

ABSTRACT

There is one of companies located in Bandung that run in delivery and logistic company. Bandung Raya itself has 13 delivery centers including Bandung City, Bandung Regency, West Bandung Regency, and Cimahi City. However, there are still unfulfilled demand that cause loss cost for the company because the distance between delivery center to the customer location is too far. Therefore, the company is willing to add one more delivery center in Bandung Raya except the center of Bandung City.

In result the problematic delivery centers are located in Ujung Berung, Dayeuh Kolot, and Soreang. To get the feasible new location of the facility there are several step to do. Firstly, gravity model is used to determine the potential district of each area. The villages that include in those district are become the candidate location of the facility. The next step is uncapacitated facility location problem (UFLP), it used to determine one village of each area that has the least total of annual fix cost and transportation cost. The last step is feasibility study that determine which village that feasible to build based on the net present value (NPV), internal rate of return (IRR), and payback period (PBP).

In result of Gravity Model, Ujung Berung's potential district is located in Arcamanik District, Dayeuh Kolot's candidate locations that located in Arjasari District, and Soreang's candidate locations located in Katapang District. For the UFLP result, the villages that selected are Arcamanik Endah for Ujung Berung, Mangunjaya for Dayeuh Kolot, and Pangauban for Soreang with least total cost less than 600, 700, and 800 million rupiah respectively. The last is feasibility study that result only Dayeuh Kolot that feasible to built with PBP less than 5 years.

In conclusion, after Gravity Model, UFLP, and Feasibility Study are done, the location that optimal to be built is in Dayeuh Kolot area. More precisely, it is located in Mangunjaya Villages in Arjasari District with least total cost Rp686,557,220.- and PBP less than 5 years.

Keyword: Site Selection, Logistic, Gravity Model, Uncapacitated Facility Location Problem, Feasibility Study