## عنوان مقاله:

Optimal Capacities in Discrete Facility Location Design Problem

## محل انتشار:

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## خلاصه مقاله:

Network location models comprise one of the main categories of location models. These models have various applications in regional and urban planning as well as in transportation, distribution, and energy management. In a network location problem, nodes represent demand points and candidate locations to locate the facilities. If the links network is unchangeably determined, the problem will be an FLP (Facility Location Problem). However, if links can be added to the network at a reasonable cost, the problem will then be a combination of facility location and NDP (Network Design Problem). In previous studies, capacity of facilities was considered to be a constraint while capacity of links was not considered at all. The proposed MIP model considers capacity of facilities and links as decision variables. This approach increases the utilization of facilities and links, and prevents the construction of links and facility locations with low utilization. Furthermore, facility location cost (link construction cost) in the proposed model is supposed to be a function of the associated facility (link) capacity. Computational experiments as well as sensitivity .analyses performed indicate the efficiency of the model

## کلمات کلیدی:

Network Location, Network Design Problem, Mixed Integer Programming, Facility Location, Link, Capacity