

عنوان مقاله:

BALANCING AND SEQUENCING' VERSUS 'ONLY BALANCING' IN MIXED MODEL U-LINE ASSEMBLY'
SYSTEMS: AN ECONOMIC ANALYSIS

محل انتشار:

مجله بین المللی مدل سازی و محاسبات ریاضی، دوره 6، شماره 1 (سال: 1395)

تعداد صفحات اصل مقاله: 17

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خلاصه مقاله:

With the growth in customers' demand diversification, mixed-model U-lines (MMUL) have acquired increasing importance in the area of assembly systems. There are generally two different approaches in the literature for balancing such systems. Some researchers believe that since the types of models can be very diverse, a balancing approach without simultaneously sequencing of models will not yield an optimum configuration. On the other hand, another group of researchers point to the high cost of balancing systems and prefer to do it only one time regardless of the models' sequences. In this paper, we aim to compare these two approaches by introducing an economic indicator. To do so, two models as representatives of the two different viewpoints are taken from the literature. To check the validity of this methodology, it is implemented by Lingo ۱۱.۰, for small scale, and GA, for a large scale. The obtained results indicate that, from the proposed economic indicator point of view, mixed-model U-lines balancing and sequencing (MMUL/BS) is preferred to its counterpart, mixed-model U-lines balancing (MMULB). This paper offers economic guidelines for managers to choose between only balancing and implementing it by sequencing at the same time.

کلمات کلیدی:

Mixed model U-lines, Assembly line balancing, Assembly line balancing and Sequencing, Cost index, Genetic Algorithm

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<https://civilica.com/doc/1590064>



