ABSTRAK

REZKY ANADRA. Determining Best Location of New Bakosurtanal Outlet Using GIS with Multicriteria Density Analysis. This experiment is supervised by SRI NURDIATI and SRI LESTARI MUNAJATI.

As a government institution that holds survey and mapping activities in Indonesia Bakosurtanal has customers spread out around the country. For about 75% of that customers are from Jabodetabek area. Until today, product selling transaction is held by center outlet of Bakosurtanal, Cibinong, West Java and several outlets in Jabodetabek. The number of outlets in this area are not balance with the number of customers. Thats why, Bakosurtanal plans to build several new outlets to increase services for its customers. To determine the best location of new outlet, several factors need to be considered, such as customers and facilities spread out data. Geographical Information System (GIS) and several analysis process can be utilized to answer this big question.

Determining Best Location of New Bakosurtanal Outlet Using GIS with Multicriteria Density Analysis is developed using arcGIS 9.2 software from ESRI. The primary goal of this experiment is to determine best location by considering density of all parameters. The parameters are customers and facilities spread out data. The process is started from data clearing. This step is aimed to get unique and complete addressed customers data. The following process is digitizing. In this step every customers are mapped to the digital map by defining their spatial coordinate based on their real and complete addresses. The output of this step are point shapefiles. Survey is done to know the real position of customer’s uncertain address. Beside it, the survey is aimed to get costumer’s opinion about best location of new outlets. When the point shapefile has been created, point density process can be started. All customers and facilities data of every area are proceed to get their each density, and then they are classified to be 5 classes for every layer. The output of point density are raster image. The next step is overlaying. Overlay process is done between raster image of customer and facilities. Unfortunately, all parameters do not have same influence to decide the best location. Thats why every raster image must be given weight. The weight of every raster image can be gotten by doing buffering and clipping. Both process are done to get information about how big facilities influences the customers density. If there is positive correlation between facility and customers, that facility will be given a big weight. In the contrary, it will be given small weight. How we give the weight of every facility is also depend on customers opinion, based on the survey. When all facilities have been weighted, the overlay can be started. The output of overlay are shapefiles that can show best location of new outlet of every area.

Keyword: GIS, density analysis, Bakosurtanal