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Minimization of Setup Times for Production Lines in Garment Manufacturing for Sustainability

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Abstract

While the ready-made clothing manufacturers continue their production for their customers, they are also working on how to make these processes more efficient. Each clothing order consists of a process starting from the design stage to the delivery of the completed products to the logistics company. In order for companies to survive in the competitive conditions in the global world, they need to produce according to less costly methods in their production processes. Increasing material use efficiency due to technological developments may in some cases depend on external factors. In order to use internal processes effectively, production processes must be under control. Confection, one of the sub-branches of the textile industry, is the business line where processes are most affected by the human factor. Due to the fact that mechanization can develop to a certain level, processes change directly according to human performance. The biggest problem faced by many companies is that there are orders that need to be kept constantly and the overtime is constantly working to fulfill these orders. Starting from the order intake stage, it is necessary to make appropriate planning for the business and arrange all inputs to comply with this planning. For this, all processes during the workflow should be examined and improvements should be determined. For this study, the work processes in the garment stage were examined and the methods related to the minimization of the setup times (model changing processes) in the sewing department were examined.

Keywords: Setup time, garment production, scheduling, production, sustainability.