lead time of 24 hours. Regarding Digihaul's costs, the peak frequency of 25 is observed for the cost of £550, followed by a second peak of 26 for the cost of £500 and a third peak of 40 for the cost of £550.

Insights:

The average difference between Digihaul's Costs and Competitor's Rates suggests that, on average, Digihaul tends to offer slightly lower rates compared to its competitors. The wide range of variations in the Cost-Rate difference indicates that there are cases where Digihaul's Costs significantly differ from Competitor's Rates. This suggests potential opportunities for negotiation and cost optimization. The presence of multiple peaks in the Cost-Rate difference distribution indicates distinct patterns in pricing strategies. These variations could be influenced by factors such as lead time, lane area, or specific market dynamics. The observed peaks in competitor rates and Digihaul's costs highlight preferred pricing points for both parties. Understanding these peaks can aid in identifying competitive advantages or areas for improvement. The absence of outliers in Digihaul's costs suggests that the company's pricing is generally consistent and does not exhibit extreme deviations. Overall, these findings emphasize the importance of carefully analyzing and comparing Digihaul's Costs with Competitor's Rates. It provides insights into Digihaul's pricing competitiveness, potential negotiation opportunities, and areas for optimizing costs to enhance market competitiveness.

Distribution of Competitor Rates and Digihaul Costs
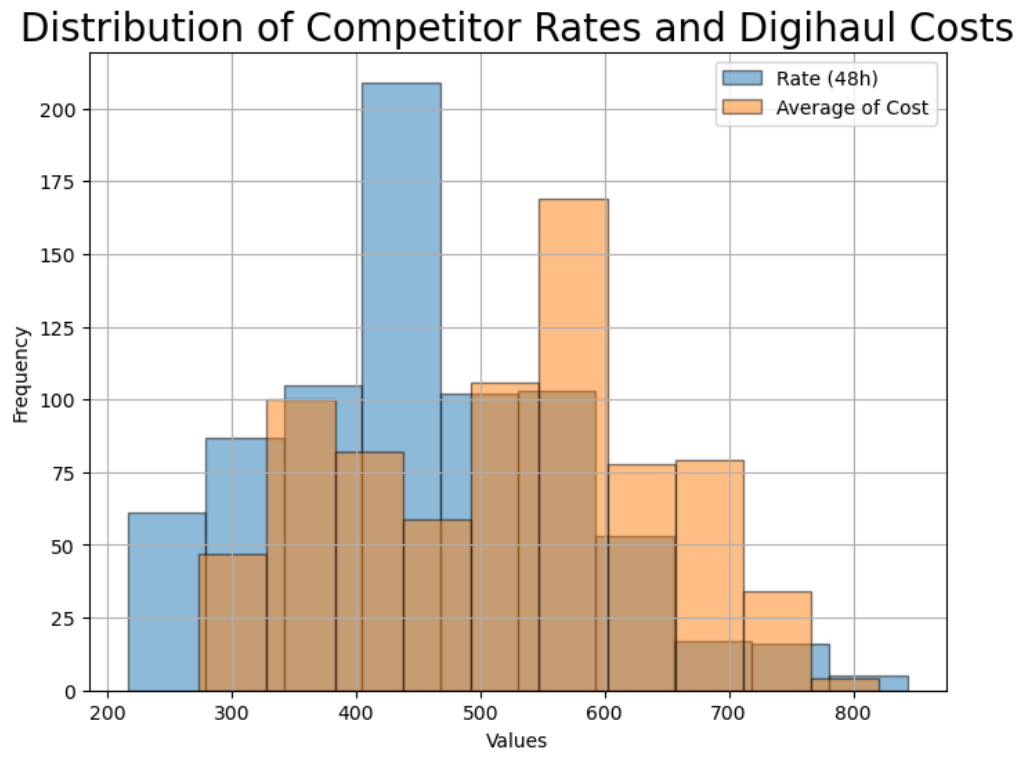
Identify Factors Influencing Competitor's Pricing:

Based on the provided information, here are the findings regarding factors influencing Competitor's pricing:

## Competitor Rates vs. Total Loads:

Most of the rates are concentrated between 10 to 100 total loads. Rates for total loads below 100 range from 200 to beyond 800. Total loads above 100 are priced between 300 and 650.

