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شبكة المعلومات الجامعية

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التوثيق الالكتروني والميكروفيلم

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قسم

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Thesis Title

A Proposed Model to Minimize the Overall Makespan of Mixed-model Assembly Line in Automotive Industry in Egypt

(نموذج مقترح لتقليل الزمن الكلي للتصنيع في خطوط تجميع الموديلات المختلطة في قطاع صناعة السيارات في مصر)

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Abstract

The current study states that workforce scheduling in automotive industry is affected by multiple factors, one of the main factors is the overall makespan of assembly lines which needs to be minimized.

Time minimization is affected by some constraints, such as workers number, workforce type, workstation type, cycle time of model, number of station, total number of jobs in the assembly line, and number of models.

This makes the current research targets to achieve certain objectives, such as optimize vehicle manufacturers in Egypt performance in terms of production costs and faces the forces of the current highly competitive marketplace, and help managers in these companies to prepare different versions of assignment schedules with different production cycles.

The current research is important for the automotive industry sector because mass production system in manufacturing sector requires repetitive production work patterns which implies the necessity of arranging for flexible workers schedules.

The research follows linear programming to create a system of equation for solving time minimization problem in three phases, each deals with real life parameters taken from one of Egyptian vehicles manufacturers, Prima Plant. Final results show successful time minimization.

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