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Study of the Role of Construction Companies on the K3 Management System as an Effort to Improve the Quality of the Company

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ABSTRACT

Measurement of construction companies can be declared good if implementing the Occupational Health and Safety Management System (OHSAS). Meanwhile, the most important element in the OHSAS implementation program is the company's policy on designing the construction work safety system or support from the Board of Directors for the implementing occupational safety design. This study aims to check the influence of the company's owner on the OHSA quality of the company. The survey was followed by distributing questionnaires to several construction company owners in Blitar for data collection. It was taken to determine whether this research is very influential or not at all regarding the importance of the company's owner's role regarding OHSA and the application of protective equipment to reduce work accidents on the quality and competitiveness of the company in the construction project auction in the construction project for private, local, and national governments. The results of the study showed superiors and directors of construction service companies whose roles and responsibilities have not been maximized in implementing the company's occupational health and safety management system in Blitar. In this case, the implementation of OHSA by the company indirectly contributes to maintaining the quality of the services provided.

1. Introduction

A. Background

The area of Blitar Regency is 1,588.79 km2 of which approximately 38.02 percent is an upland area located at an altitude of 300-420 above sea level. Because the south is directly adjacent to the Indonesian Ocean, several subdistricts have coastal areas, namely Panggungrejo, Wonotirto, and Wates subdistricts and Blitar City with an area of approximately 32.58 km2 ([1]



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Blitar City and Regency is one of the remote areas and is starting to experience development in East Java. The amount of development and growth of infrastructure development makes contractors have to work extra and think smart about the implementation process (2), (many project workers are still not in their field of expertise and need attention to OHS because not all of them apply according to the quality of OHSAS, and the owners of construction companies still do not understand the importance of OHSAS and lack of understanding of ISO 9001 2015 regarding quality management and lack of understanding of ISO 45001 2018 regarding construction OHS management system. In the implementation of construction OHS, the level of knowledge, understanding and application of the parties involved in the prevention of occupational safety is very low due to the low human resources of workers and company owners who lack a role in implementing the construction OHS system. In the world of construction, it is closely related to work accidents, occupational diseases, worker fatigue, etc. (3). According to Clough in [2]Occupational safety and health must be made an important matter in a construction project because the impact of accidents and occupational diseases that can arise not only harms the workforce but also the company itself both directly and indirectly. Ignoring these factors can result in a high rate of work accidents on construction projects, which will increase labor insurance costs and affect project performance. Thus, the performance and branding of the company will decrease for consumers of construction work.

Therefore, we researchers hope to find out how the significance of the role of the construction company owner on OHS management and the influence of the role of the company owner on OHS management on the quality of construction companies.

Occupational Health and Safety System

The objective of OHSAS from Masjuli, et all (14) is to provide a framework for managing OHS risks and opportunities. Understanding and controlling these risks will prevent work-related injuries to workers and provide a safe and healthy workplace. It is essential for organizations to eliminate hazards and minimize OHS risks by taking effective prevention and protection measures.

Referring to ISO NWIP 45002, subclause 5.1 of SNI ISO 45001:2018 states that there are several ways that top management can use for OHSAS success and to achieve improvements in OHS performance. The purpose of this subclause is to ensure that top management demonstrates leadership and commitment by taking an active role in engaging, promoting, ensuring, communicating, and monitoring the performance and effectiveness of OHSAS. These methods can be applied based on several factors, such as the size and complexity of the organization, management characteristics and organizational culture.

Since the term "top management" is defined as "the person or group of people who direct and control the organization at the highest level", it should be clear that this top management is not the OHS staff or middle management responsible for the overall performance of the management system. In other clauses of SNI ISO 45001:2018, there are examples of further guidance on the responsibilities of "top management", including OHS policies, organizational roles, responsibilities, authorities and management review. If the scope of the management system covers only part of the organization, then top management is the person who directs and controls that part of the organization.

According to Wiyasa, et all (10) Occupational Health and Safety (OHS) has a legal basis that should be obeyed by all parties, whether workers, employers or other related parties.

- 1. Law No. 1 of 1970 concerning work safety.
- 2. Article 23, Law No. 18/1999 concerning construction services.
- 3. Article 86, Law No. 13 of 2003 on labor and Article 87 which requires every organization to implement an OHS Management System.
- 4. Minister of Public Works Regulation No.09/PRT/M/2008 concerning Guidelines for Occupational Health and Safety Management System (OHSAS) for Construction in the Public Works Sector.
- 5. Government Regulation of the Republic of Indonesia No.50 of 2012 on Occupational Health and Safety Management System.

