Title:

Does Human Factor Contribute to Mining Accidents? A Systematic Literature Review Approach

Author:

Siti Noraishah Ismail; Azizan Ramli

Abstract:

Human factor always has been debated as the key factor contributes to industrial accidents such as manufacturing, construction and many more. However, there are lack of studies globally within this research to review and prove the human factor is a primary cause of accidents at mining industry. The objective of this systematic literature review (SLR) study is to investigate the dominant factor contributes to mining accidents by applying a Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) method. Three main themes and fifteen subthemes have been developed based on 25 selected articles from Scopus database. The findings showed the organizational factor is the most dominant contributor to mining accidents (53%) followed by human factor (27%) and situational factor (20%). In conclusion, this finding hopefully could facilitate mine owners to improve organizational safety concern and provide a healthy safety culture in reducing mining accidents in future.

Keywords:

Systematic literature review; Mining industry; Mining accidents; Organizational factor; Preferred reporting items for systematic reviews and meta-analyses

References

1. Kim S, Lee J, Kang C (2021) Analysis of industrial accidents causing through jamming or crushing accidental deaths in the manufacturing industry in South Korea: focus on non-routine work on machinery. Saf Sci: 133:104998. <https://doi.org/10.1016/j.ssci.2020.104998>

[**CrossRef**](https://doi.org/10.1016%2Fj.ssci.2020.104998)[**Google Scholar**](https://scholar.google.com/scholar_lookup?&title=Analysis%20of%20industrial%20accidents%20causing%20through%20jamming%20or%20crushing%20accidental%20deaths%20in%20the%20manufacturing%20industry%20in%20South%20Korea%3A%20focus%20on%20non-routine%20work%20on%20machinery&journal=Saf%20Sci&doi=10.1016%2Fj.ssci.2020.104998&volume=133&publication_year=2021&author=Kim%2CS&author=Lee%2CJ&author=Kang%2CC)

1. Wang Y, Ding Y, Chen G, Jin S (2019) Human reliability analysis and optimization of manufacturing systems through Bayesian networks and human factors experiments: a case study in a flexible intermediate bulk container manufacturing plant. Int J Ind Ergon 72:241–251. <https://doi.org/10.1016/j.ergon.2019.05.001>

[**CrossRef**](https://doi.org/10.1016%2Fj.ergon.2019.05.001)[**Google Scholar**](https://scholar.google.com/scholar_lookup?&title=Human%20reliability%20analysis%20and%20optimization%20of%20manufacturing%20systems%20through%20Bayesian%20networks%20and%20human%20factors%20experiments%3A%20a%20case%20study%20in%20a%20flexible%20intermediate%20bulk%20container%20manufacturing%20plant&journal=Int%20J%20Ind%20Ergon&doi=10.1016%2Fj.ergon.2019.05.001&volume=72&pages=241-251&publication_year=2019&author=Wang%2CY&author=Ding%2CY&author=Chen%2CG&author=Jin%2CS)

1. Zhou C, Chen R, Jiang S, Zhou Y, Ding L, Skibniewski MJ, Lin X (2019) Human dynamics in near-miss accidents resulting from unsafe behavior of construction workers. Phys A Stat Mech Appl 530:121495. <https://doi.org/10.1016/j.physa.2019.121495>

[**CrossRef**](https://doi.org/10.1016%2Fj.physa.2019.121495)[**Google Scholar**](https://scholar.google.com/scholar_lookup?&title=Human%20dynamics%20in%20near-miss%20accidents%20resulting%20from%20unsafe%20behavior%20of%20construction%20workers&journal=Phys%20A%20Stat%20Mech%20Appl&doi=10.1016%2Fj.physa.2019.121495&volume=530&publication_year=2019&author=Zhou%2CC&author=Chen%2CR&author=Jiang%2CS&author=Zhou%2CY&author=Ding%2CL&author=Skibniewski%2CMJ&author=Lin%2CX)

1. Guo S, Zhou X, Tang B, Gong P (2020) Exploring the behavioral risk chains of accidents using complex network theory in the construction industry. Phys A Stat Mech Appl 560:125012. <https://doi.org/10.1016/j.physa.2020.125012>

[**CrossRef**](https://doi.org/10.1016%2Fj.physa.2020.125012)[**Google Schola**](https://scholar.google.com/scholar_lookup?&title=Exploring%20the%20behavioral%20risk%20chains%20of%20accidents%20using%20complex%20network%20theory%20in%20the%20construction%20industry&journal=Phys%20A%20Stat%20Mech%20Appl&doi=10.1016%2Fj.physa.2020.125012&volume=560&publication_year=2020&author=Guo%2CS&author=Zhou%2CX&author=Tang%2CB&author=Gong%2CP)