

## ABSTRAK

Nama : **DEDEN SYARIPUDIN**  
Program Studi : Magister Teknik Sipil  
Judul : Evaluasi penyebab Keterlambatan Proyek Konstruksi  
Menggunakan Metode Analytical Hierarchy Process

Penelitian ini bertujuan untuk mengidentifikasi, memetakan, dan Evaluasi penyebab keterlambatan proyek konstruksi Puskesmas Matraman. Metode yang digunakan menggabungkan Fault Tree Analysis untuk menelusuri akar penyebab secara deduktif dan Analytical Hierarchy Process untuk menentukan bobot prioritas risiko berdasarkan penilaian ahli. Data dikumpulkan dari dokumen proyek, wawancara, dan kuesioner perbandingan berpasangan. Hasil FTA menunjukkan jalur kegagalan kritis pada tahap persiapan yang meliputi keterlambatan mobilisasi alat berat, material tidak sesuai spesifikasi, gangguan logistik, dan kesalahan pengukuran lahan. Pada pekerjaan beton struktural, jalur kritis muncul dari keterlambatan pasokan beton, gangguan peralatan pengecoran, dan kesalahan pengukuran. Hasil AHP menegaskan bahwa keterlambatan pasokan material dan kesalahan teknis lapangan memegang bobot kepentingan tertinggi terhadap risiko keterlambatan proyek. Integrasi AHP dan FTA menghasilkan rekomendasi mitigasi yang fokus pada pengendalian pasokan material, penguatan koordinasi teknis, penerapan quality gate, dan penggunaan look-ahead schedule, tiga Besar identifikasi risiko yang paling memengaruhi keterlambatan proyek konstruksi Puskesmas Matraman adalah keterlambatan kedatangan material 0,26%, koordinasi subkontraktor 0,15% dan kesalahan desain dan perubahan Gambar 0,09%. Strategi mitigasi dilakukan dengan fokus pada percepatan pengadaan material, koordinasi sub-kontraktor yang lebih efektif, perizinan yang cepat, dan kepatuhan terhadap jadwal pembayaran.

Kata Kunci: Manajemen Risiko, Analytical Hierarchy Process, Proyek Konstruksi, Puskesmas.

## ABSTRACT

Nama : DEDED SYARIPUDIN  
Program Studi : Teknik Sipil  
Judul : *Evaluating the Causes of Construction Project Delays  
Using the Analytical Hierarchy Process Method*

*The purpose of this study is to identify, map, and The evaluation caused delays in the Matraman Community Health Center construction project.. The research employs a combined approach using Fault Tree Analysis to trace root causes through a deductive failure-logic structure and the Analytical Hierarchy Process to determine the relative priority weights of risks based on expert judgments. Data were collected from project documentation, expert interviews, and pairwise comparison questionnaires. The results of the Fault Tree Analysis indicate that critical failure paths at the preparatory stage include delays in equipment mobilization, nonconforming materials, logistical disruptions, and land-measurement errors. In the structural concrete stage, critical risks arise from material-supply delays, equipment malfunction during casting operations, and technical measurement errors. The AHP results confirm that material-supply delays and on-site technical errors hold the highest priority weights in contributing to project delays. The integration of AHP and FTA produces mitigation strategies focused on strengthening material-supply control, enhancing technical coordination, implementing quality-gate procedures, and applying look-ahead scheduling. The three major identified risks that most influence the delays in the Matraman Community Health Center construction project are delays in material arrivals (0.26%), subcontractor coordination (0.15%), design errors and drawing changes (0.09%). Mitigation strategies are carried out with a focus on accelerating material procurement, more effective sub-contractor coordination, fast licensing, and compliance with payment schedules.*

*Keywords: Risk Management, Analytical Hierarchy Process, Construction Project, Public Health Center.*