

考虑稳定匹配条件的双边满意匹配决策方法

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Decision Analysis Method for Two-Sided Satisfied Matching Considering Stable Matching Condition

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摘要 双边匹配问题是指如何在两个不相交的主体集合中依据各主体针对潜在匹配对象给出的偏好信息来确定合适的匹配结果, 其在经济管理领域中存在着大量的实际背景, 是许多学者关注的研究课题。在本文中, 针对双边主体给出偏好序值信息的双边匹配问题, 给出了一种考虑稳定匹配条件的双边满意匹配决策方法。首先给出了双边匹配、稳定匹配和满意匹配的相关概念; 然后考虑到稳定匹配条件, 并以双边主体满意度最大为目标, 构建了多目标双边匹配优化模型; 进一步地, 采用线性加权法将多目标优化模型转换为单目标优化模型, 并通过求解优化模型来获得最优匹配结果。最后, 通过一个算例说明了本文提出方法的实用性和有效性。

关键词: [双边匹配](#) [序值](#) [稳定匹配](#) [满意度](#) [满意匹配](#) [优化模型](#)

Abstract: Two-sided matching problem refers to how to obtain proper matching result from two disjoint sets of agents according to the preference information of each agent for potential partners from the opposite set. It is a research topic with extensive practical backgrounds in the field of economic management and attracts the attention of many scholars. In this paper, a decision analysis method for two-sided satisfied matching considering stable matching condition is proposed to solve the two-sided matching problem, in which the preference ordinal numbers are provided by agents on both sides. Firstly, the related concepts on two-sided matching, stable matching and satisfied matching are given. Then, considering the stable matching condition, a multi-objective two-sided matching optimization model which maximizes the satisfaction degrees of two-sided agents is constructed. Furthermore, the linear weighted method is used to convert the multi-objective optimization model into a single-objective optimization model, and the optimal matching result can be obtained by solving the model. Finally, a numerical example is given to illustrate the practicality and effectiveness of the method proposed in this paper.

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