

# Measuring Sustainability Performance of Logistics Service Providers using AHP

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## Abstract

Many manufacturers and retailers often outsource their logistics functions to Logistics Service Providers (LSPs) to focus more on their core business process. Due to the competitiveness and the popularity of the sustainability concept, those organizations evaluate their prospective LSPs not only based on economic aspects like cost, service quality but also on social and environmental aspects as well. This paper proposes a model that can be used by organizations when evaluating and selecting LSPs based on their sustainability performance. Along with the traditional three dimensions of sustainability, a new dimension of Information Technology (IT) is incorporated into the model. A Composite Sustainability Performance Index (CSPI) is constructed using the Analytical Hierarchy Process (AHP) as a weighting method and linear aggregation method since multiple dimensions and indicators need to be incorporated when measuring sustainability performance. The proposed model is flexible as it depends on the sustainability requirements of the organization when selecting LSPs and their relative importance of the sustainability dimensions and indicators are up to the organization to decide. The proposed model is applied to an apparel manufacturing organization to evaluate and select their prospective LSPs.

## Keywords

Analytic Hierarchy Process, Composite Index, Logistics Service Providers, Sustainability, Sustainability Indicators