Insights: The concentration of rates between 10 to 100 total loads suggests that there might be a preferred range of loads for which competitors offer specific pricing. The higher rates for total loads below 100 may indicate that there are certain fixed costs or minimum thresholds that impact pricing decisions. The relatively narrower range of rates for total loads above 100 suggests a more standardized pricing approach.

Correlation Matrix:

The correlation coefficients between Total Loads and different lead time rates (24h, 48h, 72h, and 96h) are all very low, ranging from 0.010770 to 0.017123.

Insights: The low correlation between Total Loads and lead time rates indicates that the number of loads does not strongly influence the pricing decisions made by competitors. Other factors beyond Total Loads, such as distance, destination, service level, or market conditions, might have a more significant impact on pricing.

Competitor Rates vs. Total Loads
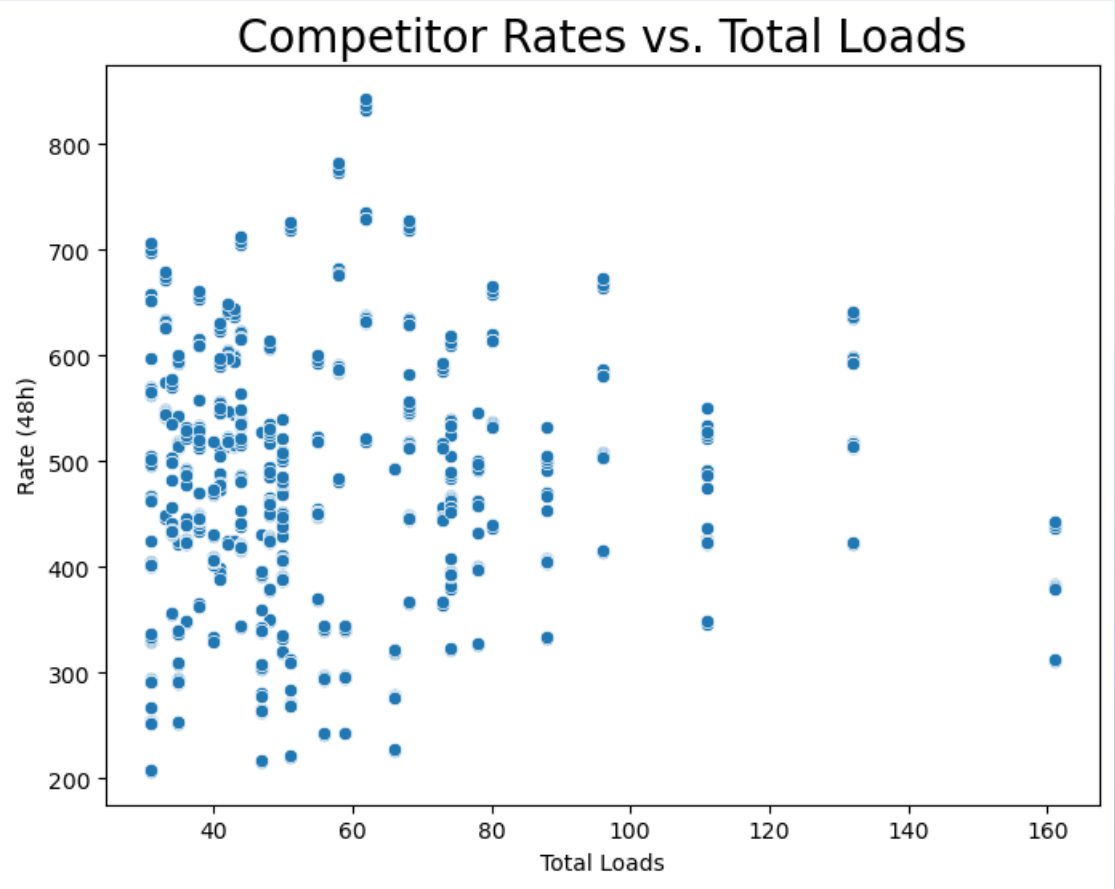
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Correlation Matrix:
              Total Loads   Rate (24h)   Rate (48h)   Rate (72h)   Rate (96h)
Total Loads      1.000000     0.016481     0.017123     0.015642     0.010770
Rate (24h)       0.016481     1.000000     0.991402     0.980440     0.961825
Rate (48h)       0.017123     0.991402     1.000000     0.993070     0.969683
Rate (72h)       0.015642     0.980440     0.993070     1.000000     0.971762
Rate (96h)       0.010770     0.961825     0.969683     0.971762     1.000000
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Competitor Rates Variation Across Regions:

