

Agile capabilities as necessary conditions for maximising sustainable supply chain performance: empirical evidence from oil and gas industry

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Abstract

There is a significant body of work that have explored, separately, the drivers of agility and sustainability practices and their individual impacts on organisational performance. But, there is a lack of understanding and clarity on the influence of the aggregate set of these practices on organisational performance. The impacts of agile practices on financial measures and strategic operations performance objectives have now been established beyond contention. However, the effects of agile practices on sustainability performance measures require examination and clarification especially given the wider diffusion of agility and the increasing embrace of sustainability. More importantly, the role agility plays in enhancing or not enhancing sustainability is not fully understood. Therefore, we explored the interaction effects between Agile practices, Sustainable practices, Operational performance objectives and sustainable performance of organisations. This is significant given that sustainability performance has now become a de facto competitive objective. A survey of the oil and gas industry in the UK was carried with a resulting response of 136 participating organisations. The oil and gas industry was chosen because of the impacts of its operations and products on the global carbon footprint. A correlation and multiple regression test of our data was carried out. The results suggest a strong and significant correlation between agile practices and sustainability performance measures, the strength of the correlations was the same as that obtained using multiple regression. Similarly, the correlation between sustainable supply chain practices and sustainability performance criteria indicates a strong and significant relationship. Whilst previous studies appeared to suggest that sustainability practices have strong positive effects on traditional operational and financial performance criteria, the findings of this study indicate that there is no strong interconnectedness between them, and at best, the relationship is only moderately positive. The relationship was further examined using multiple regression analysis, which yielded insignificant effects of sustainability practices on operational performance objectives. These findings question the usefulness of implementing sustainability practices within the supply chains when there is a lack of agile capabilities. In other words, the results suggest that agile capabilities are necessary conditions for maximising the impacts of implementation of sustainability practices on sustainability performance.

Keywords:

Supply chain agility; Sustainable supply chain; Competitive performance objectives; Sustainability performance measures and Organisational performance criteria.

Biographies

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