

# Final Visualisation Report

**Title:** Behind the Scenes of Delivery Excellence: A Visual Exploration of Deliveroo Metrics

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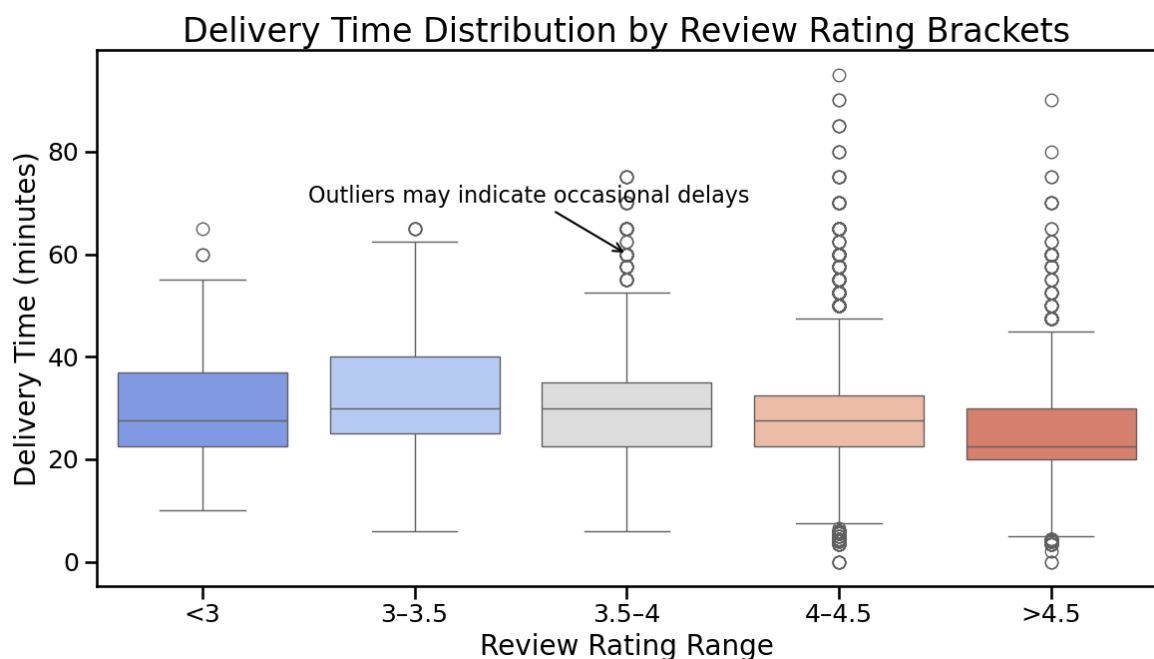
## Introduction

Deliveroo, one of the UK's leading food delivery platforms, serves millions of customers through an intricate network of restaurants, riders, and logistics. With growing competition in the industry, understanding how various operational aspects affect customer satisfaction is crucial. This report utilizes data from Deliveroo to unravel the relationships between delivery distance, delivery time, customer reviews, and platform popularity. Through thoughtful visualizations and statistical summaries, we tell the story of how performance indicators influence the customer experience.

## 1. Delivery Time Across Review Ratings

The first visualization, a boxplot titled "**Delivery Time Distribution by Review Rating Brackets**", highlights how customer satisfaction correlates with delivery speed. Ratings are binned into five intervals to offer clearer segmentation. The plot reveals that restaurants with higher ratings (above 4.5) tend to deliver more quickly and with less time variation compared to those rated below 3.5. This trend suggests a strong operational discipline among top performers. Outliers identified in lower-rated brackets further support this: inconsistency in delivery times may be a key reason for lower satisfaction.

