A Directed Search Approach to Selecting a Sequencing Rule*

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A standard approach to selecting a simple sequencing rule for decentralized application throughout a job shop is developed and illustrated. Search procedures are applied to a response function which is an expectation of relevant cost per order. The cost for each order observed is a weighted combination of the multiple responses that exist in a job-shop environment. An expectation of cost per order is found by sampling the processing of orders within a computer simulation model for a particular sequencing rule. Each sequencing rule is determined by the coefficients in a priority function which is a weighted combination of identified decision variables The search procedure thus tests different sequencing rules by varying the coefficients in the priority function and generating associated cost expectations through simulation. Rather than leading to a "single best rule" for all job shops, the appreach is a "method for finding" a sequencing rule for any specific situation.

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