Decarbonising Supply Chain: Case of UK based Food Supply SME

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As the world is overcoming through the ripple effects of the pandemic, SMEs who are primarily dependent on logistics, are now faced with rising fuel costs and Government's environmental regulations [1]. Climate change has endangered the balance of natural ecosystems and threatened human food supply and living environments and thereby has become an essential concern for the international community [2]. Greenhouse gas emissions produced globally cause 4.2 million deaths owing to chronic diseases caused by air pollutants [3]. Consequently, reducing emissions has become one of the most significant international discussions and responsibilities and is being shared between regions, countries and individuals [4]. Notably, the global transition for cleaner air and low carbon economies is firmly embedded in the UN. Sustainable Development Goals (SDGs), thereby offer a shared blueprint for people, planet, prosperity, peace and partnership [5].

Many major economies the US, EU and UK have committed to net zero GHG emissions by 2050. Current commitments are, however, unmatched by action [6]. The UK government for example, though among the first to set a legally binding target of net zero by 2050 has implemented only 11 of the 92 policy recommendations from its climate change committee and is not on track to meet the net zero or the medium-term carbon budgets [7]. Similarly, the authors feel that attaining carbon net zero or following regulations of the government for SMEs is unrealistic. Moreover, as per new public procurement policies, the emphasis on social value has been increasing which also includes environmental impact. As per the recent update it should now be explicitly evaluated and declared as part of the public sector contracts.

In this research, we focus on the transport sector, a significant and stubborn emitter. Decarbonization of transport has wider ramifications beyond the sector as large amounts of society depend on transport to function. There are umpteen number of research published and several solutions available to offset the carbon footprint. Often the solutions like investment in green projects namely solar, planting trees are not feasible for SMEs for two reasons. Firstly, they are expensive. Secondly, they are not effective for effort and finances involved. As per the data, for offsetting carbon of one car requires 730 trees equivalent to 7 acres of plantation [8]. Especially for SMEs in the supply chain or logistics sector who run on low margins this may be even more challenging. Typically, they have a large fleet primarily dependent on fossil fuels.

The methodology adopted for this research included three stages. In the stage 1, a series of focus groups were run in order to identify relevant factors for constructing a Social value strategy in the context of the UK freight transport sector. In Stage 2, a focused literature review was undertaken to identify and complement the outputs from the focussed groups. In this stage, more elements and relationships were reviewed: from the work proposed by McKinnon [9] with the "TIMBER" categories namely Technology, Infrastructure, Market, Behaviour, Energy and Regulation. Stage 3, consisted in identifying a range of elements from the focus group and combining them with the elements found in the literature, application of these recommendations in an SME based in the UK.

This research contributes by presenting a case study of an SME of how few low hanging fruits have been helpful to bring a substantial improvement in the operations. Fuel is one of main contributor of emissions. However, indirectly, it is the combination of other factors or errors in earlier stages that are main reasons for extra miles and consequently higher emissions. For instance; error in the telecall centre while inputting of customer orders, packing of products, picking or stacking of products on pallets, wrapping among others are often ignored. If there are any errors in earlier stages, this would certainly result in running additional miles which then lead to higher emissions which could be avoided. One of the biggest contributors to any temperature-controlled logistics operator are the refrigerants. Having a proper and preventive maintenance has been found to be helpful. The research has shown use of technologies like fuel management system, fleetmatics and leveraging the data has contributed substantially to improve the efficiency and reduce the carbon emissions.

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