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GADJAH MADA
**Analisis Kinerja Proyek Menggunakan Metode Earned Value, Earned Schedule, dan Earned Duration Management (Studi Kasus Proyek Pembangunan Sekolah)**
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# INTISARI

Proyek terikat dengan 3 batasan yaitu biaya, mutu, dan waktu. Oleh sebab itu diperlukan suatu sistem manajemen proyek konstruksi khususnya monitoring pada fase pelaksanaan proyek. Salah satu bentuk monitoring proyek dapat dilakukan dengan analisis kinerja proyek yang dilakukan per satuan waktu. Analisis kinerja proyek dapat dilakukan dengan 3 metode yaitu *Earned Value Management (EVM), Earned Schedule Management (ESM),* dan *Earned Duration Management (EDM).* Ketiga metode ini menganalisis kinerja progress berdasarkan perspektif yang berbeda. EVM mengambil perspektif *cost* dan *schedule*, ESM mengambil perspektif *schedule,* dan EDM mengambil perspektif *duration.* Oleh karena itu, penelitian ini bertujuan untuk melihat perbandingan hasil analisis kinerja proyek dari tiga metode yang berbeda.

Penelitian dilakukan dengan mengambil data progress proyek pembangunan sebuah sekolah di daerah Kasihan, Bantul selama 40 hari. Pekerjaan yang ditinjau meliputi pekerjaan arsitektural dan finishing. Kinerja proyek diperoleh berdasarkan data sekunder progress kontraktor selama 55 hari sebelum pengamatan dan data primer 40 hari pengambilan data secara langsung. Volume pekerjaan diamati dengan *mapping* yang kemudian dikonversi menjadi nilai bobot berbasis biaya sebagai dasar perhitungan metode EVM dan ESM serta dikonversi menjadi nilai bobot durasi sebagai dasar perhitungan metode EDM.

Hasil analisis menggunakan tiga metode menunjukkan adanya perbedaan penilaian kinerja proyek di beberapa waktu tinjauan. Misalnya pada minggu ke-13 di mana EVM dan ESM menunjukkan kondisi *"ahead"* (mendahului rencana) sementara EDM masih menunjukkan kondisi *"behind"* (dibelakang rencana). Selain status proyek yang dihasilkan berbeda, hasil prediksi selesai proyek juga berbeda. ESM memprediksi proyek selesai pada minggu 17,86 dan 17,82 sementara EDM memprediksi proyek selesai pada minggu 20,92. Hasil perbedaan pada tiap tiap metode ini diakibatkan oleh perbedaan basis pengukuran di mana metode EVM dan ESM berbasis pada progress berbobot biaya. EDM menggunakan basis pengukuran berupa durasi. Sehingga pada analisis EVM dan ESM, hasil analisis lebih dipengaruhi oleh pekerjaan dengan nilai pekerjaan yang relatif tinggi. Sementara EDM memberikan perspektif berdasarkan durasi aktivitas sehingga dapat menunjukkan kondisi keterlambatan yang tidak sepenuhnya terlihat melalui pendekatan berbasis biaya. Dengan demikian ketiga metode saling melengkapi perspektif satu sama lain.

**Kata kunci**: Kinerja Proyek, Prediksi Proyek, *Earned Value Management, Earned Schedule Management, Earned Duration Management.*

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# *ABSTRACT*

Construction projects are subject to three constraints, namely cost, quality, and time. Therefore, a project management system, particularly monitoring during the project execution phase, is required. One form of project monitoring can be conducted through project performance analysis at regular time intervals. Project performance analysis can be carried out using three methods: Earned Value Management (EVM), Earned Schedule Management (ESM), and Earned Duration Management (EDM). These three methods analyse project progress performance from different perspectives. EVM considers the perspectives of cost and schedule, ESM focuses on schedule, while EDM focuses on duration. Therefore, this study aims to compare the results of project performance analysis obtained using the three methods.

The study was conducted using progress data from the construction of a school building in Kasihan, Bantul, over a 40-day observation period. The work reviewed included architectural and finishing works. Project performance was evaluated using secondary data consisting of contractor progress records for the 55 days preceding the observation period and primary data collected directly over 40 days. Work quantities were observed through *"mapping"* and subsequently converted into cost-based weighted progress as the basis for the EVM and ESM calculations, as well as into duration-based weighted progress as the basis for the EDM calculation.

The results of the analysis using the three methods indicate differences in project performance assessments at several review periods. For example, in week 13, EVM and ESM indicated an *"ahead"* condition, whereas EDM indicated a *"behind"* condition. In addition to differences in project status, the predicted project completion times also differed. ESM predicted project completion at weeks 17.86 and 17.82, while EDM predicted completion at week 20.92. The differences in the results obtained from each method are attributable to their different measurement bases, with EVM and ESM using cost-weighted progress as the measurement basis, while EDM uses activity duration as its measurement basis. Consequently, the results of EVM and ESM analyses are more influenced by activities with relatively high work values, whereas EDM provides a perspective based on activity duration and can therefore indicate delays that may not be fully captured by a cost-based approach. Thus, the three methods provide complementary perspectives on project performance.

**Keyword**: Project performance, Project forecasting, Earned Value Management, Earned Schedule Management, Earned Duration Management.