

**PENGENDALIAN DURASI PROYEK *ENTERPRISE*
RESOURCE PLANNING BERBASIS KUANTIFIKASI
DINAMIKA ALIRAN PROSES BISNIS
(Studi Kasus: Proyek PT. Synova Tech Solutions)**

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ABSTRAK

PT Synova Tech Solutions merupakan penyedia jasa implementasi *Enterprise Resource Planning* (ERP) berbasis *Epicor Kinetic* yang sering mengalami keterlambatan penyelesaian proyek. Penelitian ini mengevaluasi tiga proyek implementasi ERP, yaitu Atlas, Orbit, dan Bridge (2024–2025), menggunakan *process mining* dengan PM4Py (*process discovery*, *conformance checking*, dan *process enhancement*), kemudian dilanjutkan dengan metode *Fuzzy PERT* untuk menilai risiko keterlambatan dan merumuskan percepatan proyek. Hasil *process mining* menunjukkan lima fase proses dengan tingkat kesesuaian tinggi (fitness 0,860–0,981), sementara keterlambatan terbesar terjadi pada fase *Training & Testing* dan *Deployment*, dengan proyek Orbit sebagai proyek terlama (333 hari). Hasil *Fuzzy PERT* menunjukkan peluang penyelesaian sesuai target yang rendah, yaitu proyek Atlas 33,5%, Bridge 25,4%, dan Orbit 17,6%. Simulasi percepatan pada aktivitas kritis menghasilkan durasi 105,53 hari (Atlas), 119,80 hari (Bridge), dan 143,57 hari (Orbit), sehingga metode ini efektif mengevaluasi dan mengoptimalkan penyelesaian proyek berdasarkan data aktual.

Kata Kunci: *Process Mining for Python*, *Fuzzy PERT*, Implementasi ERP

***DURATION CONTROL OF ENTERPRISE RESOURCE
PLANNING PROJECTS BASED ON THE QUANTIFICATION
OF BUSINESS PROCESS FLOW DYNAMICS
(Case Study: PT Synova Tech Solutions Projects)***

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ABSTRACT

PT Synova Tech Solutions, an Epicor Kinetic ERP implementation provider, frequently experiences project delays. This research evaluates three ERP implementation projects, namely Atlas, Orbit, and Bridge (2024-2025), using process mining with PM4Py (process discovery, conformance checking, and process enhancement), followed by the Fuzzy PERT method to assess delay risk and formulate acceleration strategies. Process mining results show five process phases with high conformance (fitness 0.860 to 0.981), with the largest delays occurring in the Training & Testing and Deployment phases. Orbit was the longest running project at 333 days. Fuzzy PERT results indicate low probabilities of on target completion, at 33.5% for Atlas, 25.4% for Bridge, and 17.6% for Orbit. Acceleration simulations on critical activities produced durations of 105.53 days for Atlas, 119.80 days for Bridge, and 143.57 days for Orbit, demonstrating that this method effectively evaluates and optimizes project completion based on actual data.

Keywords: *Process Mining for Python, Fuzzy PERT, ERP implementation*