According to Ramli in Saragi (2) the OHS program is an effort to overcome imbalances in the 4 elements of production, namely humans, facilities, work environment and management. The OHS program must be designed specifically for each company so that it cannot just imitate or follow directions and guidelines from other parties. According to Wulfram Ervianto (11), the elements that should be considered in the development and implementation of OHS are as follows:

- 1. Commitment of company leaders to develop a program that is easy to implement
- 2. leadership policy on OHS
- 3. Provisions for the creation of a work environment that ensures the creation of health and safety at work
- 4. Provisions for supervision during the project
- 5. Delegation of sufficient authority during the project 5.
- 6. Provision for training and education
- 7. Inspection of work accident prevention
- 8. Tracing the main causes of work accidents 8.
- 9. Measuring the performance of the OHS program
- 10. Adequate documentation, recording work accidents on a continuous basis 10.

Company Quality

Quality from Hardjosoedarmo (15) is the characteristics of goods and services determined by the customer (consumer) and obtained through process measurement and through continuous improvement. According to Syukur in Hosang (12), small contractor companies must have insight into process quality and product quality and have sufficient competence to be able to implement a quality system in general. ISO 9001: 2008 Is the ISO 9001 quality management system revised in 2008. The difference between the 2000 and 2008 versions significantly emphasizes the effectiveness of the processes implemented in the organization ISO 9001: 2008 is not a product standard, because ISO 9001: 2008 is only a quality management system standard. According to Wiryodiningrat (13), the existing conditions regarding the successful implementation of quality contractor work in the field can be assessed based on several parameters, including: Cost of implementation (quality if the cost is appropriate), Implementation time (quality if the implementation is appropriate), Product characteristics (quality if according to drawings and specifications), Occupational safety and health (good quality if there are no accidents and occupational diseases), Work morale (quality when the working relationship between the three elements of human resources in the project, remains well established).

2. Research Method

This study uses a descriptive approach using the questionnaire method according to [3]. primary data collection in this study was carried out by distributing questionnaires. Respondents are owners or directors of construction companies located in the district and city of Blitar. With a minimum number of 30 samples using the Slovin Formula method (8). The data was obtained filling in the questions distributed to all respondents in the form of a questionnaire that we distributed to the directors and owners of construction companies. The questionnaire was distributed through the contact person of each construction company owner and asked for the willingness of the construction company owners to answer it. Furthermore, the data collected was analyzed to be described. The components contained in the questionnaire consist of several questions, namely (1) The role of the company owner; (2) Work Equipment and Clothing (3) Work accident insurance; (4) Worker safety; and (5) Worker health.

3. Description and Technical

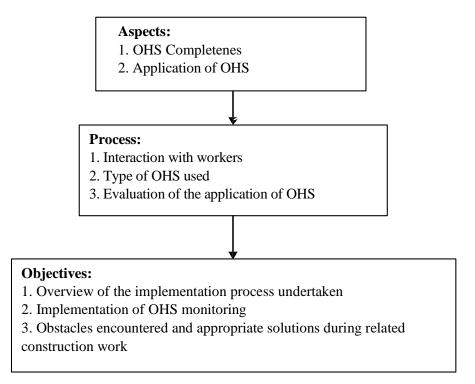
The data description analysis in this study is intended to describe and interpret the effectiveness of the role of OHSAS in construction companies. The suitability of aspects in the use of the application of OHS construction can use Table 1 score interpretation as follows:

Table 1. Interpretation of Supervisor Performance Score on the Quality of the Company's OHSAS

Score	Performance Score
1	Very little effect
2	No effect
3	Moderately influential
4	Affected
5	Very influential

Source: Wirawan, 2009: 79 (9).

