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GREY DEMATEL TECHNIQUE FOR EVALUATING PRODUCT RETURN DRIVERS: A MULTIPLE STAKEHOLDERS’ PERSPECTIVE

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Abstract

In order to reduce environmental impacts from final disposal, an interest in reverse logistics has caught the attention of both firms and academicians. However, motivational factors or drivers have to be considered to efficiently perform reverse logistics, as well as the different perspectives from stakeholders. Thus, the purpose of this study is to evaluate the interrelationship among reverse logistics drivers under the perspectives of the key stakeholders. A grey-based DEMATEL (Decision Making Trial and Evaluation Laboratory) was applied to obtain a multiple company-customer-society-government combination perspective. Experts were consulted to extract the pair-wise comparison of drivers. The most prominent drivers are from inside the organization, namely: ‘Eco-design’, ‘Long-term sustainability’, ‘Economic viability’, and ‘Reduction on material consumption and disposal cost.’ The main contribution to the field is the uncovering of net effect and the prominence level of each RL driver from each stakeholder perspective separately, and from the overall perspective (aggregated form). The uniqueness and innovation of this research relies on the fact that, as far as the authors know, no study has yet addressed RL drivers under a multidimensional view of the stakeholders, that is: company, customer, society, and Government.

Keywords: DEMATEL, driver, grey theory, reverse logistics, stakeholder

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