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Staff scheduling and rostering: A review of applications, methods and models

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Abstract

This paper presents a review of staff scheduling and rostering, an area that has become increasingly important as business becomes more service oriented and cost conscious in a global environment.

Optimised staff schedules can provide enormous benefits, but require carefully implemented decision support systems if an organisation is to meet customer demands in a cost effective manner while satisfying requirements such as flexible workplace agreements, shift equity, staff preferences, and part-time work. In addition, each industry sector has its own set of issues and must be viewed in its own right. There are many computer software packages for staff scheduling, ranging from spreadsheet implementations of manual processes through to mathematical models using efficient optimal or heuristic algorithms. We do not review software packages in this paper.

Rather, we review rostering problems in specific application areas, and the models and

rather, we review rostering problems in specific application areas, and the models and algorithms that have been reported in the literature for their solution. We also survey commonly used methods for solving rostering problems.



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Keywords

Staff scheduling; Personnel scheduling; Rostering

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