Data Analyst – Business Case

GitHub Link: DigiHaul

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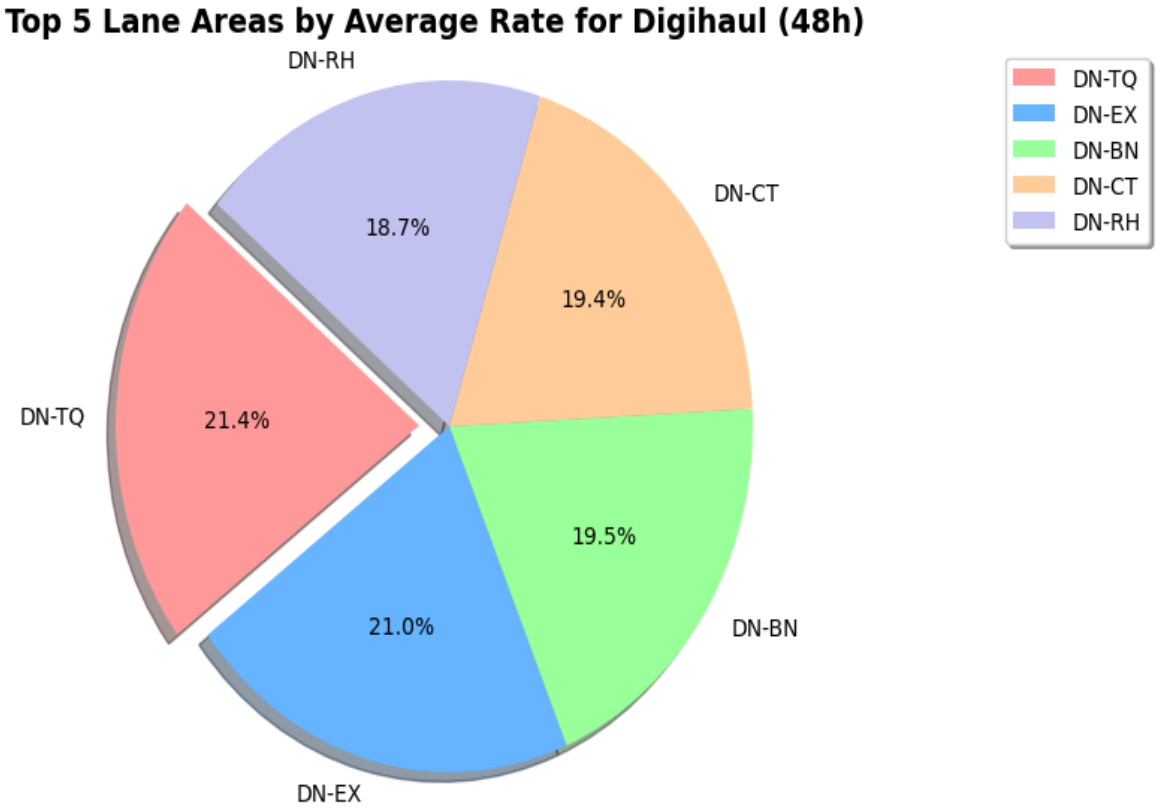
Introduction

Digihaul, a leader in the freight industry, connects commercial shippers with the UK’s largest carrier base to deliver efficient and cost-effective haulage solutions. This presentation explores a benchmarking analysis over a seven-week period, comparing Digihaul's pricing with a competitor across multiple shipping lanes. We aim to identify key factors affecting pricing strategies, discern trends in rate variations, and evaluate how Digihaul's rates compare against the competition. Through this analysis, we seek insights to enhance our services and reinforce our market position.