The postcode DN1 1AB has a large number of deliveries with rates ranging from 200 to beyond 800. Postcodes CA1 1AA and DG1 1AA have fewer deliveries, with rates mostly up to 600. DN and CA postcodes are located in the North of England, while DG is located in Scotland.

Insights: The concentration of deliveries in specific postcodes suggests that regional factors play a role in determining pricing. Differences in transportation costs, market demand, or competition in different regions might influence the rates set by competitors.

Competitor Rates Variation Over Time:

For lead times of 24h, 48h, 72h, and 96h, the rates show similar trends over time. The rates generally increase or remain stable with some fluctuations during specific weeks.

Insights: The overall increasing trend in rates over time suggests inflationary pressures or changing market dynamics. Stable rates during certain weeks might indicate relatively consistent market conditions or pricing strategies. The increases in rates during specific weeks might be influenced by factors such as peak demand, supply chain disruptions, or changes in operating costs.

Overall, these findings indicate that competitor pricing decisions are influenced by various factors. While total loads, as a standalone factor, do not strongly correlate with rates, other factors such as regional considerations, market dynamics, lead time, and time-dependent factors can play significant roles in determining pricing strategies.
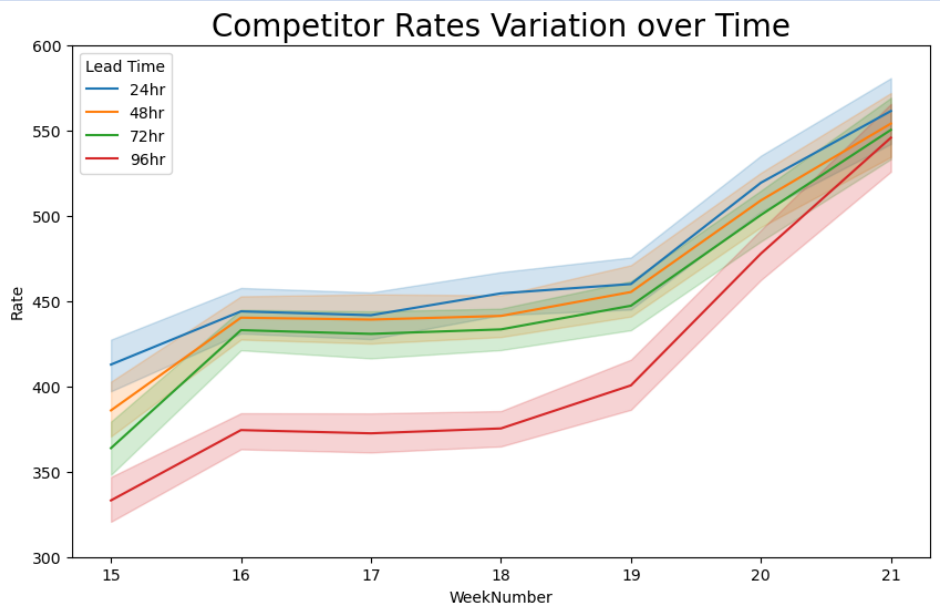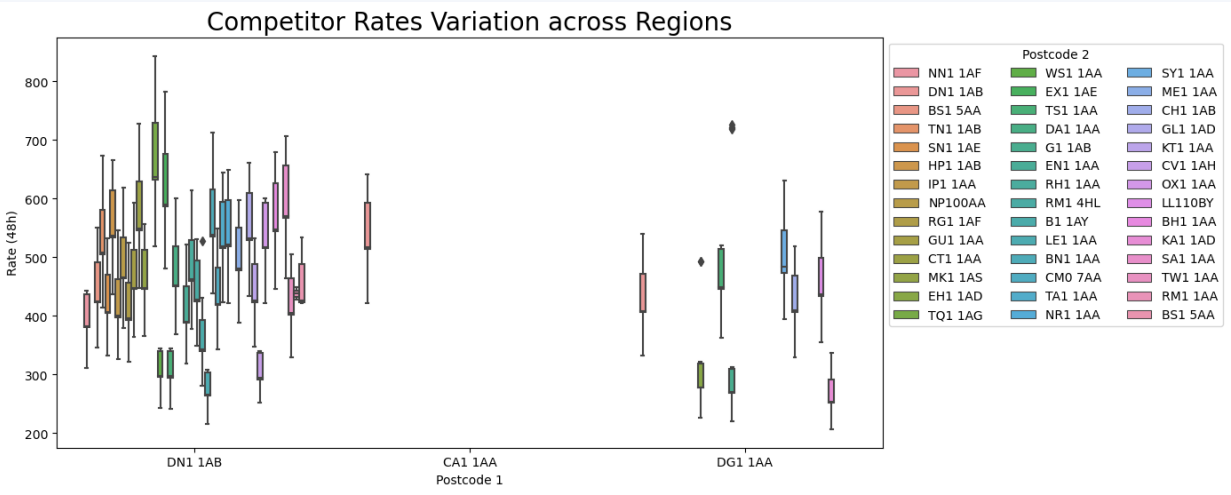
Visualize Trends and Insights:

