

## CHAPTER V CONCLUSIONS AND SUGGESTIONS

Conclusions:

1. The Crowdsourcing Service-Last Mile Logistics in Rural area model developed in this study has proven its effectiveness in increasing the efficiency of goods delivery in rural areas. This model is able to provide fast, inexpensive, and reliable solutions in delivering goods to end consumers. This research has proven that using the Crowdsourcing Service-Last Mile Logistics in Rural area model can optimize delivery by minimizing costs and providing the fastest routes.
2. In determining the minimum cost of Crowdsourcing Service-Last Mile Logistics in Rural areas with the fastest routes, this research has succeeded in developing a method or algorithm that can produce optimal solutions. Taking into account factors such as distance, time and costs, this method can come up with the most efficient and financially profitable shipping route. The results of this study make an important contribution in the field of logistics and delivery of goods in rural areas.

This conclusion confirms that the research that has been carried out has succeeded in achieving the goal of developing a Crowdsourcing Service-Last Mile Logistics in Rural area model and determining the minimum cost with the fastest route. These results can become the basis for further development in improving the quality and efficiency of goods delivery services in rural areas.

Suggestion :

Based on the results of the research that has been done, there are several suggestions for further research to improve accuracy and effectiveness in determining shipping routes using the heuristic method. One suggestion that can be explored is the use of different additional heuristic methods or a combination of several existing heuristic methods.

Future research can combine heuristic methods such as Genetic Algorithms, Simulated Annealing, or Tabu Search to find a more optimal delivery route solution. By integrating various heuristic methods, it can be expected that research results will become more accurate and produce more efficient shipping routes and significantly reduce costs.

In addition, future research may also consider other factors that influence the determination of delivery routes, such as traffic conditions, more specific delivery times, or other relevant limitations. By paying attention to these aspects, research results can provide solutions that are more accurate and in accordance with actual conditions.

In addition to additional heuristic methods, the use of the latest technologies such as Big Data analysis, Machine Learning or algorithm-based optimization can also be the focus of further research. By utilizing this technology, it can be expected that the process of determining delivery routes can be more precise and efficient, as well as provide more optimal solutions.

Subsequent research using additional heuristic methods and considering other relevant factors and utilizing the latest technology will make a significant contribution

to the development of the Crowdsourcing Service-Last Mile Logistics in Rural area model and increase the effectiveness of goods delivery in rural areas.