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# Intelligent Automation in IT Project Execution: Enhancing Efficiency and Reducing Complexity

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**Abstract:** *The rapid evolution of information technology has dramatically expanded both the complexity and the scope of IT project execution. In today's fast-paced digital environment, managing projects involves juggling numerous variables—from shifting business requirements to intricate resource constraints—often rendering traditional manual methods inefficient. Intelligent automation, which harnesses the power of artificial intelligence (AI), machine learning (ML), robotic process automation (RPA), and advanced analytics, presents a transformative solution. This technology not only automates routine planning and resource allocation tasks but also integrates real-time monitoring and predictive analytics into project management workflows.*

*In our study, we propose a hybrid framework that seamlessly blends automated planning, dynamic resource allocation, and continuous monitoring systems with advanced predictive models. This framework is designed to reduce manual intervention, streamline complex processes, and optimize project execution. Our methodology includes detailed simulations using synthetic and real-world datasets, rigorous comparative studies against conventional project management techniques, and comprehensive user evaluations involving experienced IT professionals.*

*Preliminary results are promising—demonstrating significant reductions in project cycle times (up to 25%) and overall cost overhead (approximately 30%), while simultaneously boosting project success rates and enhancing stakeholder satisfaction. Looking forward, future research should focus on developing adaptive automation strategies, integrating these systems more deeply with DevOps practices, and further enhancing transparency in decision-making processes. These advancements will be key to driving operational excellence in increasingly complex, data-intensive IT project environments.*

**Keywords:** Intelligent Automation, IT Project Execution, Real-Time Monitoring, Adaptive Automation


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