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An AHP- Structural Contingency Theory -Based Approach for Supplier Selection: Insights from an Algerian Industrialized Company

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Abstract

In this paper, a structural contingency approach is demonstrated, as a roadmap for applying the Analytic Hierarchy Process (AHP) method for supplier selection in an Algerian supply chain environment. Despite the fact that various earlier research advocated a range of strategies for selecting effective suppliers, the AHP was identified as the most popular. There is no immediate evidence that techniques have taken into account the contingency theory for supplier selection while using the AHP. This research aims to consider and fill this gap by utilizing the most widely used set of key performance indicators (KPIs) derived from related literature with relation to wires/cables from the perspective of industry and subject matter experts. Furthermore, a comparison between a company case study procedure and the proposed methodology has been offered. The proposed framework seeks to tackle an issue of multi-criteria decision attribute observed by the authors in the company case study. Moreover, the proposed approach suggested that behavioural KPIs should be considered exclusively, without incorporating quantitative KPIs, which in this case study were price/cost; this is to eliminate the potential negative effect of the price / cost factor on the outcomes of the supplier selection process, which has potential to lead to a conflict with the company's strategic objective. Findings revealed that using AHP crudely would contradict the implementation of the strategic alignment process. As a structural contingency logic, AHP implementation does necessitate, in some cases, removing at least one factor from the model in order to improve strategy alignment.

Keywords: AHP, Contingency Theory, Supplier Performance, MCDM