DISTRIBUTION CENTER PLACEMENT MODEL OF CITY LOGISTICS FOR MODERN RETAILERS WITH INTERMODAL INTEGRATION CONSIDERATION FOR SURABAYA CITY

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ABSTRACT

City logistics or urban logistics study recently is increasing as the city’s residents growing and the environment problem. Some last researchs examine the logistics sustainability aspect, so that things that are related to urban freight both internally or externally needs a further research especially about goods distribution to be more environmentally sustainable.

Related to the problem above, to reach an environmentally sustainable logistics system, it necessary to have several alternatives in goods distribution efficiency, one of the way is to build a distribution center (DC) for modern retailers that acts as an organizer in route the delivery by using a bigger freight but less in quantity. This research consider the intermodal integration by putting several types of modal at once, the replenishment and reduction others relevant criterias, make retailers as the research’s object also use Multi-Criteria Decision Making (MCDM) by integrating Fuzzy and Analytic Network Process (FANP).

From this research obtained that the best priority location is in Perak district with 37.2 % percentage, followed by Rungkut 34.7 %, and Gubeng at last. The other result obtained at this research is that DC’s capacity and DC’s establishment cost factor play an important part to be considered in DC’s establishment. By the presence of DC hoped that it can accommodate the goods distribution effectively for modern retailers in Surabaya apportionmently.

Key words: City logistics, distribution center location, intermodal freight transport, fuzzy-analytic network process (ANP), retailers.