

ABSTRACT

PT. XYZ is an open company engaged in mobile telecommunication in Indonesia. To fulfill the needs of customers, then one of the tasks of PT. XYZ is a customer service by building BTS (Base Transceiver Station) or that can be called sites with the latest technology that can be applied that is 4G LTE in all corners of the country. The development is done on 4G LTE technology which has four types namely LTE900, LTE1800, LTE2100, and LTE2300 in JABODETABEK region. In addition, the network planning and budgeting department also needs to determine from the sitelis that has been given by the sales area, which sites are appropriate to implement. The selection of the site can be compared with the result of determining the number of sites to be built by taking into account the given budget. Selection results from sitelist and determining the number of sites of each type to be built can be calculate using linear programming method.

There are two constraints in the form of cost budget consisting of CAPEX and OPEX with four variable in sequence X_1 , X_2 , X_3 , and X_4 according to LTE type. While on the selection site in accordance with the existing sitelist, there are 1035 variables consisting of various types of LTE900, LTE1800, and LTE2300 with their respective revenue. LTE2100 includes a new type, therefore it has not been found in the site list. Based on calculations using pycharm software, PULP packages result from site selection are as many as 75 LTE1800 sites, 15 LTE2300 sites, and 0 LTE900 sites with total revenue earned Rp321.080.541.454,6099. When compared with the results of determining the number of LTE types that must be built are LTE2100 12.576 sites, LTE1800 927 sites, LTE2300 274 sites, and LTE900 of 0 sites. It can be concluded that the LTE development priority results that provide the most optimal value is to build LTE2100, LTE1800, LTE2300, and LTE900.

Keywords: *Linear Programming, Base Transceiver Station (site), 4G LTE, CAPEX, OPEX, python, pycharm, package PULP.*