Pemodelan competitive facility location problem dalam bilevel integer programming problem = competitive facility location problem on bilevel integer programming problem

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Abstrak

Facility location merupakan salah satu strategi penting bagi perusahaan atau fasilitas. Facility location dapat membantu pengambilan keputusan dalam penetapan lokasi atau relokasi suatu fasilitas. Pengambilan keputusan dengan kondisi adanya kompetisi di antara dua pihak sering disebut competitive facility location problem (CFLP). Dua pihak yang saling bersaing disebut leader dan follower. Tujuan leader adalah menentukan sehimpunan lokasi untuk membuka fasilitas yang dapat memaksimalkan keuntungannya dengan kondisi bahwa follower juga akan membuka beberapa fasilitas dan dapat merebut sejumlah konsumen dengan tujuan memaksimalkan keuntungannya sendiri. Model matematis CFLP bisa dimodelkan dalam bilevel integer programming problem yang terdiri dari upper level problem dan lower level problem. Karena adanya kemungkinan tidak uniknya solusi optimal untuk lower level problem, maka konsep optimality harus diperhalus, sehingga solusi optimal untuk masalah CFLP merupakan solusi optimal nonkooperatif.
<hr>Facility location is one of the most important strategic to many business or facilities. Facility location problem support decision makers in the planning process of establishing or relocating existing facilities. Decision making process in competition between two firms usually called competitive facility location problem (CFLP). Two competing side usually called leaders and followers. The leader?s problem consist in choosing a set of opening facilities which yields maximal profit in the conditions that the followers will open some facilities and can captures consumers aiming to maximize his own profit. Mathematical model of CFLP can be modelled as bilevel integer programming problem that consist of upper and lower level problem. Owing to the possible nonuniqueness of optimal solution in the lower level problem, the concept of optimality has to be refined, so we called the optimal solution of CFLP as noncooperative optimal solution.