

## ABSTRACT

The internet is a tool for disseminating information and has become a need for all people, one of which is the people of Jambi City. This is an opportunity for the company to increase sales of service products offered by the company in the form of Wi-Fi package. The number of demands for Wi-Fi installation that spread throughout the city of Jambi makes not all demands can be fulfilled, this is due to the location of the customer's house which is outside the coverage area of the company's Optical Distribution Point (ODP) or the company's optical distribution point port is already full (out of stock) at that location. To solve this problem, the company needs to make a decision to build an optical distribution point to fulfill customer demands. To solve these problems, the authors designed a decision support system for the construction of optical distribution points with the Multi Criteria Decision Making (MCDM) approach using the Analytical Hierarchy Process (AHP) and Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) methods. Analytical hierarchy process is used to determine the weight of each criterion, and the TOPSIS method is used in determined alternative location. Based on the calculations that have been done, the results obtained are decisions to build ODP in 53 locations out of a total 64 locations that are not available ODP ports. Furthermore, from the results of the system for determining the location of the ODP development, the service level of the proposed Wi-Fi installation is 99.54%. Then obtained lost sales of the system is IDR17,600,000.00 which decreased compared to the existing lost sales is Rp73,150,000.00.

***Keywords: Decision support system, MCDM, AHP, TOPSIS***