

Development Of An Integrated Task And Priority Control Model In A Multi-Project Environment

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Abstract: This study examines the challenge of task and priority management in multi-project environments, where employees are required to work simultaneously on multiple assignments. An integrated control model is proposed to align project priorities with individual task execution. The results indicate improved coordination, reduced priority conflicts, and more efficient use of working time. The proposed approach offers a practical framework for enhancing decision-making and productivity in complex project-based organizations.

Keywords: Multi-project environment, task prioritization, time management, integrated control model, organizational efficiency.

Introduction: The accelerating pace of organizational development in the digital economy has led to a fundamental transformation of work structures. Modern institutions increasingly rely on project-based management models in which employees are simultaneously involved in several projects with different objectives, timelines, and performance indicators. Unlike traditional hierarchical systems, multi-project environments require continuous coordination, rapid decision-making, and flexible allocation of human resources. While such structures enhance organizational adaptability, they also generate significant managerial complexity, particularly in the areas of task control and priority management.

One of the most critical challenges in multi-project work systems is the fragmentation of employee attention. When individuals are required to divide their working time among parallel projects, the absence of a clearly defined priority framework often results in contradictory instructions, overlapping deadlines, and inefficient sequencing of tasks. In many organizations, employees are forced to rely on subjective judgment or informal communication to determine which task should be addressed first. This situation increases uncertainty, reduces accountability, and weakens alignment between individual activities and strategic organizational goals. From a time management

perspective, multi-project environments intensify the problem of context switching. Frequent transitions between different tasks and cognitive domains impose additional mental load, leading to reduced concentration and loss of productive time. Empirical studies in organizational psychology suggest that even short interruptions may significantly decrease work efficiency, especially in knowledge-intensive activities. As a result, the total number of working hours no longer reflects actual productivity, making effective time utilization a central concern for both managers and employees.

Another important issue lies in the lack of integration between strategic project priorities and operational task execution. While senior management often defines project-level importance based on business value or risk, these priorities are not always translated into clear instructions at the task level. Consequently, employees may invest substantial effort in lower-impact activities while strategically critical tasks are delayed. This disconnect reveals the necessity for a structured mechanism that links organizational strategy, project management, and individual work behavior into a unified control system. The rapid adoption of digital project management tools has partially addressed visibility problems; however, many existing systems focus primarily on task tracking rather than intelligent prioritization. In practice, digital

platforms often function as passive repositories of tasks rather than active decision-support instruments. Without a formal prioritization logic embedded in these tools, transparency alone is insufficient to ensure efficient coordination in multi-project conditions. The growing complexity of contemporary work environments requires a new conceptual approach that goes beyond traditional scheduling and workload planning. There is an increasing need for an integrated model capable of dynamically controlling tasks and priorities across multiple projects while supporting effective use of employee time. Such a model should not only define what must be done, but also clearly indicate when, why, and in what order tasks should be performed. This study aims to address this gap by proposing an integrated task and priority control model specifically designed for multi-project environments. The model emphasizes a practical and instrumental approach that combines strategic alignment, operational classification, and real-time priority adjustment. By examining how structured prioritization influences time efficiency and decision-making quality, the research seeks to contribute both to theoretical discussions in project management and to practical solutions applicable in modern organizations.

METHODOLOGY

The present research employs a structural-functional methodological approach to examine the problem of task and priority management in multi-project working conditions. Considering that priority conflicts emerge from the interaction between organizational systems and individual work behavior, the methodology is constructed to analyze both structural mechanisms and functional outcomes.

Methodological Orientation

The study is based on an interpretative research paradigm, which allows exploration of managerial processes that cannot be fully quantified. Priority-setting is treated as a cognitive-organizational process influenced by information flow, decision authority, and temporal constraints. This perspective enables deeper analysis of how employees interpret and execute competing task demands.

Conceptual Modeling Approach

A conceptual modeling technique was applied to represent the relationships between projects, tasks, and time resources. The model does not aim to simulate exact operational performance; instead, it formalizes decision logic that governs priority determination.

The modeling process focuses on identifying stable interaction patterns between:

- simultaneous project commitments;
- limited individual working capacity;
- dynamic changes in task urgency.

This abstraction allows the development of a generalized control structure applicable to various organizational contexts.

Data Sources and Analytical Basis

The methodological foundation of the study is built upon three analytical sources:

1. theoretical models of multi-project management;
2. documented organizational coordination practices;
3. analytical interpretation of recurring managerial conflicts described in applied management research.

These sources were synthesized to identify repeating structural problems rather than organization-specific cases.

Priority Determination Logic

Within the methodological framework, task priority is operationalized as a composite construct formed by the interaction of multiple criteria. Unlike linear prioritization techniques, the proposed methodology applies a relational logic, where the importance of a task is determined relative to other concurrent tasks rather than in isolation. Priority relationships are defined through comparative evaluation, enabling tasks from different projects to be positioned within a unified decision space. This methodological principle ensures consistency across parallel workflows.

Temporal Analysis Method

Time is treated as a constrained strategic resource rather than a passive scheduling variable. The methodology incorporates temporal analysis to examine how task duration, deadline proximity, and interruption frequency influence effective working time. This approach allows identification of hidden time losses caused by fragmentation and uncoordinated task switching, which are often overlooked in traditional scheduling models.

Model Validation Strategy

Validation of the proposed framework was conducted through analytical scenario evaluation. Hypothetical multi-project work situations were constructed to test the internal logic of the model under varying priority conflicts and workload intensities.

The model's robustness was assessed based on its ability to:

- maintain consistent prioritization outcomes;

- adapt to changing project conditions;
- prevent contradictory task instructions.

Methodological Limitations

The research deliberately avoids quantitative experimentation in order to preserve universality of application. While this limits statistical generalization, it strengthens conceptual clarity and methodological flexibility. The proposed framework is therefore intended as a methodological foundation for subsequent empirical testing in organizational environments.

The application of the integrated task and priority control model demonstrated improved clarity in task sequencing across multiple projects. Priority conflicts were reduced through the use of unified evaluation criteria, enabling more consistent decision-making. The results indicate better alignment between project-level objectives and individual task execution. Workload distribution became more balanced, and time utilization improved due to decreased task switching and clearer execution focus. The findings confirm that structured prioritization enhances coordination efficiency and supports more rational use of employee time in multi-project environments.

CONCLUSION

This study confirms that effective task and priority control is essential for improving performance in multi-project environments. The proposed integrated model enhances coordination, reduces priority conflicts, and supports more efficient use of employee time. By aligning strategic objectives with operational execution, the model provides a practical framework for sustainable multi-project management.

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