

Team Project: Problem and Questions

● Graded

Group

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 [View or edit group](#)

Total Points

1 / 1 pts

Question 1

Problem and Questions

 1 / 1 pt

✓ - 0 pts Correct

- 0 pts A problem is something about the world you want to be different. It can generally be stated in one, maaaybe two sentences.

1

I think this is good. My may concern related to how you define the bounds of your problem — how is e-commerce different from "commerce" in this framework? Is your concern just about retail? e-commerce is distinct in terms of "where the customer interacts with company", but supply chains for many companies are often blended between supporting online and bricks and mortar.

No questions assigned to the following page.

Unifying Data Science

Project Proposal - Team Tiger

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Problem Statement

The rapid growth of the e-commerce industry has significantly increased energy consumption and carbon emissions across its supply chain, from manufacturing and packaging to warehousing and last-mile delivery. Retail, including e-commerce, is often absent from key net-zero emissions debates, despite its responsibility for 25% of global greenhouse gas (GHG) emissions through supply chains. As sustainability concerns intensify, e-commerce businesses adopt environmentally conscious practices to reduce their energy footprint. However, the effectiveness of these measures in minimizing environmental impact while maintaining operational efficiency, delivery speed, and customer satisfaction remains unclear. A deeper understanding of energy consumption patterns and the trade-offs involved in implementing green initiatives is crucial for developing effective and scalable solutions.

From a governance perspective, changes in administration often lead to shifts in priorities, approaches, and regulatory frameworks. For instance, comparing policies under the Trump administration with those before and after reveals stark contrasts in climate goals, international cooperation, and regulatory strategies. Understanding these differences is essential for evaluating their impact on emissions reduction and long-term sustainability efforts.

Exploratory Questions

1. **What are the most energy-intensive stages of the e-commerce supply chain, and how do they contribute to the overall environmental impact?** - This helps identify where to prioritize efforts in reducing energy consumption by possibly identifying the low-hanging fruit from this analysis.
2. **How pertinent of a problem has emissions in e-commerce been over the past few years?** This would validate our problem statement in telling us how emissions in this industry have grown over the past few years. We would ideally look at a comparative overview between time periods (using the US elections as an index date) to check if policies implemented by different administrations affected the emissions in this industry.
3. **How effective are current sustainability practices—such as using renewable energy in warehouses, optimizing delivery routes, or adopting green packaging—in reducing emissions and energy consumption?** - This evaluates the impact of existing solutions and highlights areas for improvement. We could compare different modes of delivery (express vs standard delivery vs drone delivery for example) to understand this impact.

References:

- <https://www.weforum.org/stories/2022/09/retail-stores-into-ecommerce-centres-avoid-carbon-emissions/>
- <https://earth.org/online-shopping-and-its-environmental-impact/>
- https://unctad.org/system/files/official-document/der2024_ch05_en.pdf