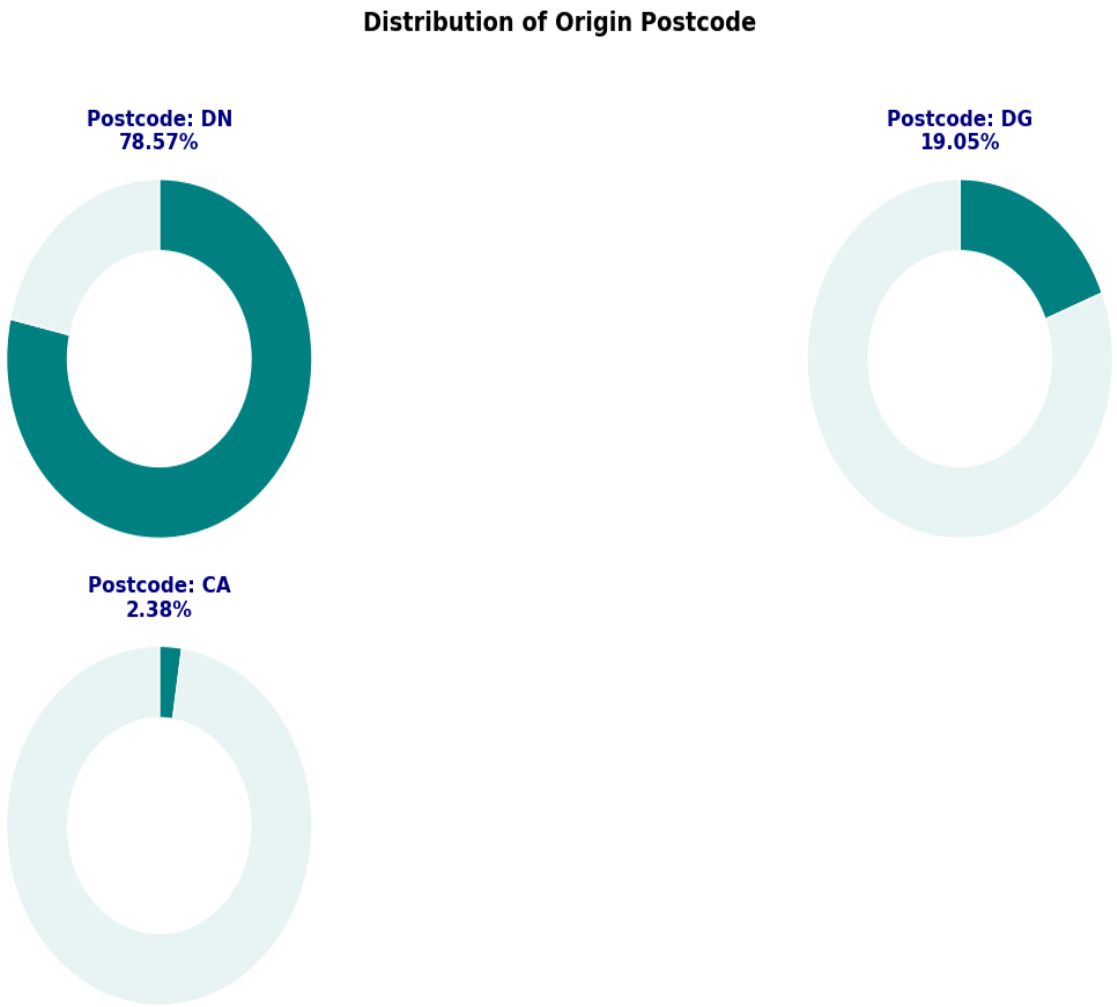
Analysing Digihaul Data

▶This pie chart displays the top 5 lane areas for Digihaul based on their average rates over a 48-hour lead time. The lane DN-TQ has the highest share at 21.4%, followed closely by DN-EX and DN-CT, each contributing over 19% to the average rates. DN-BN and DN-RH also make up significant portions with 19.5% and 18.7% respectively. This distribution highlights the key areas where Digihaul's rates are consistently higher, reflecting our strategic focus on these regions.



