

Sustainable UK Food Manufacturer Supplier Selection: A Conceptual Framework for the Responsive Supply Chain in the Era of Industry 4.0

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Abstract

Consumers are showing growing concerns and preference towards incorporating environmentally sustainable diets and wanting to associate with organisations which promote and encourage sustainable food chains. Ideally, identifying and responding to the consumers' dynamic and complex needs through Industry 4.0, organisations can revisit the foundations of agility with the aim to improve operational efficiency. In this research-in-progress paper, we investigate a complex environment where the relationship of simulated suppliers is assessed alongside a semantic analysis from the consumers' perspective. A conceptual framework that quantifies the benefits to the supplier from obtaining commitments from downstream customers is developed. The proposed model is built to embed dynamic capabilities into Supply Chain practices and to assist in operational decision making. Careful balancing of the contemporaneous consumers' opinion can lead to effective cost management for all members of the supply channel. The authors propose recommendations for future work in regard to responsive frameworks within Industry 4.0.

Keywords

Industry 4.0, Production efficiency, Smart manufacturing, Digital transformation, Food manufacturing

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