Title: Application of Mathematical Model to Optimization of the Production Capacity of Paint Manufacturing Company.

Author(s): A.O. Odior and F.A. Oyawale


Date: 2009

Abstract: This paper presents a case study in the development and application of mathematical model to optimize the production capacity of paint manufacturing company. The organization specializes in the production of different grades of paint and paint containers. The paint production activities include; weighing of raw materials, drying of raw materials, dissolving of raw materials, material filtering, material stirring, product inspection and quality control and product packaging. The processes in paint container production comprise of cutting of sheet metal, sheet metal rolling, sheet metal pressing for overlapping hook, cutting of top cover, cutting of bottom cover, coiling of sheet metal to shape, pressing bottom cover to position.

The study reveals that the time it takes to produce a unit product is directly proportional to the number of production stages involved and the time spent at each of these production stages. This time is being represented by some structural equations which are characteristics of the system being studied.