Based on the provided data, here is a visualization of the trends and insights:

Comparison of Digihaul Costs and Competitor Rates over Time:
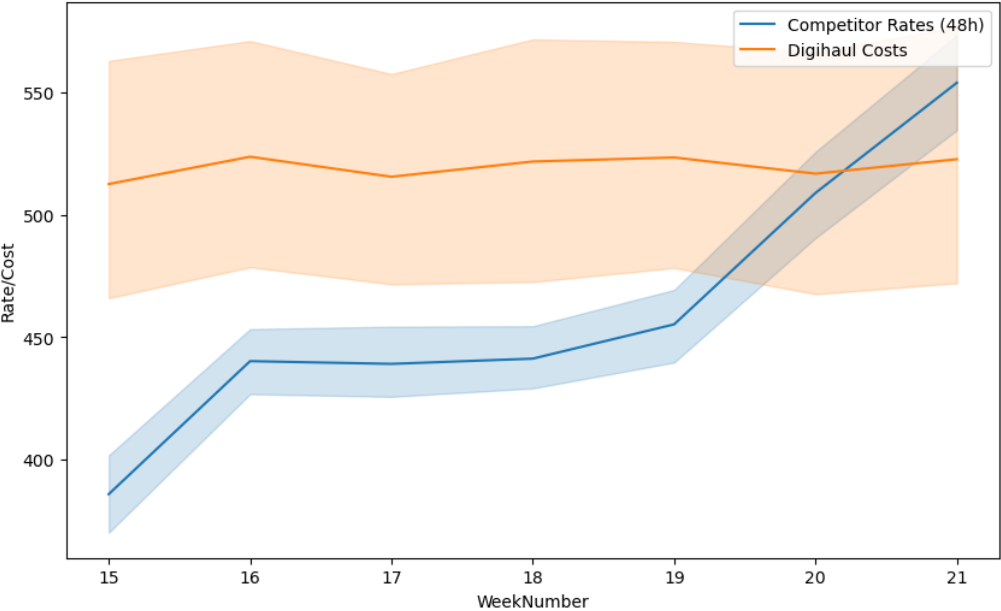
For the competitor rates with a 48-hour lead time, there is an increase from 380 to 445 from week 15 to 16. The rates remain stable from weeks 16 to 18. There is another increase from 445 to 450 in week 18 to 19. Finally, there is a significant increase to 545 from weeks 19 to 21. For Digihaul costs, there is an increase from 515 in week 15 to 525 in week 16. The cost then decreases to 515 in week 17 and slightly increases to 520 until week 19. There is a decrease to 515 in week 20 and then a gradual increase to 520 in week 21.
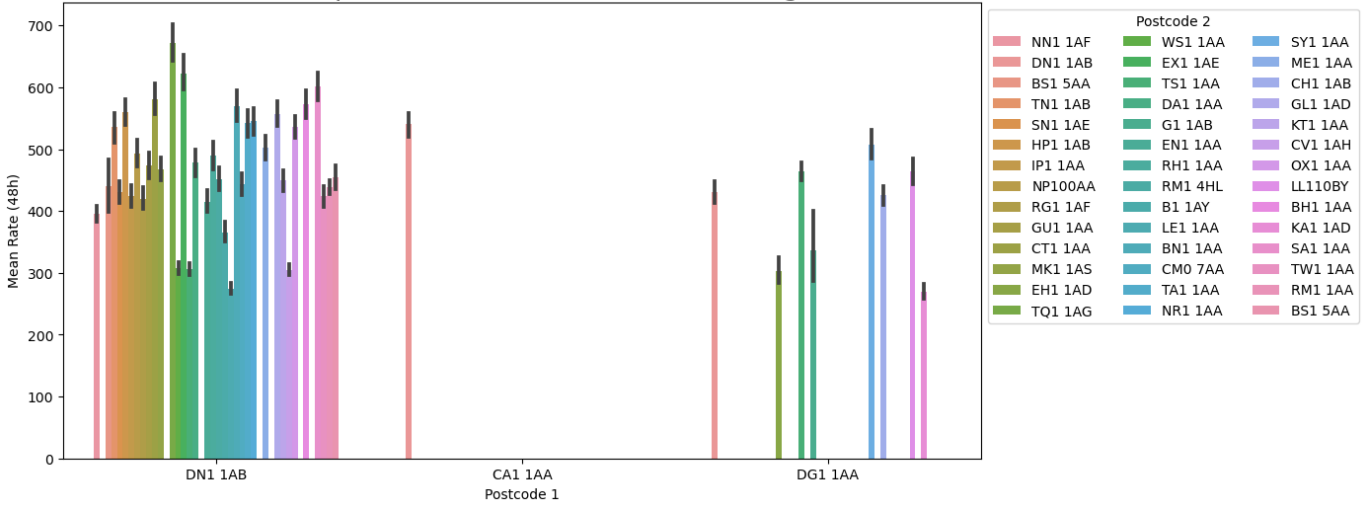
Difference between Digihaul Costs and Competitor Rates (48h) by Lane/Area and WeekNumber:

The heatmap shows the areas where Digihaul costs are significantly higher than the competitor rates. In the starting weeks, the areas with higher costs include DN-BS, DN-CM, DN-CT, DN-DA, DN-GU, DN-RG, DN-RH, DN-RM, DN-SM, and DN-TQ. However, in weeks 20 and 21, these costs are significantly reduced, and some even go into the negative, indicating that Digihaul costs are lower than the competitor rates.

Notable Insights:

The lanes/areas with significant cost-rate differences are listed along with the corresponding week numbers. The cost-rate differences vary across different lanes/areas and weeks, indicating fluctuations in pricing dynamics. These insights can help identify specific areas where Digihaul costs are higher or lower than the competitor rates, allowing for further analysis and potential optimization strategies.

