

Analytic Hierarchy Process for the Container Terminal Choice from Multiple Terminals within the Port of Colombo

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Abstract : Terminal choice from the multiple terminals region is not a simple decision and it is very complex, because shipping lines should consider on influential factors for the terminal choice at once according to their requirement. Therefore, terminal choice is a multiple criterion decision making (MCDM) situation under a specially designed decision hierarchy. Identification of perspective of shipping lines regarding terminal choice is vital important for the decision makers regarding container terminals. Thus this study is evaluated perception on main and feeder shipping lines' regarding port of Colombo container terminals, and ranked terminals according to shipping lines preference. Analytic Hierarchy Process (AHP) model is adapted to this study, since it has features similar to the MCDM, it is weighted every influential factor by using pair wise comparisons, and consistency of the decision makers' judgments are checked to evaluate trustworthiness of gathered data. And rating method is used to rank the terminals within Port of Colombo by assigning particular preference values with respect to the criteria and sub criteria. According to the findings of this study, main lines' mainly concern on water depth of approach channel, depth of berth, handling charges and handling equipment facilities. And feeder lines' main concerns were handling equipment facilities, loading and discharging efficiency, depth of berth and handling charges. Findings of the study suggested concentrating regarding the emphasized areas in order to enhance the competitiveness of terminals, and to increase number of vessel callings at the Port of Colombo. Application of above finding of the terminals within Port of Colombo lead to a far better competition among terminals and would uplift the overall level of services.

Keywords : AHP, Main and feeder shipping lines, criteria, sub criteria

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