This research has begun with a preliminary study in the form of participant observation and observation. Based on this, researchers are looking for supporting references to strengthen the data that will be taken by the research. The flow of research that has been carried out by researchers can be described as the flow below:



4. Results and Discussions

After collecting data by distributing questionnaires to 30 respondents, consisting of the board of directors of construction service provider companies in Blitar City. And statistical data processing has been carried out, the following results are obtained:

- 1. The factor studied is increasing work productivity without squeezing labor and ensuring its productive life, results percentage of 56.67% effect on the role of the board of directors, while the percentage of 43.33% of respondents chosevery influential in the role of the directors of construction service companies on the implementation of OHSAS.
- 2. The factor of preventing waste of labor, capital, tools, and other production resources during work gets a percentage of 16.67% moderate influence, 60% influence, and 23.33% very influential in the role of superiors and directors of construction service companies on OHSAS.
- 3. The role of directors in ensuring a healthy, clean, comfortable, and safe workplace has a percentage of 3.33% moderate effect, 27% effects OHSAS and 70% of respondents consider it very influential on the implementation of OHSAS in the company environment.
- 4. The need for the role of directors regarding facilitating, increasing and securing production, industry, and development received a percentage of 16.67% moderate effect, 73% effected OHSAS management and 10% of respondents rated it as very influential.
- 5. The need for the board of directors to implement government regulations in terms of OHSAS at the company and project site received an assessment of 3.33% moderate effect, 83% effect on the quality of the company, and 13.33% very influential in the OHSAS program in construction companies.
- 6. Understanding economic factors in terms of implementing OHSAS in construction companies gets a percentage value of 50% moderate effect, 17% effect, and 33.33% is very influential for the role of directors on the OHS management system in the company environment.
- 7. According to respondents, the lack of attention to equipment regeneration from the company received an assessment of 16.67% moderate influence, 50% influence, and 33.33% very

- influential, therefore the participation of superiors and directors in equipment regeneration is very important for construction service companies in implementing OHSAS.
- 8. The participation of superiors and directors in the development and maintenance of OHS commitment is very important, as evidenced by the respondents' assessment, namely 6.67% had a moderate effect, 17% had an effect and 76.67% were very influential on the implementation of the OHSAS program in construction service companies.
- 9. The participation of the board of directors in implementing the documentation and document control strategy has a value of 60% moderate effect, 33% effect, and the remaining 6.67% value is very influential on the quality of the construction company.
- 10. The role of the board of directors in meeting the target needs of customers regarding OHSAS is considered to have a moderate effect according to respondents with a value of 53.33%, then 17% of the role of the board of directors is worth influencing and 30% is very influential for the target needs of construction service company customers regarding the importance of occupational safety and health systems.
- 11. The role of bringing up the OHS culture as a pride for employees and the company is considered to have a 100% effect on the quality and performance of a construction company.
- 12. The role of leaders in implementing a strategic marketing approach to OHS is considered 46.67% influential and 53.33% very influential for the implementation of the quality of the occupational safety and health management system in the scope of construction services.
- 13. The need for explicit OHS costs to be included in every construction work bid received an assessment of 3.33% no effect, 36.67% moderate effect, 30% effect, and 30% very influential from respondents, therefore the role of the board of directors in realizing the OHSAS program on construction projects, it is necessary to have OHS costs listed in the project cost budget plan to maintain transparency in the implementation of OHSAS in construction service providers to construction service users.
- 14. The influence of superiors having directive leadership attitudes for OHSAS with a value of 20% moderate influence, 60% influence, and 20% very influential proves that leadership attitudes have a strong enough influence on the quality of OHSAS implementation in construction service companies in Blitar City and Regency.
- 15. In the role of the occupational safety and health management system, the provision of OHS expert training to employees, the board of directors is felt to have to take part in its implementation, this factor is considered important because according to the respondent's assessment, 33.33% have a moderate effect, 23% have an effect and 43.33% are very influential on the role of the board of directors in the implementation of OHS training at construction service providers in Blitar City and Regency. 16.
- 16. From all the respondents from 15 different companies, the highest score was 65 and the lowest score was 55.50, which means that there are still superiors and directors of construction service companies who have not maximized their roles and responsibilities for implementing the occupational safety and health management system (OHSAS) in Blitar City and Regency.
- 17. The average survey result of the fifteen companies above is 60.96, indicating that most of the superiors and directors of construction service provider companies understand the role, commitment, and responsibility to the occupational health safety management system related to OHS improvement performance.

5. Conclusion and Suggestion

5.1 Conclusions

- 1. An understanding of OHSAS plays an important role in maintaining the quality of construction services, which is necessary to achieve the vision and mission of the company and to set realistic goals that can be easily achieved.
- 2. OHSAS is one of the indicators of the quality of construction company services,
- 3. Indirectly, if a company implements OHSAS, then it contributes to maintaining the quality of its services
- 4. There is a need to strengthen the understanding of OHSAS on a larger scale, not only limited to the board of directors because the responsibility of the OHS program is not only focused on the board of directors but all parties under the auspices of a construction service company.

