Pemodelan mekanisme faktur penyebab dan dinamika kerentanan proyek konstruksi terhadap kecelakaan jatuh = Modelling causal mechanism and vulnerability dynamic of construction project leading to fall accident

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Abstrak

Disertasi ini membahas tingkat kerentanan proyek konstruksi terhadap kecelakaan jatuh. Tujuan penelitian adalah mengembangkan model mekanisme penyebab dan dinamika kerentanan proyek konstruksi terhadap kecelakaan jatuh serta menentukan program keselamatan kerja yang efektif untuk menurunkan kerentanan proyek.

Metodologi penelitian meliputi penyebaran kuesioner, observasi proyek, studi laporan kecelakaan kerja dan focus group discussion. Analisa fuzzy multy expert decision making dan sistem dinamis digunakan untuk mengembangkan mekanisme penyebab dan dinamika kerentanan.

Hasil menunjukkan bahwa mekanisme interaksi terdiri dari faktor manusia, peralatan, organisasi, manajemen, lingkungan, dan berubah selama pelaksanaan proyek. Sosialisasi program keselamatan kerja, inspeksi, dan pinalti sangat efektif menurunkan indeks kerentanan proyek konstruksi terhadap kecelakaan jatuh.

.....This dissertation discusses the index of vulnerability to fall accident in construction projects. The objectives of the research are to develop a model of causal mechanism and vulnerability dynamic of construction projects leading to fall accidents and to determine the most effective safety programme to reduce the vulnerability.

The methodology covers questionnaire survey, field observation, study of accident reports, and focus group discussion. Fuzzy multi expert decision making and system dynamic analysis were used to mode causal mechanism and vulnerability dynamic.

The research found causal interactions of human, equipment, management, organisation, environment factors, and changing of vulnerability indices of those factors across project delivery. Socialisation of safety programmes, inspection, and pinalty are the most effective programme to reduce vulnerability of construction project leading to fall accidents.