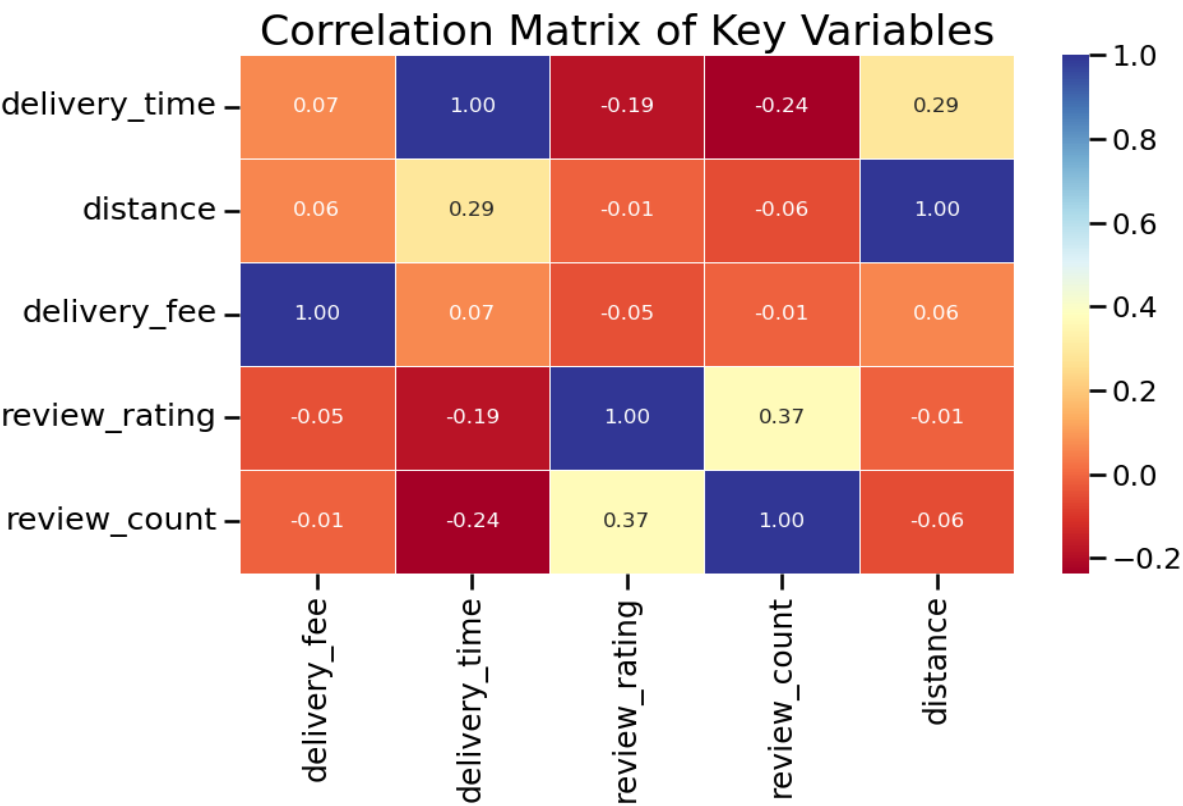
**Plot 1:** Faster and more consistent deliveries tend to align with higher customer satisfaction scores.



## 2. Understanding Metric Interactions with a Correlation Heatmap

To move beyond individual variables, a correlation matrix was used to examine how different features relate. The heatmap includes delivery time, distance, fee, review count, and review rating. A moderately negative correlation (-0.19) between delivery time and rating supports the idea that faster service improves customer feedback. Interestingly, review count is positively associated with rating (+0.37), suggesting that popular restaurants are not just frequented more, but are appreciated more as well. Although delivery distance correlates positively with delivery time (+0.29), the modest magnitude hints that some restaurants manage efficiency well regardless of location.

