

## ABSTRAK

Permintaan pasar sangat berpengaruh dalam perencanaan produksi pada suatu perusahaan. Perencanaan produksi pada PT Sigma Utama masih mempraktekkan sistem manajemen industri yang bersifat tradisional, juga terdapat adanya kesenjangan komunikasi dan kerja sama antara departemen pemasaran, produksi, dan inventori. Maka dari itu, perlunya mengetahui perencanaan produksi yang diterapkan di PT Sigma Utama dan membuat usulan penerapan *Sales and Operation Planning* (S&OP) di PT Sigma Utama. Penelitian ini akan dilakukan analisis implementasi S&OP pada PT Sigma Utama sebagai bentuk perencanaan terintegrasi.

Tahapan dalam penelitian ini meliputi perencanaan produksi berbasis sistem *Material Requirement Planning* (MRP) mulai dari *forecasting*, *aggregate planning* atau Rencana Produksi Agregat (RPA), dan *Master Production Schedule* (MPS), kemudian dilanjutkan dengan S&OP. Berdasarkan plot data permintaan kebutuhan dari PT Sigma Utama, metode *forecasting* yang digunakan terdiri dari *Holt*, *Regresi Linear*, *Double Moving Average*, dan *Brown*. Metode *Brown* terpilih berdasarkan nilai *error* terkecil. Rencana produksi agregat menggunakan strategi berdasarkan kapasitas produksi dari PT Sigma Utama, kemudian dilakukan MPS, dan tiga langkah proses S&OP.

Hasil dari penelitian ini menunjukkan perencanaan produksi di PT Sigma Utama menggunakan sistem jangka pendek dan hanya berdasarkan MPS yang dapat mengakibatkan tidak terlihatnya kebutuhan kapasitas secara jangka menengah dan jangka panjang. Dengan S&OP, maka perencanaan agregat dari PT Sigma Utama dapat diketahui secara jelas mengenai kebutuhan sumber daya, kapasitas produksi, stok gudang barang jadi, pengadaan bahan baku, keuangan, dan unit terkait lainnya. Diketahui bahwa S&OP terjadi selisih antara perencanaan dan aktual seperti pada periode bulan Januari perencanaan *marketing* sebesar 19068 liter, sedangkan aktual *marketing* sebesar 575 liter.

Kata kunci: Perencanaan produksi, *forecasting*, *aggregate planning*, *master production schedule*, dan *sales and operation planning*.

## ABSTRACT

Market demand is very influential in the company production planning. Production planning at PT Sigma Utama is still using traditional industrial management system, there is also a gap in communication and cooperation between the departments of marketing, production, and inventory. Therefore, it is importance to know the production planning which is applied at PT Sigma Utama and to propose an implementation of Sales and Operation Planning (S&OP) at PT Sigma Utama. This research is aiming to analyse the implementation of the S&OP at PT Sigma Utama as a form of integrated planning.

The stages in this research including production planning based on Material Requirement Planning (MRP) system; starting from forecasting, aggregate planning or Rencana Produksi Agregat (RPA), and Master Production Schedule (MPS), then continued with the S&OP. According to the data of requirement demand of PT Sigma Utama, forecasting methods there are used consist of Holt, Linear Regression, Double Moving Average, and Brown. Brown method is chosen, according to the smallest error value. The aggregate production planning uses a strategy based on the production capacity of PT Sigma Utama, the it is performed the MPS, and the last three step is S&OP process.

The results of this research show that the production planning at PT Sigma Utama uses a short-term system and MPS that lead to the invisibility of medium-term and long-term capacity requirement. By using with the S&OP, the aggregate planning of PT Sigma Utama will be known clearly about the requirement for resources, production capacity, stocks of finished goods warehouses, raw material procurement, finance, and other related units. Based on this research in the period of January, there was a 19068 liters of the marketing plan, while the actual marketing was 575 liters. It shows that there was a significant diviation between the marketing and the actual planning in the S&OP.

**Keyword:** Production planning, forecasting, aggregate planning, master production schedule, sales and operation planning.