5.2 Suggestions

- 1. So that construction companies in the future can better implement OHSAS.
- 2. The results of this study can be used as a reference and guide for construction companies.
- 3. The results of this study can be a reference for further research in a similar field.

References

- [1] Admin, 2023. [Online]. Available: https://www.blitarkab.go.id.
- [2] Endroyo, "Keselamatan dan Kontruksi Konsepsi dan Regulasi," *Jurnal Teknik Sipil dan Perencanaan*, pp. 168-180, 2009.
- [3] Sugiyono, Metode Penelitian Kuantitatif, Kualitatif dan R&D, Bandung: CV Alfabeta, 2017.
- [4] N. Sa'diyah dan T. N. Aeny, "Keragaman dan heritabilitas ketahanan tebu populasi F1 terhadap penyakit bercak kuning di PT. Gunung Madu Plantations Lampung," *Jurnal Hama dan Penyakit Tumbuhan Tropika*, vol. 12, no. 1, pp. 71-77, 2012.
- [5] A. Vibhute dan S. K. Bodhe, "Applications of image processing in agriculture: A survey," *International Journal of Computer Applications*, vol. 52, no. 2, pp. 34-40, 2012.
- [6] A. N. Rathod, B. Tanawal dan V. Shah, "Image processing techniques for detection of leaf disease," *International Journal of Advanced Research in Computer Science and Software Engineering*, vol. 3, no. 11, pp. 397-399, 2013.
- [7] R. K. Sungkur, S. Baichoo dan A. Poligadu, "An automated system to recognise fungi-caused diseases on sugarcane leaves," dalam *Proceedings of Global Engineering, Science and Technology Conference*, Bencoolen, Singapura, 2013.
- [8] A. Asfarian, Y. Herdiyeni, A. Rauf dan K. H. Mutaqin, "Paddy diseases identification with texture analysis using fractal descriptors based on fourier spectrum," dalam *Computer, Control, Informatics and Its Applications (IC3INA)*, 2013 International Conference on, Jakarta, 2013.
- [9] K.-Y. Huang, "Application of artificial neural network for detecting Phalaenopsis seedling diseases using color and texture features," *Computers and Electronics in Agriculture*, vol. 57, no. 1, p. 3–11, 2007.
- [10] D. A. Bashish, M. Braik dan S. B. Ahmad, "A framework for detection and classification of plant leaf and stem diseases," dalam *Signal and Image Processing (ICSIP)*, 2010 International Conference on, Chennai, 2010.
- [11] A. Meunkaewjinda, P. Kumsawat, K. Attakitmongcol dan A. Srikaew, "Grape leaf disease detection from color imagery using hybrid intelligent system," dalam *Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology*, 2008. *ECTI-CON* 2008. 5th International Conference on, Krabi, 2008.
- [12] P. Chaudhary, A. K. Chaudhari, A. N. Cheeran dan S. Godara, "Color transform based approach for disease spot detection on plant leaf," *International Journal of Computer Science and Telecommunications*, vol. 3, no. 6, pp. 65-70, 2012.
- [13] F. Mendoza, P. Dejmek dan J. M. Aguilera, "Calibrated color measurements of agricultural foods

