

**CASH FLOW ANALYSIS USING DATA MINING FOR
DECISION SUPPORT SYSTEM CONSTRUCTION IN
CV. DWI DAYA AGOMAS**

A THESIS

**Submitted in Partial Fulfillment of the Requirement for the Degree of
Bachelor of Engineering in Industrial Engineering**



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FOREWORD

As the writer of this research, I feel grateful to everyone involved in the process from beginning until the end. This research is dedicated especially to my brother's company that has been ongoing a very tough times, a tough times for everyone in the world. I hope that through this research, I can help my brother and alsoe everyone to solve their problems. Also I would like to thank everyone such as :

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I realize that this research is far from perfect, but still, I hope that this research can be useful to anyone that is in need of this knowledge.

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Declaring that my final project research titled "Cash Flow Analysis using Data Mining for Decision Support System Construction at CV Dwi Daya Agomas" as my own work and has never been worked on before. This is the final result of the research I conducted from January – May 2021 which is an original work and does not contain any form of plagiarism from any works . If in the future there it is found a disagreement or a violation of this statement, I am willing to be prosecuted and processed in accordance to the applicable provisions including the revocation of the bachelor's degree given by Universitas Atma Jaya Yogyakarta

Yogyakarta, 21st March 2021



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ABSTRACT

In Indonesia, there are a lot of industries that are currently undergoing a big changes in the term of their development. A specific industry such as the palm oil industry is one of the industries that are very common to be found in West Borneo province. Crude palm oil is a commodity that can be easily found in our daily life. Behind the product that is based on the palm fruit itself, exist many parties that are involved in the industry. One of the parties that are taken into focus is a holding ramp. A holding ramp is a company that purchases crude palm fruit from the farmers and sells it to the factory that processes it. Inside a holding ramp business, there exists a constant purchasing activity to ensure that a ramp can hold as many palm fruit from the farmer that can be sold to the processing factory. Taking the point of view from the owner of the company in preparing their funds, there exists a problem where the fund that is utilized for purchasing activity is often unavailable. Therefore, a research is conducted to find the best solution to solve this problem.

In this research, a holding ramp became the object to be taken into focus. The main focus of this research is to create a decision support system for a holding ramp in managing their fund utilization especially in preparing the budget for purchasing activity. In the first step of the research, a data collection activity is conducted by interviewing the company owner and requesting the necessary data such as the company transaction data. Using data mining as the method to extract information from the data, various insights and findings can be obtained and later used for the development of the decision support system itself. The method utilized to find the information from the data is by using various tools such as R Studio to find the type of data distribution from the obtained data. The approach is by using Maximum Likelihood Estimation to find the best type of data distribution that fits the data that was analyzed.

The result of this research is a decision support system in the form of purchasing activity simulation based on the company's purchasing behavior. The simulation is constructed in Microsoft Excel and showing predictions of various variables such as the amount of goods purchased, the timing of selling the goods, and the amount of bank account balance of the company.

Throughout the development of the decision support system itself, many discussion were conducted with the company owner to gain much information such as the company's financial condition and the market condition of the crude palm oil industry. By having constant communication with the owner, there are many adjustments made to the decision support. The decision support system developed was used as the tool by the company owner to determine the amount of many needed to be prepared before purchasing the goods for a consecutive amount of time.

Keywords: Decision Support System, Maximum Likelihood Estimation, Simulation, Data Mining, Decision Analysis, Crude Palm Oil, Holding Ramp.