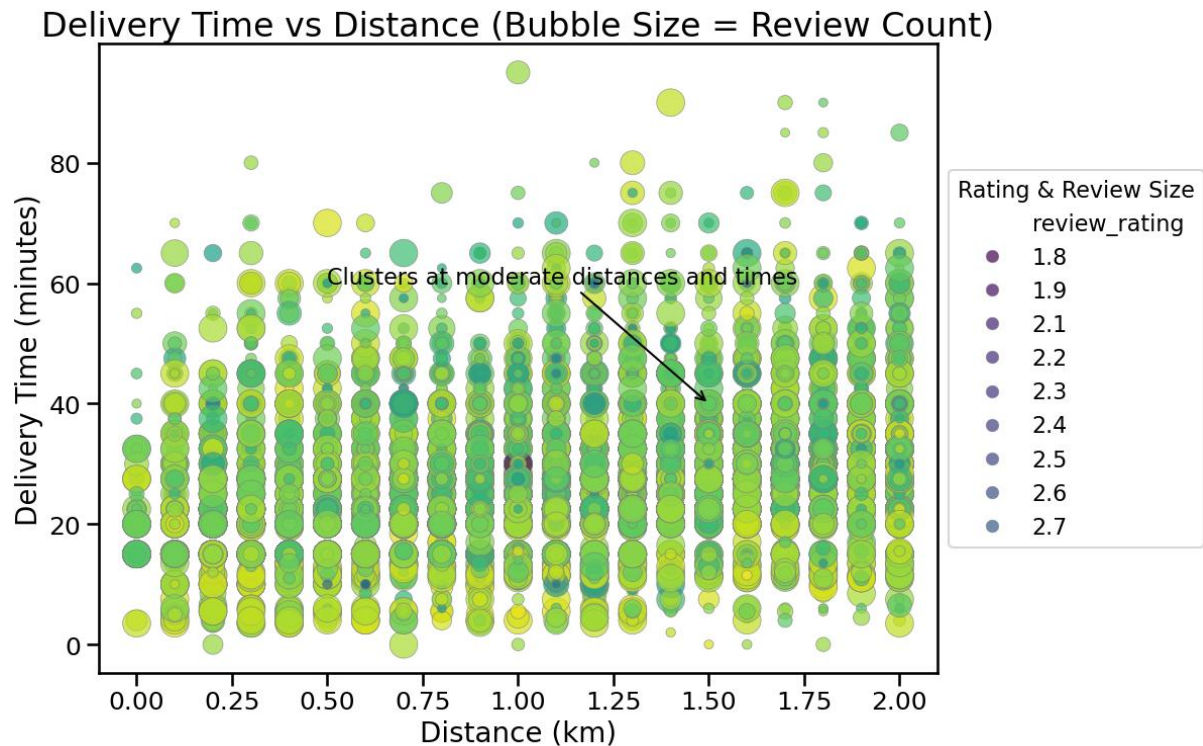
**Plot 2:** Relationships between core metrics reveal that speed, popularity, and quality are interconnected in driving satisfaction.



## 3. Multi-Dimensional Insight with Bubble Plot

The third visualization, a bubble chart titled "**Delivery Time vs Distance (Bubble Size = Review Count)**", combines four key attributes delivery time, distance, review count, and rating into one interpretative figure. A dense cluster is seen at 0.5 - 1.5 km distances, where the average delivery time ranges from 20 - 40 minutes. Larger and brighter bubbles dominate this region, indicating not only high review counts but also better ratings. This plot tells a

compelling story: restaurants that serve within optimal distances and deliver quickly are rewarded with both visibility and positive customer feedback.



**Plot 3:** The sweet spot for delivery lies within short distances and moderate delivery times, where high review volume and satisfaction converge.

## Summary Statistics and Final Insights

A summary table was also created, grouping data by delivery category. It reveals that categories with the highest average ratings often maintain lower median delivery times and reasonable fees. One key takeaway is that **consistency and predictability** appear more valuable to customers than speed alone. Restaurants with low variability in delivery times tend to outperform even slightly faster competitors.

## Conclusion

This analysis reveals a powerful truth about food delivery: customer satisfaction hinges not just on speed, but on reliability and consistency. The best rated restaurants aren't necessarily the fastest they are the most dependable. By exploring real-world data through insightful visuals, we've seen how even small improvements in delivery time and predictability can translate into better ratings and stronger customer loyalty. Businesses that focus on smoothing their operations, especially in densely populated zones, stand to gain both reputationally and commercially. More than a technical exercise, this report highlights how data can be a bridge between customer expectations and business excellence.