- using image analysis," Postharvest Biology and Technology, vol. 41, no. 3, p. 285–295, 2006.
- [14] A. Kadir, L. E. Nugroho, A. Susanto dan P. I. Santosa, "Leaf classification using shape, color, and texture features," *International Journal of Computer Trends and Technology*, pp. 225-230, 2013.
- [15] P. Rott, A guide to sugarcane diseases, Paris: Quae, 2000.
- [16] L. Busin, N. Vandenbroucke dan L. Macaire, "Color spaces and image segmentation," *Advances in Imaging and Electron Physics*, vol. 151, pp. 65-168, 2008.
- [17] N. Otsu, "A threshold selection method from gray-level histograms," *IEEE Transactions on Systems, Man, and Cybernetics*, vol. 9, no. 1, pp. 62-66, 1979.
- [18] A. P. Kusuma dan Darmanto, "Pengenalan angka pada sistem operasi android dengan menggunakan metode template matching," *Register: Jurnal Ilmiah Teknologi Sistem Informasi*, vol. 2, no. 2, pp. 68-78, 2016.
- [19] R. M. Haralick, K. Shanmugam dan I. Dinstein, "Textural features for image classification," *IEEE Transactions on Systems, Man, and Cybernetics*, vol. 3, no. 6, pp. 610-621, 1973.
- [20] T. Cover dan P. Hart, "Nearest neighbor pattern classification," *IEEE Transactions on Information Theory*, vol. 13, no. 1, pp. 21-27, 1967.
- [21] E. K. Ratnasari, R. V. H. Ginardi dan C. Fatichah, "Pengenalan penyakit noda pada citra daun tebu berdasarkan ciri tekstur fractal dimension co-occurrence matrix dan L*a*b* color moments," *JUTI*, vol. 12, no. 2, p. 27–36, 2014.
- [22] Saragi, "Tentang Keselamatan dan Kesehatan Kerja," Jurnal teknik SIpil, 2021.
- [23] D. T. K. R. 19770, "Undang-undnag No 1," dalam Tentang Keselamatn Kerja, Jakarta, 1970.
- [24] D. T. K. RI, "Undang-undang No 1 tahun 1970 Tentang Keselamatan Kerja," dalam *Undang-undang No 1 tahun 1970*, 1970.
- [25] Tenriajeng, "Aalisis Manajemen Resiko Keselamatan dan Kesehatan Kerja Lingkungan Mutu Proyek Jalan Toldan Jembatan Pada PT. Hutama Karya insfrastruktur di Kota Depok," *Jurnal Teknik Sipil dan Lingkungan Universitas Nusa Petra*, 2020.
- [26] Bobbu, "Keselamatan dan Kesehatan Kerja pada Pelaksanaan Proyek Kontruksi," *Jurnal Sipil Statik*, 2021.
- [27] M. Ria, "Evaluasi Penyediaan Sistem Manajemen Keselamatan dan Kesehatan Kerja (K3) pada Perusahaan jasa Kontruksi," *Majalah Teknik Sipil*, 2018.
- [28] Lastri, "Tanggung Jawab Pengusaha dan Pekerja dalam Penerapan K3 pada Proyek Konstruksi," *Dharmasisya*, 2021.
- [29] Wirawan, Evaluasi Kinerja Sumber Daya Manusia, Jakarta: Salemba Empat, 2009.
- [30] W. P. Nadiasa, "Manajemen Resiko Keselamatan dan Kesehatan Kerja (K3) Pada Proyek Pembangunan Ciputra WorldJ akarta," *Jurnalspektran*, 2015.
- [31] Ervianto, Manajemen Proyek Konstruksi Edisi Revisi, Yogyakarta: Andi, 2005.

- [32] H. M. Willar, "Pemodelan sistem Manajemen Mutu Perusahaan Penyedia Jasa Kontruksi (Kontraktor) Skala Kecil dikota Manado," *Jurnal Ilmiah Media Engineering*, pp. 508-518, 2016.
- [33] Wiryodiningrat, ISO 9000 untuk Kontraktor, Jakarta: PT Gramedia Pustaka Utama, 1997.
- [34] Masjuli, Sistem Manajemen Keselamatan dan Kesehatan Kerja Berbasis SNI ISO 45001, Badan Standarisasi Nasionan, 2018.
- [35] H. Soewarso, Total Quality Manajement, Yogyakarta: Andi, 2004.
- [36] B. M. Malingkas, "KESELAMATAN DAN KESEHATAN KERJA PADA PELAKSANAAN," *Jurnal Sipil Statik*, pp. 430-433, 2013.
- [37] N. S. Fajar, "ANALISIS PENGARUH KESEHATAN DAN KESELAMATAN KERJA (K3) TERHADAP KINERJA PEKERJA KONSTRUKSI PADA PROYEK PEMBANGUNAN FLY OVER PALUR," *e-Jurnal MATRIKS TEKNIK SIPIL*, 2016.
- [38] SinagaSaragi, "KESELAMATAN DAN KESEHATAN KERJA (K3) PADA PROYEK PEMBANGUNAN RUMAH SUSUN LANJUTAN PROYEK SUMATERA UTARA MEDAN," *CONSTRUK : Jurnal Teknik Sipil*, pp. 41-48, 2021.
- [39] P. K. Suma'mur, Higine Perusahaan dan Keselamatan Kerja, Jakarta: CV Haji Mas Agung, 1992.