

Emerging Risk Akibat Barrier Pada Industri Tambang Batubara

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Abstrak

Latar belakang: Barrier adalah setiap tindakan yang dilakukan untuk mencegah, mengendalikan atau memitigasi risiko, agar suatu pekerjaan dapat dilaksanakan dengan selamat. Namun pada praktiknya, penggunaan barrier berpotensi menimbulkan dampak negatif, dimana selain mengatasi risiko, barrier juga berperan sebagai sumber bahaya (emerging risk). Saat ini, variabel emerging risk akibat barrier belum terkonsepsi di dalam standar internasional tentang manajemen risiko seperti ISO 31000 dan COSO. Industri tambang batubara memiliki sistem sosioteknologi yang kompleks dan memiliki tingkat keselamatan yang cukup rentan. Menurut ILO, secara global industri tambang menyerap 1% lapangan kerja, namun menyumbang 8% angka kecelakaan kerja. Penelitian ini bertujuan untuk mengkaji munculnya fenomena emerging risk akibat barrier, serta menganalisis faktor-faktor yang berkontribusi terhadap terjadinya kecelakaan pada industri tambang batubara.

Metode: Desain penelitian ini adalah penelitian kuantitatif dan kualitatif. Data utama merupakan data sekunder berupa Laporan Investigasi Insiden PT. X tahun 2020, sebanyak 822 insiden dari seluruh site di pulau Jawa dan Sumatera. Triangulasi dilakukan dengan data primer berupa hasil wawancara mendalam, FGD dan telaah dokumen. Uji statistik bivariat dengan metode Chi Square digunakan untuk melihat hubungan antara variabel penyebab dasar (bulan, lokasi, jam, status kontrak, usia, pengalaman, departemen, jabatan dan tipe unit) dengan variabel penyebab langsung (kondisi tidak aman dan tindakan tidak aman). Sedangkan uji statistik multivariat dengan metode Regresi Logistik selanjutnya digunakan untuk melihat hubungan antara variabel barrier dengan variabel emerging risk.

Hasil: Variabel bulan, lokasi, jam dan tipe unit memiliki hubungan signifikan dengan variabel penyebab langsung (nilai-P < 0,05). Variabel usia, pengalaman, jabatan, departemen dan status kontrak tidak berhubungan dengan variabel penyebab langsung (nilai-P > 0,05). Sedangkan variabel barrier memiliki hubungan signifikan dengan variabel emerging risk (nilai-P < 0,0001).

Kesimpulan: Variabel terkait dengan job factor (bulan, lokasi, jam dan tipe unit) perlu diintervensi untuk menurunkan potensi munculnya penyebab langsung kecelakaan. Standar internasional tentang manajemen risiko juga perlu diperbarui sehingga praktek penilaian risiko dimasa mendatang mampu mengantisipasi emerging risk akibat barrier.

Background: Barrier is any action taken to prevent, control or mitigate risk, so that work can be carried out safely. In reality, however, the use of barriers has the potential to cause negative impacts, where in addition to overcoming risks, barriers also act as a source of hazard. Currently, emerging risk of barrier variable have not been conceptualized in international standards on risk management such as ISO 31000 and/or COSO. The coal mining industry has a complex socio-technological system and has a level of safety that is quite vulnerable. According to the ILO, globally the mining industry absorbs 1% of employment, but contributes 8% to work accidents. The objective of this study is to investigate the phenomena of emerging risk due to barriers, and to analyze the factors that contribute to the occurrence of accidents in the coal mining industry.

Method: Both quantitative and qualitative analysis were used for this study. The main data is secondary data in the form of Incident Investigation Reports of PT. X in 2020, there were 822

incidents from all sites on the islands of Java and Sumatra. Triangulation was carried out using primary data in the form of in-depth interviews, FGDs and document reviews. Bivariate statistical tests with the Chi Square method are used to see the relationship between the basic cause variables (month, location, hour, contract status, age, experience, department, position and type of unit) and the immediate cause variables (unsafe conditions and unsafe acts). Meanwhile, multivariate statistical tests with the Linear Regression method are then used to see the relationship between barrier variables and emerging risk variables.

Result: The barrier variables are significantly correlated to emerging risk variables (P-value < 0.0001). Meanwhile, the basic cause variables including month, location, hour and type of unit had a significant relationship with the immediate cause variables (P-value < 0.05). The basic cause variables including age, experience, position, department, and contract status are not related to the immediate cause variables (P-value > 0.05).

Conclusion: Variables related to job factors including month, location, hour and type of unit need to be intervened to reduce the developing of accident immediate causes. International standards regarding risk management also need to be updated so that future risk assessment practices are able to anticipate emerging risks of barrier.