

## Journal of manufacturing systems

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### Abstrak

**ABSTRAK**

Cellular manufacturing systems have gained significant research attention in recent years because of their inherent ability to spur productivity. Classical cellular manufacturing literature has concerned itself with the problem of identifying appropriate machine-part groups. This paper proposes a mixed-integer nonlinear programming formulation model for the machine layout problem in cellular manufacturing. The objective of the formulation is to minimize a surrogate-weighted cost of intercellular material movement under capacity and part requirement constraints. A heuristic solution method is proposed, and a numerical example is presented to illustrate the model and demonstrate the solution improvement.