

ABSTRACT

OPTIMIZATION OF PROFIT IN THE FRUIT CHIPS INDUSTRY (Case Study of SI Bintang Buah Business, Bandar Lampung City)

By

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Production planning for fruit chips at SI Bintang Buah in Bandar Lampung was still carried out manually, resulting in inaccurate measurements of production volume and product demand, which led to raw material losses and product overstock. This situation resulted in suboptimal profits. This study aimed to determine the best product demand forecasting method and the optimal production volume to maximize profits. The study was conducted using the Simplex method of linear programming with the assistance of LINDO software and began by forecasting product demand using the Linear Regression, Moving Average, and Single Exponential Smoothing methods. The results showed that the optimal production quantities for Muli Stick banana chips, Muli Roll banana chips, jackfruit chips, and salak chips were 672.67 kg, 29 kg, 256 kg, and 61.3 kg, respectively, and the implementation of the optimization results increased profits by IDR 1,948,825.

Keywords: forecasting, production optimization, *linear programming*, LINDO, fruit chips

ABSTRAK

OPTIMALISASI KEUNTUNGAN INDUSTRI KERIPIK BUAH (Studi Kasus di SI Bintang Buah Kota Bandar Lampung)

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Perencanaan produksi keripik di SI Bintang Buah Kota Bandar Lampung masih dilakukan secara manual, dimana jumlah produksi dan permintaan produk tidak terukur secara tepat sehingga terjadi *losses* bahan baku dan *overstock* produk. Hal ini akan mengakibatkan keuntungan yang diperoleh tidak optimal. Penelitian ini bertujuan untuk menentukan metode peramalan permintaan produk terbaik dan menentukan jumlah produksi agar keuntungan yang diperoleh optimal. Penelitian dilakukan menggunakan *linear programming* metode simpleks dengan bantuan *software* LINDO. Penelitian diawali dengan melakukan peramalan permintaan produk menggunakan metode Regresi Linear, *Moving Average* dan *Single Exponential Smoothing*. Hasil penelitian menunjukkan bahwa jumlah produksi optimal keripik pisang muli stik, pisang muli roll, nangka, dan salak berturut-turut sebesar 672,67 kg; 29 kg; 256 kg; dan 61,3 kg. Penerapan hasil optimalisasi meningkatkan keuntungan sebesar Rp1.948.825.

Kata kunci: peramalan, optimasi produksi, *linear programming*, LINDO, keripik buah