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# 基于活动敏感性的动态缓冲监控方法研究

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## Research on Activity Sensitivity Index based Dynamic Buffer Monitoring Method

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摘要 缓冲监控问题对于企业成功应用关键链项目管理，提高项目进度管理绩效和确保项目按时完工，都至关重要。本文针对现有缓冲监控方法在项目进度监控中所存在的忽视内部情况的问题，引入项目进度风险分析方法中的活动敏感性信息。研究了动态环境下活动敏感性指标的计算和监控阀值的设定，在缓冲的黄区监控中集成了考虑活动敏感信息的动态监控过程。在综合考虑缓冲指标和活动关联度指标的监控指标体系，综合设置各指标的监控阀值的基础上，提出了基于活动敏感性信息的关键链动态缓冲监控方法。最后通过一个算例将所提方法与现有方法进行比较，实验结果表明，合理设置活动关联度的监控阀值后，所提方法在总赶工时间、总赶工活动数、超计划完工次数以及监控负荷这四个绩效方面的结果更优。

关键词：关键链项目管理　缓冲监控　进度监控　活动敏感性

**Abstract**：The problem of buffer monitoring has a significant impact on successful application of the critical chain project management in many enterprises, and it can improve the performance of project schedule management and ensure the on-time delivery of projects. The current buffer monitoring methods neglect the project structure and activity information. To solve this defect, the activity sensitivity information in the schedule risk analysis method is introduced as a basis for decision making. The calculation of activity sensitivity index and the setting of action threshold are studied. An activity sensitivity index based dynamic monitoring process is triggered and integrated into buffer control when buffer consumption penetrates into the yellow region. Then an activity sensitivity index based dynamic buffer monitoring method is proposed. In detail, a indicator system with considering buffer index and activity cruciality index is established, and the action threshold of each indicator is set during project execution. Finally, a computational experiment is carried out to compare the proposed method and the current methods, the results show that the proposed method do better than the current buffer monitoring method in four performance indicators, such as the total crashing time, the total number of crashing activities, the frequency of completion time exceeding plans and monitoring load, when reasonably setting the action threshold of cruciality index.

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