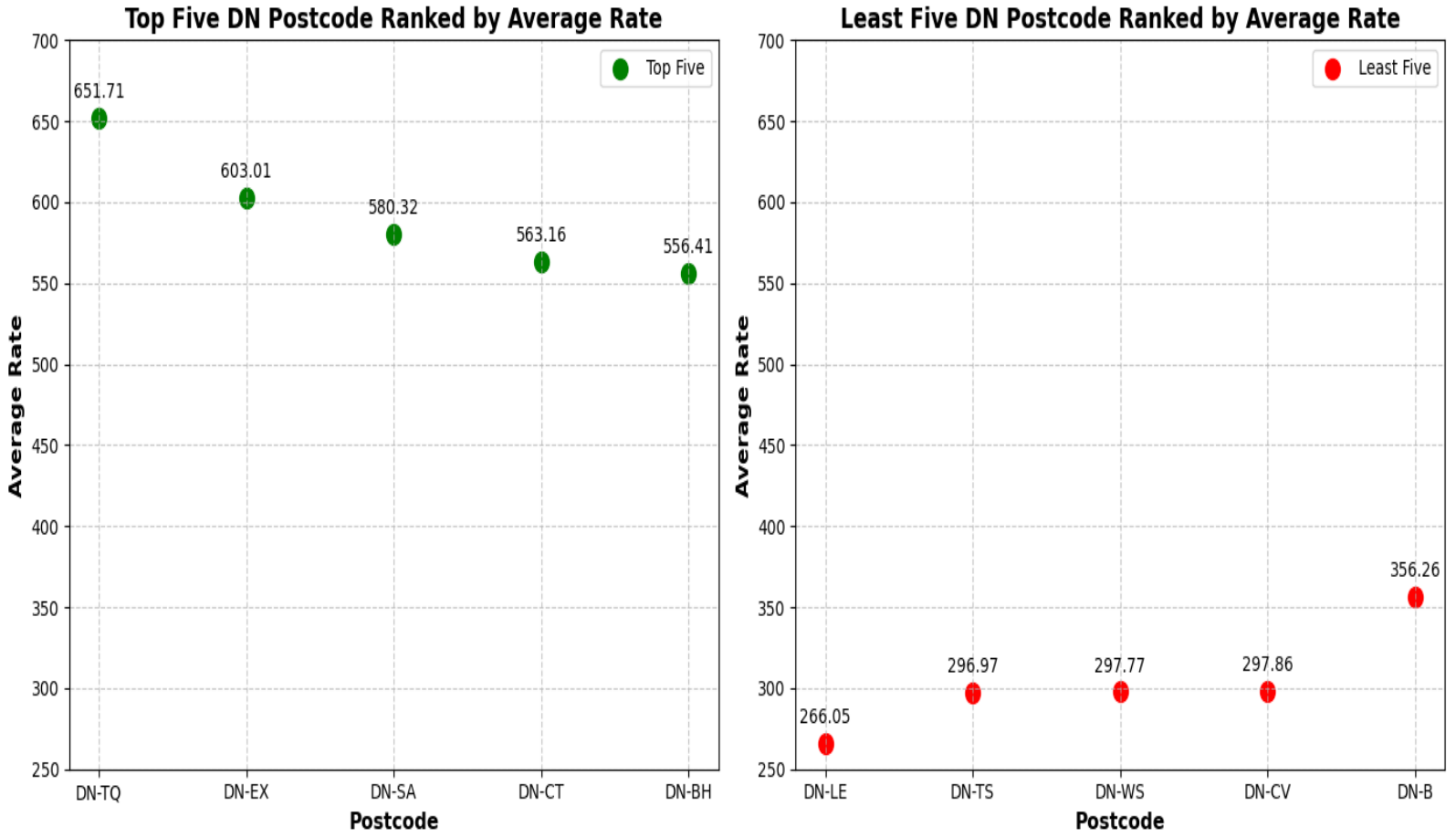
Analysing Competitor Data

- A large portion, around 79%, of freight originates from areas with postcodes starting with 'DN', which falls under the North region, primarily around Doncaster. Approximately 19% comes from areas with postcodes starting with 'DG', situated in Scotland, such as Dumfries and Galloway. Only a minor fraction, about 2%, comes from areas with postcodes starting with 'CA', also in the North region. This distribution highlights the concentration of freight in specific geographic areas, ensuring efficient logistics and timely delivery to key economic zones.



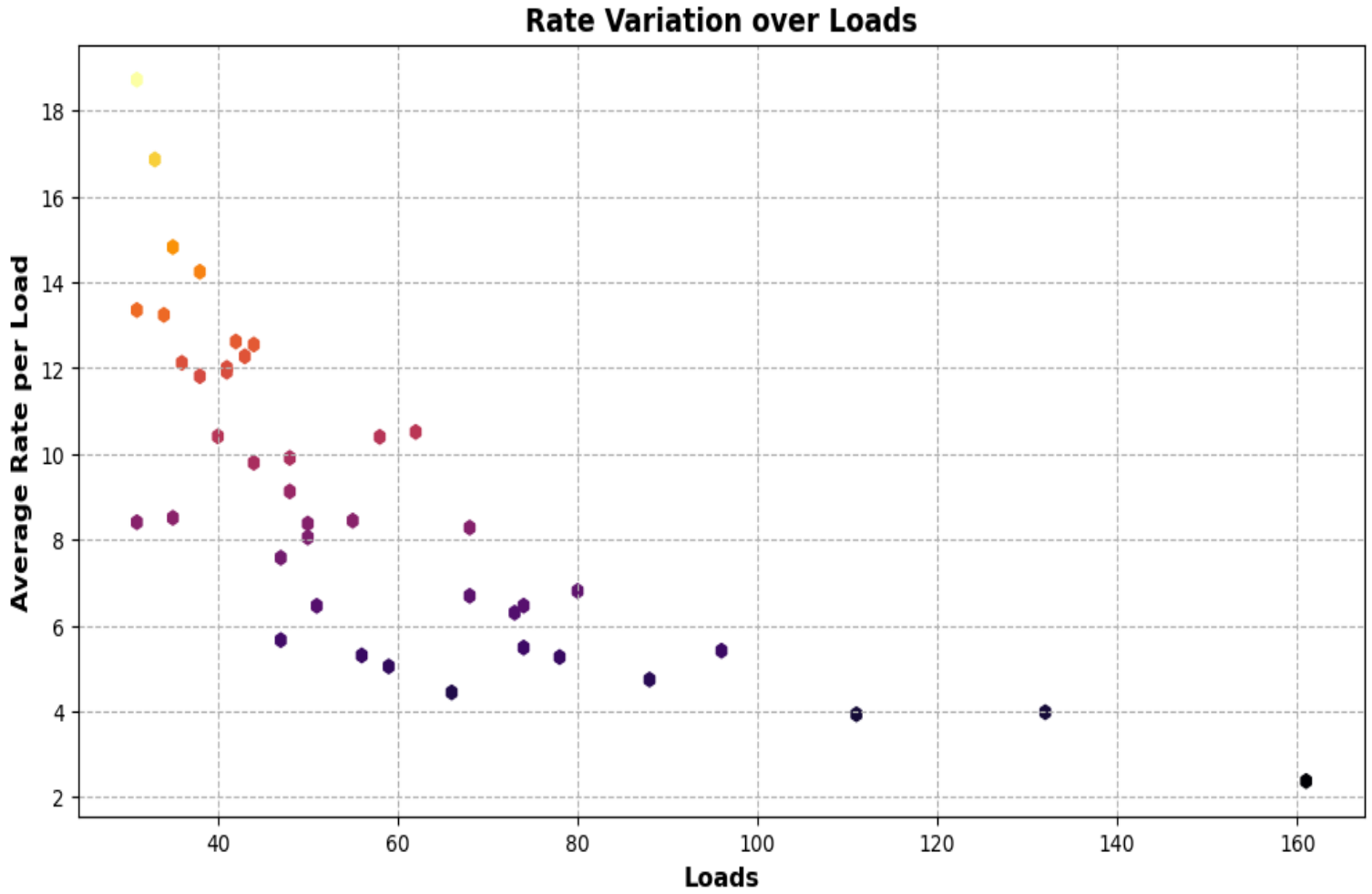
Exploring Rate Variability Across Locations