Difference between Digihaul Costs and Competitor Rates (48h) by Lane/Area and WeekNumber

Lane/Area	15	16	17	18	19	20	21
CA-DN				-244.95	-206.27	-314.24	-361.95
DG-DN	-24.49	-22.02	-58.52	-51.11	-71.50	-110.27	-103.97
DG-EH	139.32	144.90	5.38	106.41	105.59	106.58	44.99
DG-G	92.11	14.64	30.77	73.01	35.98	47.31	-365.23
DN-B	-8.87		66.76	40.75	-43.47	-43.06	-20.06
DN-BN	134.72	124.95	144.94	148.66	117.18	18.54	-3.36
DN-BS	202.31	118.66	103.70	103.53	149.04	11.36	76.89
DN-CM	173.91	131.29	167.92	133.67	214.13	50.28	
DN-CT	252.82	144.47	36.29	33.49	63.39	24.59	14.39
DN-DA	137.99	248.25	137.88	168.89	106.73	85.84	-13.04
DN-EN	155.40	121.67	143.01	185.06	39.13	3.19	118.51
DN-EX	156.67	161.26	113.38	158.96	88.50	21.65	-32.32
DN-GU	263.57	64.80	161.00	130.44	135.95	64.72	51.70
DN-HP	34.02	17.40	39.20	4.00	-45.70	-137.99	-141.31
DN-IP	136.52	114.91	100.55	20.56	75.30	-49.73	33.36
DN-LE	154.22	78.44	95.99	108.15	44.76	73.76	65.43
DN-MK	45.00	-34.90	45.34	61.13	-12.78	35.35	-133.87
DN-NN	87.82	53.71	101.79	165.59	152.59	58.85	-37.32
DN-NP	177.11	1.79	68.71	-17.03	83.77	45.69	-39.92
DN-RG	222.99	166.49	129.78	154.52	165.57	118.34	102.75
DN-RH	243.39	88.65	177.33	151.00	178.59	135.07	82.47
DN-RM	110.10	148.85	94.57	241.14	146.47	43.82	-27.79
DN-SN	154.49	160.88	140.86	230.91	180.16	61.34	17.81
DN-TN	154.63	112.10	61.84	91.21	129.97	31.79	-38.94
DN-TQ	207.19	83.78	59.60	126.23	13.88	90.26	-154.13
DN-TS	86.86	34.97	6.00	7.09		-40.92	-24.89
DN-WS	87.26	85.88	143.88	99.53	41.68	40.44	122.73

