Title: A Comparative Study of the Indian and UK Road Logistics Industries

Authors: Rishab Gandhi^1, Parth Deshpande^2, X. Na^2, Debjit Roy^3, David Cebon^2

1. Raman Roadways Pvt. Ltd.
2. Department of Engineering, University of Cambridge
3. Operations and Decision Sciences, Indian Institute of Management, Ahmedabad

Introduction: India, as a developing country, and the UK, as a developed country, present opportunities for the exchange of technology and knowledge in the road logistics industry. Despite their differences in geography, climate, human resource costs, and vehicle dynamics, there is much to learn from each other to enhance the overall ecosystem. India has a significant number of Heavy Goods Vehicles (HGVs) and Light Commercial Vehicles (LCVs), with 4.8 million and 1.6 million respectively, while the UK has 4.9 million LCVs and 0.55 million HGVs.

Motivation: One of the key motivators for this study is the disparity in logistics costs as a percentage of GDP between India and the UK. Currently, logistics costs account for 16% of India's GDP, while in the UK, it is only 4%. Understanding the factors contributing to this difference can provide insights into areas for improvement in both countries.

Observation: The study revealed several noteworthy observations. Firstly, the relationship between GDP and road logistics needs to be explored further, considering the specific sectors that heavily rely on road transportation. Notably, technologies such as cruise control and low rolling resistance tires, widely adopted in the UK, have not only reduced fuel consumption but also lowered emissions. The maximum Gross Vehicle Weight (GVW) allowed in the UK is 44 tonnes, while in India, it is 57.5 tonnes. Vehicle dynamics, including torque and engine capacity, differ significantly between the two countries. Furthermore, factors like lane discipline, which allows for the effective use of cruise control, and safety features like tachographs, mandatory in the UK but not yet in India, contribute to disparities in the road logistics industry.

Methodology: To conduct the study, SRF loggers were utilized to capture vehicle data, including speed, braking, and fuel consumption, at a high resolution in both India and the UK. Due to the varied vehicle dynamics, the analysis focused on two main aspects: vehicle fuel performance and engine performance in terms of optimal speed and gear level.

Conclusion: In conclusion, this comparative study between the Indian and UK road logistics industries highlights the differences and similarities, providing valuable insights for both countries. The findings emphasize the need for technological exchange and adoption of best practices to improve the road logistics ecosystem. Bridging the gap in logistics costs as a percentage of GDP will contribute to overall economic development and sustainability in both India and the UK.