The purposes of this research were to analyze and to determine the model of production planning activities, to design Enterprise Resource Planning (ERP) system in the marketing, production, warehouse, human resource and financial department and to formulate the strategy of Enterprise Resource Planning (ERP) system implementation in PT. Fajar Taurus. The research was conducted using descriptive method and ERP development system which involved several departments: marketing, production, warehouse, human resource and financial department. Data were analyzed using Microsoft Access 2003, and the models were processed using Microsoft Excel Software. The production plan were developed using several models, which are 1) choosing the best forecast model from four available models, moving average with linear trend, weighted moving average model, double exponential smoothing with linear trend model and trend line analysis model, 2) determining the best production plan from three available models: level method, chase strategy, and compromise, 3) production schedule models which consist of production sum model, labor needs model, and direct cost, 4) supply need plan model. 5) calculation of Chocolate Milk in 175 ml package’s cost of goods manufactured.

The result of this research showed that several analyzed ERP models which calculated the production cost have the lower cost of goods manufactured compared to the company’s method. One of the reasons was because of the production quantity was not considered by the actual demand, high charges and the amount of the employees. Hence, ERP model is better than the company’s method. Furthermore, PT. Fajar Taurus’s information flow was not well integrated, which indicated by the unavailability of integrated data structure and information flow scheme. ERP plan in this research were divided into four main parts, which are: centralized processing system, database management system, dialogue management system, and model bases management system. The implementation design of ERP system required some component supporting design, which are 1) hardware supporting system (for example, local area network), 2) software which compatible with the designed system, 3) humanware to operate the system and 4) completed and organized databases.