



**VALUE CREATION - FINDING THE BEST RAW
MATERIAL SUBSTITUTION COMBINATION IN FEED
INDUSTRY**

THESIS

**Submitted as one of the requirements to obtain
Magister Manajemen**

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ABSTRACT

PT.NEW HOPE INDONESIA takes feed sales as the main business. Due to the feed industry being a fully competitive market, usually 70-80% of the company's operating costs come from raw materials. Among which corn is the most used raw material. Under the extreme weather conditions of El Nino in 2023, short supply of corn in Indonesian market happened, the price of corn rose by more than 50% in early 2024; the company's raw material supply chain was also facing the pressure of stopping production due to the shortage of corn. Therefore, this study used cassava as an alternative to corn. Cassava agricultural product in abundant supply in Indonesia, to replace the amount of corn in feed formulation. After a thorough market supply assessment and verification of the effect of alternative farms, by applying linear programming method this study finally found that it is more reasonable for cassava to substitute less than 50% of corn. The formula corn cost Rp. 6461,46/kg in a specific market environment. The formula found the feed of casava could replace corn 43,19%, and it cost Rp. 5830,9/kg, which can effectively reduce the cost of Rp. 630,56 /kg. The discovery not only solves the problem of corn supply in a specific market environment but also significantly reduces the company's operating costs and improves the company's Profitability level.

Keywords: Supply chain management, cassava substitutability, Formula design, Linear program, feed.

ABSTRAK

PT. NEW HOPE INDONESIA perusahaan penjual pakan sebagai bisnis utama. Kompetisi industri pakan di Indonesia semakin kompetitif, biasanya 70-80% dari biaya operasional perusahaan berasal dari bahan baku. Di antaranya jagung sebagai bahan baku utama yang paling banyak digunakan. Di bawah kondisi cuaca ekstrem El Nino pada tahun 2023, terjadi kekurangan pasokan jagung di pasar Indonesia, harga jagung naik lebih dari 50% pada awal tahun 2024; Rantai pasokan bahan baku perusahaan juga menghadapi tekanan penghentian produksi karena kekurangan jagung. Oleh karena itu, perlu dilakukan penelitian alternatif jagung, singkong merupakan salah satu alternatif. Hasil pertanian singkong melimpah di Indonesia, dapat dijadikan pasokan yang untuk menggantikan jumlah jagung dalam formulasi pakan. Setelah dilakukan penilaian pasokan pasar secara menyeluruh dan verifikasi pengaruh pertanian, dengan menerapkan metode pemrograman linier penelitian ini menemukan bahwa singkong dapat dijadikan pengganti jagung kurang dari 50%. Harga jagung Rp. 6461,46/kg di lingkungan pasar tertentu. Penelitian ini menemukan pakan singkong dapat menggantikan jagung sebesar 43,19%, dengan harga Rp 5830,9/kg, yang secara efektif dapat menurunkan biaya sebesar Rp 630,56 /kg. Penemuan ini tidak hanya memecahkan masalah pasokan jagung tetapi juga secara signifikan mengurangi biaya operasional perusahaan dan meningkatkan tingkat profitabilitas perusahaan.

Keywords: Manajemen rantai pasokan; substitusi singkong; Perubahan formula; Alat pemecah excel

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