

Scheduling Problem Challenges Arising in a Textile Company and Solution Proposals

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Abstract

In this paper we consider a production and scheduling problem in a textile company. The company (namely Boyar Kimya) is located in Gaziantep city and producing dyeing, industrial yarns and fancy yarns. However, many problems are encountered during production scheduling due to the wide variety of products and also increasing demands for improved quality, customization, and shorter delivery lead times. When looking at the problems caused by production disruptions and misplanning, two major problems are occurred. While one of the aforementioned problems is high waiting times of machines due to the color control of yarns, another most common problem is missing or excess product weights that are not at the desired level. In this paper, the identified problems are analyzed and examined in detail. Bottlenecks are tried to be determined by using flow process charts. Finally, potential improvements are discussed and solution proposals are provided. In the future, the solution methodologies will be applied and the process will be rescheduled.

Keywords

Acrylic Blended Yarn, Scheduling Problem, Textile Manufacturing.

Biographies

Dilara Muhacir is a student in the Department of Industrial Engineering at Gaziantep University, Turkey. She is working in a textile company as an intern research and development engineer. System optimization techniques, simulation, lean manufacturing, production planning are her areas of interest and She carries out scientific studies about these topics.

Muhammed İdris Aktaş is a manager of R&D department in a Textile company at Gaziantep, Turkey. He completed his undergraduate education in the Industrial and Textile engineering department, and his graduate education in the Industrial engineering department in the field of production planning. Currently, He continues his active career as a Phd. student at Gaziantep University. Production planning, Process optimization, inventory optimization, management of logistics, product management and marketing, Lean manufacturing, database management, Project management, software development are his areas of interest.

Eren Özceylan is an Associate Professor in the Department of Industrial Engineering at Gaziantep University, Turkey. He earned B.S. and M.Sc. in Industrial Engineering from Selçuk University, Turkey, and Ph.D. in Computer Engineering from Selçuk University. He was a visiting scholar at the Department of Mechanical and Industrial Engineering in Northeastern University in 2019. His research interests include environmental conscious production and distribution planning, GIS-based site selection, fuzzy mathematical programming, and disassembly line balancing.