- After calculating the average rate across all seven weeks and various lead times, it is clear that the top five average rates originate from the DN postcode. The scatter plot demonstrates how these rates vary with the destination postcodes. Notably, DN-TQ, with the highest average rate at £651.71, highlights the cost implications of longer distances toward the South West. In contrast, the least expensive rates, such as DN-LE at £266.05, occur over shorter routes in the Midlands, affirming the correlation between reduced distances and lower freight costs. This information is pivotal for optimizing route planning and pricing strategies to enhance service efficiency and cost-effectiveness.



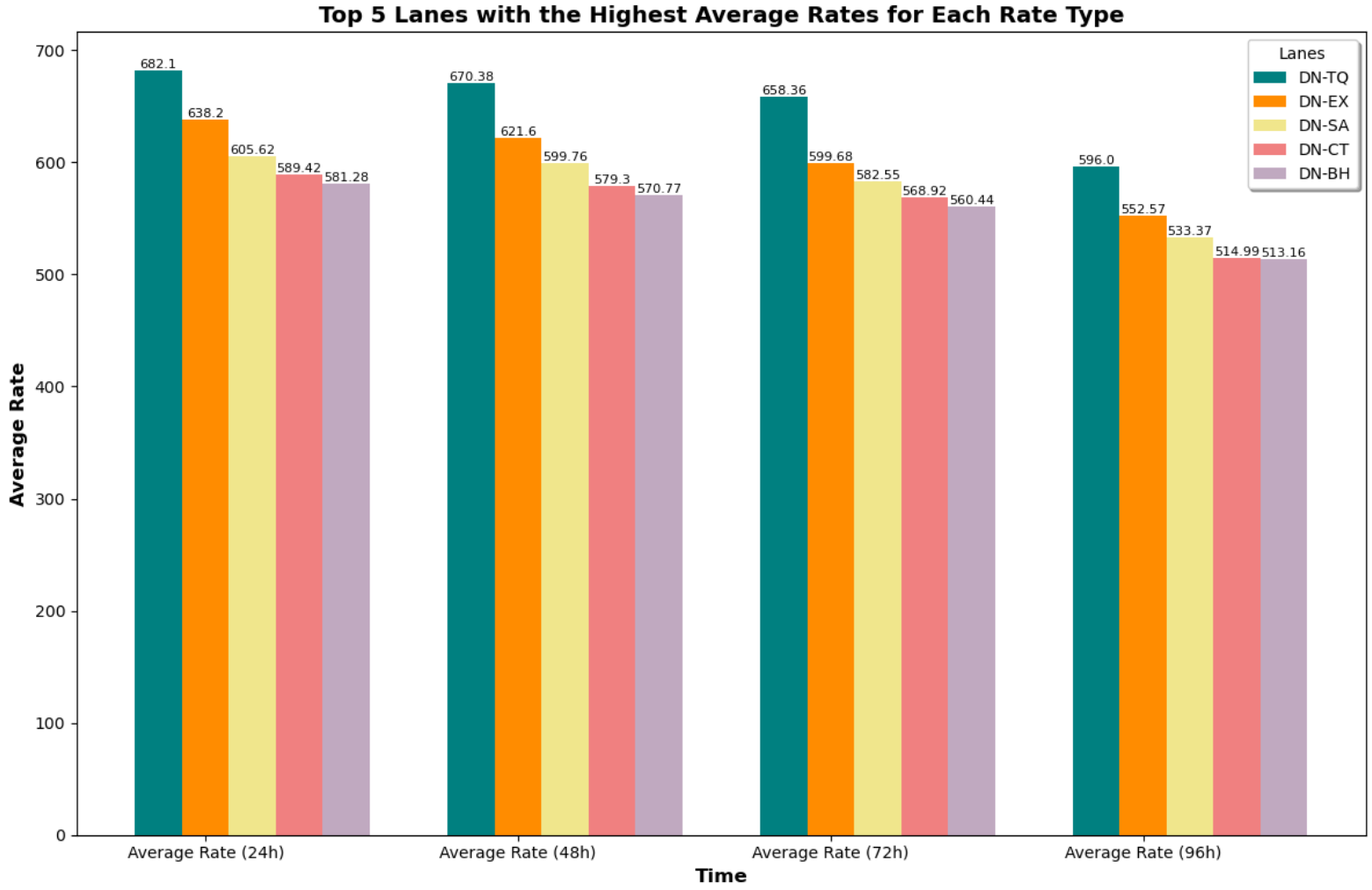
Understanding Rate Fluctuations Across Different Loads