Summarize Findings

Based on the analysis of the Digihaul costs and competitor rates over time, the following findings and conclusions can be drawn:
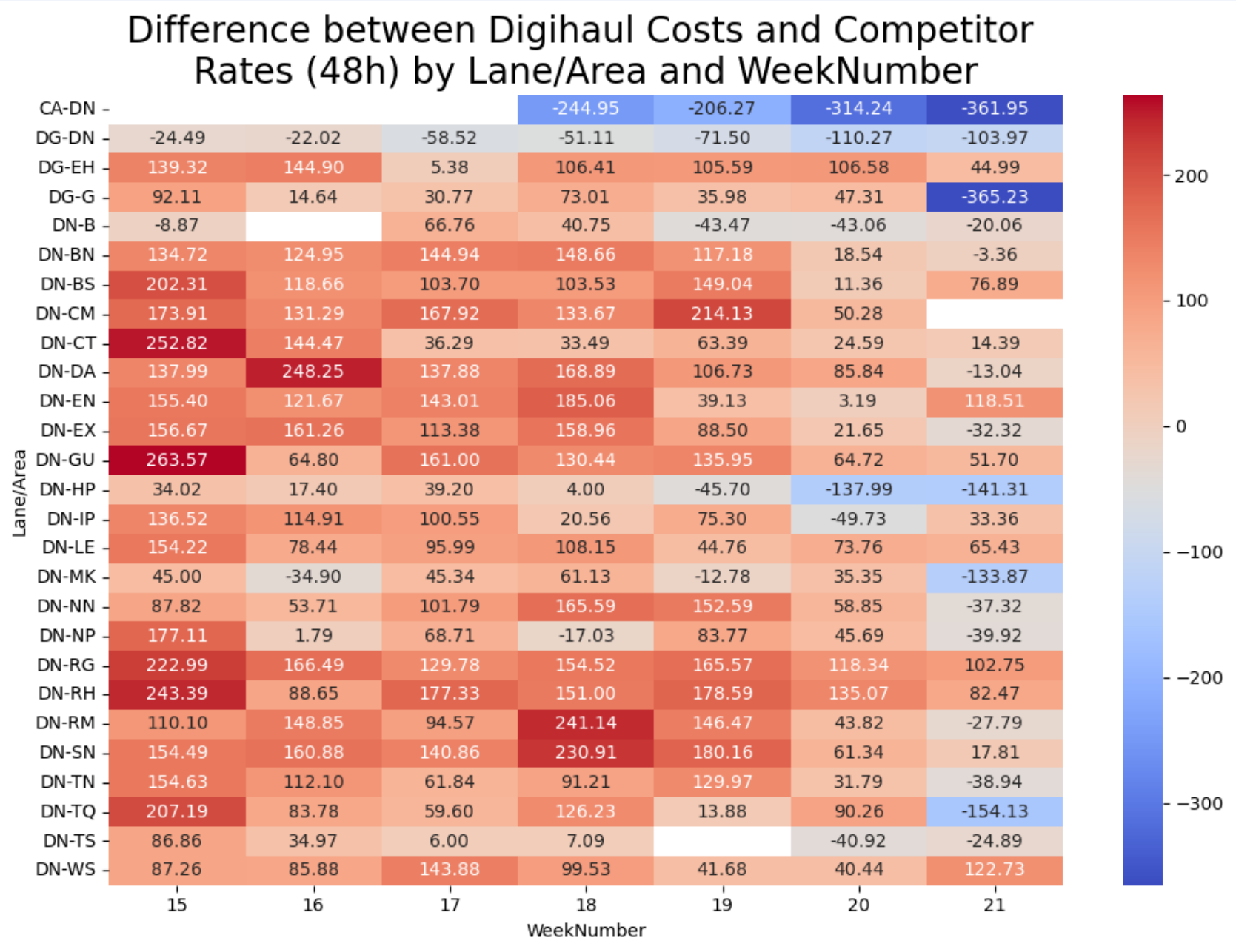
Cost and Rate Trends: The competitor rates for a 48-hour lead time increased from 380 to 445 in Week 15 to 16, remained stable from Week 16 to 18, increased again from 445 to 450 in Week 18 to 19, and further increased to 545 in Weeks 19 to 21. In contrast, Digihaul costs started at 515 in Week 15, increased to 525 in Week 16, decreased to 515 in Week 17, slightly increased to 520 until Week 19, decreased to 515 in Week 20, and started increasing again to 520 in Week 21.

Cost-Rate Differences: The heatmap analysis revealed that for the initial weeks, Digihaul costs were significantly higher than competitor rates in multiple areas/lane combinations including DN-BS, DN-CM, DN-CT, DN-DA, DN-GU, DN-RG, DN-RH, DN-RM, DN-SM, and DN-TQ. However, in Weeks 20 and 21, these costs were significantly reduced, and in some cases, even went below the competitor rates.

Notable Insights: Some specific areas/lane combinations showed significant cost-rate differences. For example, in Week 15, DN-BS had a cost-rate difference of 228.82, DN-GU had a difference of 291.77, and DN-RG had a difference of 247.86. However, in Week 21, DN-BS had a reduced difference of 61.95, DN-GU had a difference of 64.63, and DN-RG had a difference of 270.56.

Overall, the analysis indicates that initially, Digihaul costs were higher than competitor rates in several areas. However, in Weeks 20 and 21, Digihaul costs were significantly reduced and even became lower than competitor rates in some cases. This suggests that Digihaul made adjustments to their pricing strategy, resulting in more competitive rates compared to their competitors. These findings highlight the potential for Digihaul to gain a competitive edge and attract more customers with their revised pricing.