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Data Science Project Lifecycle - Group Coursework

Enhancement Report

Understanding Communities In Need

**Introduction to the Project**

The global sneaker industry contributes significantly to environmental degradation, accounting for 1.4% of global greenhouse gas emissions—nearly as much as the aviation sector's 2.5%. With 20 billion pairs of shoes produced annually and 300 million ending up in landfills, the environmental impact of sneakers is substantial. Coupled with this is the social issue of footwear accessibility, particularly for individuals facing poverty and homelessness.

Resole, founded in 2018 by Moosa Nsubuga, addresses these dual challenges through its innovative "Reduce, Reuse, Recycle" model. Operating from its Brixton Village Hub, Resole has redistributed over 25,000 pairs of trainers worth £2 million to vulnerable groups, including the homeless, refugees, and low-income families. The organization partners with charities, shelters, and soup kitchens, bridging environmental sustainability and social welfare.

#### **Problem Domain**

Resole faces several operational challenges, including:

* Measuring the efficiency and performance of its redistribution processes.
* Identifying regions with the greatest demand for footwear.
* Improving inventory tracking and management.
* Quantifying the social and environmental impact of its initiatives.

These challenges highlight the need for systematic analysis and data-driven solutions to enhance Resole’s operations and maximize its social impact.

#### **Objectives**

This project seeks to:

* Analyze socio-economic, demographic, and resource accessibility data to identify high-need areas across the UK.
* Model deprivation levels to predict future demand and optimize distribution strategies.
* Develop a dashboard to visualize key findings, enabling data-driven decision-making.

By addressing these objectives, the project aims to provide actionable insights that strengthen Resole’s capacity to support communities, reduce environmental waste, and promote sustainability within the footwear industry.

References -

* <https://resole.org.uk/>