- The scatter plot indicates the relationship between the number of loads and the average rate per load, clearly showing a negative correlation. As the number of loads increases, the average rate per load decreases, indicating that higher volume transactions potentially benefit from lower per-unit costs. This trend demonstrates the impact of volume on pricing strategies, suggesting that increased efficiency in load handling results in cost savings. Such insights are crucial for strategizing operational efficiencies and pricing models to remain competitive and cost-effective.



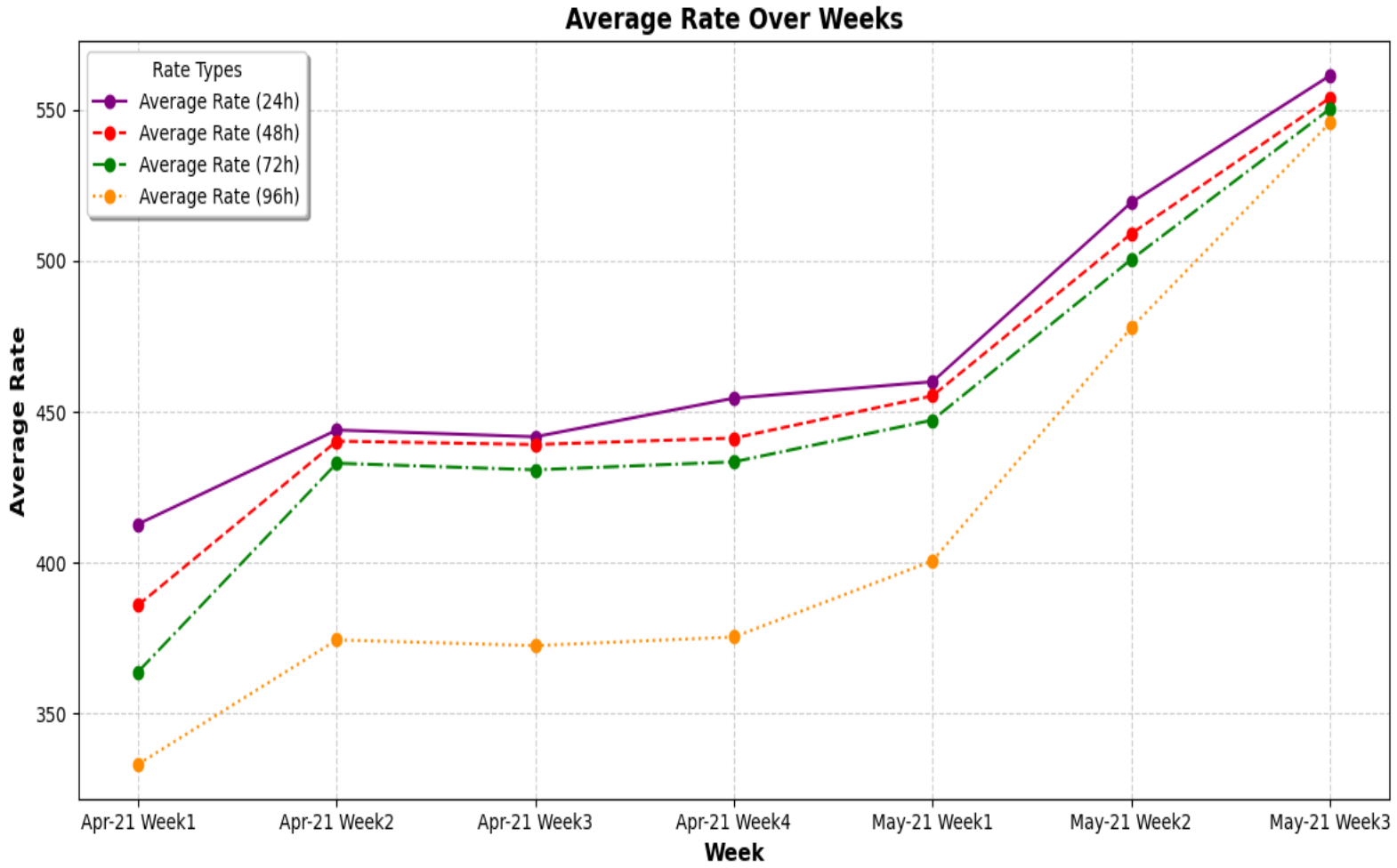
Examining Rate Variability Across Time

- This bar plot showcases the top five lanes with the highest average rates over four different lead times. Notably, rates tend to decrease as lead time extends, reflecting a strategic approach to encourage earlier bookings. For instance, the DN-TQ lane starts with the highest rate of 682.1 at 24 hours and experiences a consistent decline, reaching 596.0 by the 96-hour mark. This pattern is consistent across all lanes, highlighting our flexible pricing model that adjusts rates based on advance booking durations.



