

IDS 701 Solving Real Problems with Data Science, Fall 2025

Feedback Memo for Team Tiger from Nruta Choudhari

Report Summary

The report investigates the environmental challenges associated with last-mile delivery in Shanghai's e-commerce sector. It addresses three main research questions which are as follows:

1. How significant is the carbon emissions problem in the e-commerce industry?
2. What are the most energy-intensive stages of the e-commerce supply chain, and how do they contribute to the overall environmental impact?
3. How long does it take for a package to reach the final customer?

The team uses the LaDe dataset, having 1.4 million delivery records from 50 regions in Shanghai, collected over six months. Key findings highlight the complexity of last-mile logistics, driven by urban congestion, fragmented networks, and high delivery frequency. The report emphasizes that only 14% of deliveries in Shanghai meet the 30-minute benchmark, with regional variation influenced by population density. Additionally, it outlines energy-intensive stages, such as transportation, warehousing, packaging, and returns, and their contribution to emissions.

The team aims to inform policy interventions and explore sustainable solutions to reduce the carbon footprint of last-mile delivery.

High-Level Reflections and Suggestions

1. Document Organization:
 - The report is logically structured, with clear sections which makes it easy to follow along.
2. Problem Statement:
 - The environmental impact of last-mile delivery is well-motivated, with robust references to industry reports and data
3. Research Questions:
 - The questions are well aligned with the problem and explore critical aspects of last-mile logistics.
4. Analysis:
 - There is a great use of descriptive statistics and data visualization to show the findings
 - You could perhaps add the limitations of using only data from 50 districts of Shanghai and talk about how that would affect generalization to the whole world
5. Answers:
 - The report addresses the research questions effectively but could further connect findings to actionable solutions
 - Maybe this section could also be used to talk about how the findings could inform policy recommendations.

Conclusion:

The report provides a comprehensive exploration of last-mile delivery issues in Shanghai and their environmental impacts. The analysis is robust, and the use of data is well-considered. By emphasizing actionable insights, the report can be made more impactful and aligned with the stakeholder's expectations.