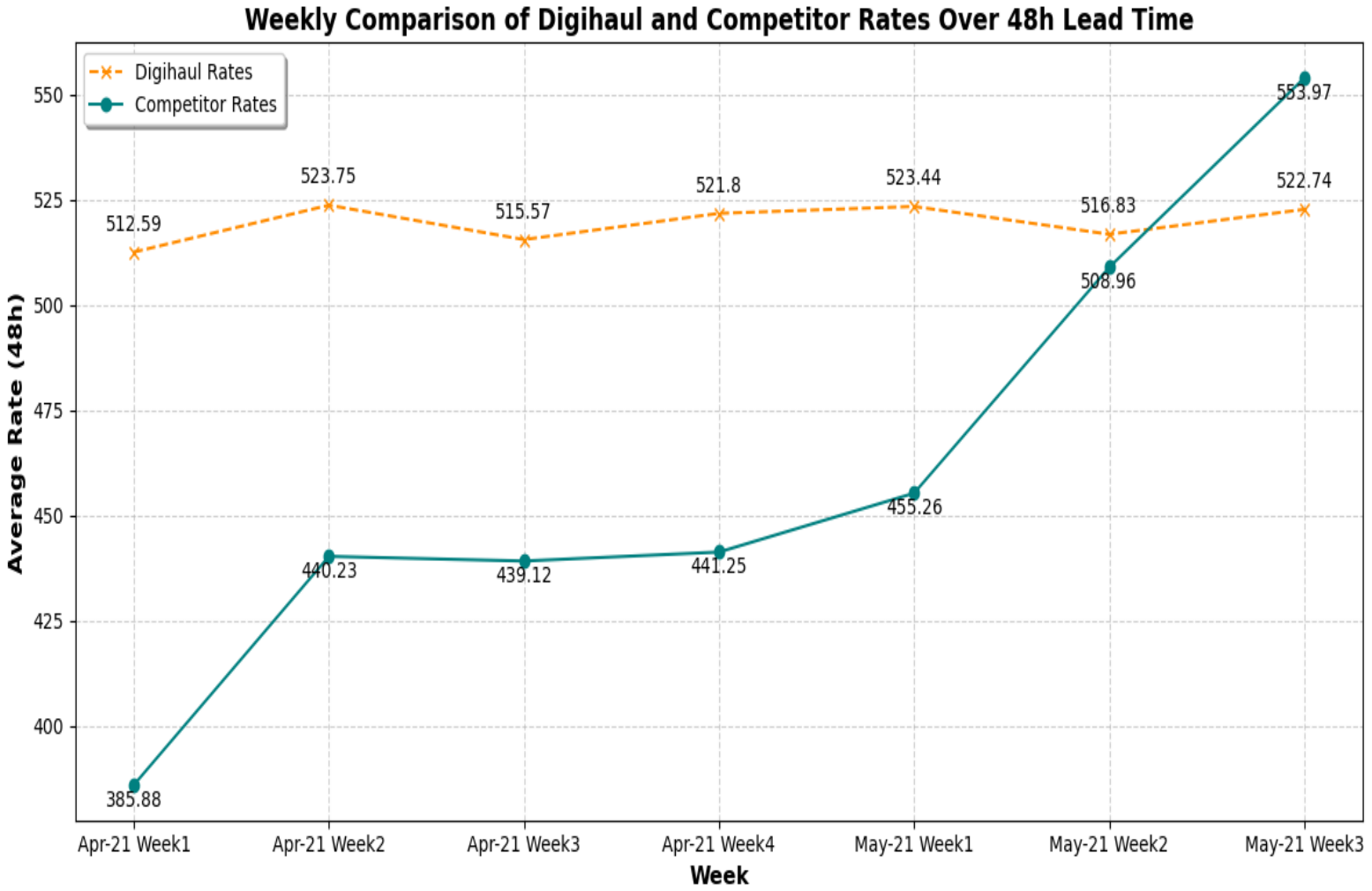
Investigating Rate Variability Over Weeks

▶This line chart illustrates the progression of average rates for different lead times from April to May 2021. Notably, there is a consistent upward trend across all lanes, with rates increasing steadily from Week 15 to Week 21. This increase suggests a rising demand or changes in operational costs during this period, impacting all four lead times similarly. By understanding these trends, we can better strategize our pricing and operational adjustments to align with market dynamics.



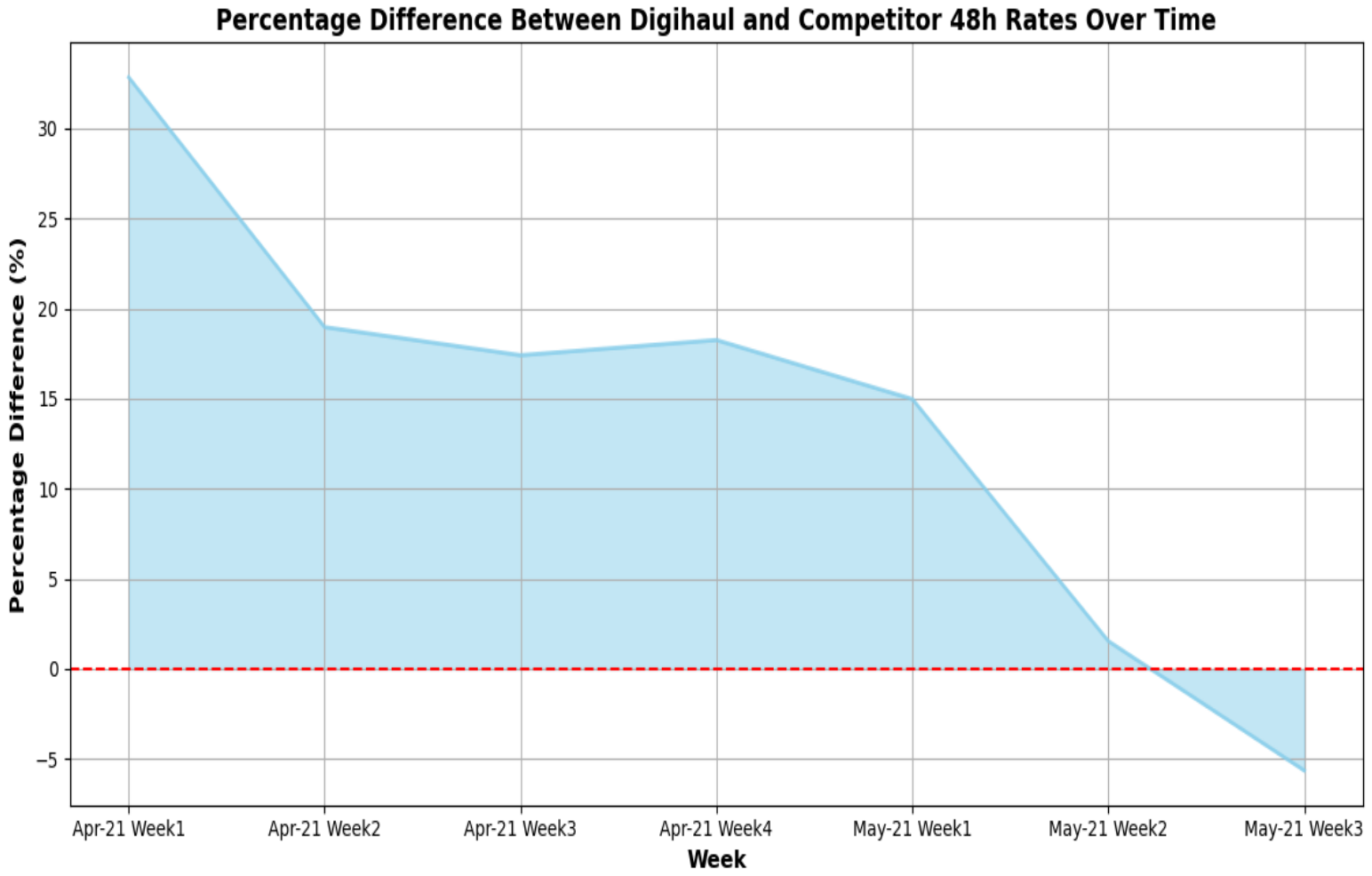
Comparing Digihaul and Competitors Rate

- This line plot compares the average 48-hour lead time rates between Digihaul and a competitor from April to May 2021. Digihaul's rates remain fairly consistent, hovering within the same range throughout the weeks. In contrast, the competitor's rates start at 385.88 and rise steadily to 583.97 by the end of May. This significant increase shows that the competitor's rates grew consistently over the observed period.



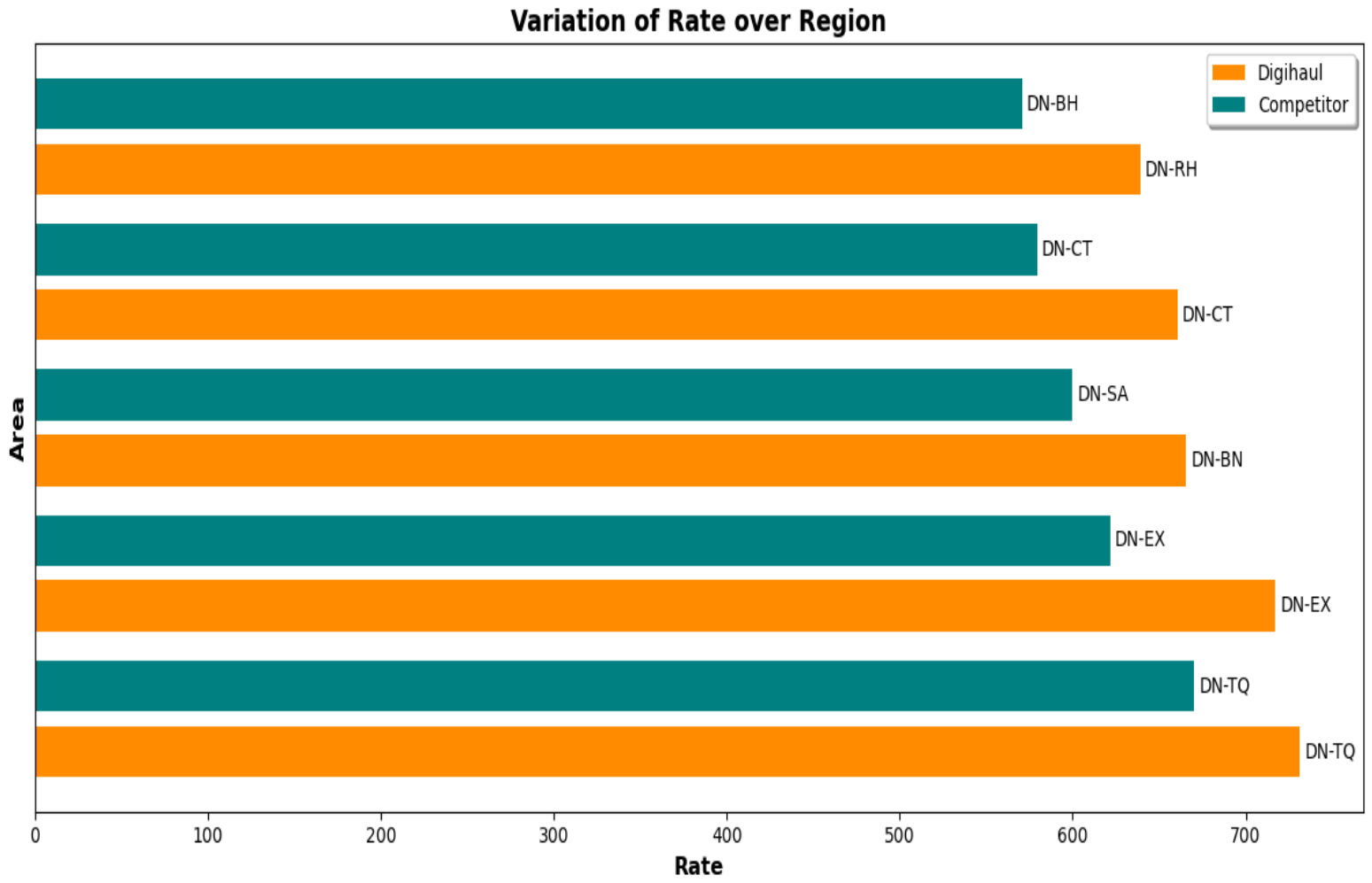
Comparing Digihaul and Competitors Rate - Percentage

▶This graph shows the change in price difference between Digihaul and its competitor for 48-hour rates from April to May. Initially, Digihaul's rates were significantly higher than the competitor's, with the difference starting above 25%. Over the weeks, this gap has steadily decreased, showing that Digihaul's prices became closer to those of the competitor, ending just above 5% higher by the third week of May. This trend highlights a narrowing price gap, suggesting Digihaul's rates are becoming more competitive over time.



Comparing Digihaul and Competitors Rate - Region

- This comparison shows the top 5 lanes with the highest average 48-hour rates from both Digihaul and its competitor. In this analysis, DN-TQ consistently shows the highest rate for both. Lanes DN-EX and DN-CT also appear in both top 5 lists, indicating they are key areas for both companies. The chart clearly shows that Digihaul's rates are generally higher than the competitor's across all lanes, suggesting Digihaul's premium pricing strategy in these regions.



Conclusion

After analysing the data, we found that the rates of our competitor are influenced by several factors. The closer the origin and destination, the lower the rate. As the number of loads increases, there is a decline in the rate of each load. Additionally, rates decrease with longer lead times but increase as weeks progress. In comparison, Digihaul's rates were consistently higher across all lanes for the average of all seven weeks. While the competitor’s rates have shown steady growth over these weeks, Digihaul’s rates have remained relatively stable, staying within the same range. This analysis helps us understand how location, volume, and timing affect pricing, highlighting Digihaul’s premium pricing strategy compared to the competitor.