



Journal of Economics and Business

Kornelius, Hermas. (2018), Linking Occupational Health and Safety Management to Sustainable Competitive Advantage of the Firm. In: *Journal of Economics and Business*, Vol.1, No.4, 577-583.

ISSN 2615-3726

DOI: 10.31014/aior.1992.01.04.51

The online version of this article can be found at:
<https://www.asianinstituteofresearch.org/>

Published by:
The Asian Institute of Research

The *Journal of Economics and Business* is an Open Access publication. It may be read, copied and distributed free of charge according to the conditions of the Creative Commons Attribution 4.0 International license.

The Asian Institute of Research *Journal of Economics and Business* is a peer-reviewed International Journal. The journal covers scholarly articles in the fields of Economics and Business, which includes, but not limited to, Business Economics (Micro and Macro), Finance, Management, Marketing, Business Law, Entrepreneurship, Behavioral and Health Economics, Government Taxation and Regulations, Financial Markets, International Economics, Investment, and Economic Development. As the journal is Open Access, it ensures high visibility and the increase of citations for all research articles published. The *Journal of Economics and Business* aims to facilitate scholarly work on recent theoretical and practical aspects of Economics and Business.



ASIAN INSTITUTE OF RESEARCH
Connecting Scholars Worldwide



Linking Occupational Health and Safety Management to Sustainable Competitive Advantage of the Firm

Hermas Kornelius¹

¹ Doctor in Management, Faculty of Economics, Universitas Pelita Harapan, Indonesia

Correspondence: Hermas Kornelius, Doctor in Management, Faculty of Economics, Universitas Pelita Harapan, Karawaci, Tangerang, Indonesia. E-mail: hermas.kornelius@gmail.com

Abstract

There is a positive trend in the development of safety management in business practices and industries worldwide, including in Indonesia. In the early practices, safety management was adopted by an organization only to fulfil legal and customer's requirements. Because of increased awareness of how important safety is to an organization, it has now become part of business management practices, especially for companies in high-risk industries. Also, it is generally acknowledged that organizations that adopt and implement an occupational health and safety management system have an increase in organizational performance. The main objective of this literature review is to provide a portrait of existing research on the benefits of adopting and implementing an OHS management system for an organization and its direct as well as indirect effects on organization performance and sustainable competitive advantage, especially in developing country like Indonesia. There are also discussions about research gaps and possibilities for future study to fill these gaps.

Keywords: Competitive Advantage, Firm Performance, Occupational Health and Safety, Resource-Based View, Safety Management

1. Introduction

In Indonesia, organizations have been adopting and implementing safety management since the establishment of the safety regulation in Law No. 1 in the year 1970. This law required safety protection for all workers in order to ensure a safe workplace while improving national productivity and considering the development of industry, production technology, and society. Since then, organizations in Indonesia, lead by large manufacturing companies, started to implement safety management to fulfil the law requirement and to prevent accidents that can be costly for the company's operations.

(Rohani et al., 2015) explained that in the event of a work accident, the accident costs could include the cost of medical treatment, rehabilitation cost, and compensation related costs. (Zou & Sunindijo, 2015) further elaborate the cost of accidents and add the components of indirect costs: namely, overtime cost, additional substitute workers, refreshment training cost, investigation and traveling costs, government fines, and loss of productivity.

Occupational health and safety (OHS) has been evolving away from when it was first adopted in industry; that is, from conditions when there was not much attention to the safety of workers in the early industrial era to the traditional phase where employers have an obligation to fulfil safety regulations in order to avoid a penalty for accidents. Thus, the adoption of an OHS management system starts to find a place in business practices, then progresses to a transition phase where a company realizes the benefits from implementation of OHS management

in organization activities, and then evolves into a transformative phase where OHS becomes a part of risk management practices and is considered in any strategic decision made by a company (Zou & Sunindijo, 2015).

The developing trend in the more competitive business environment is that there is an increasing level of complexity and sophistication in production systems and processes, and this constantly imposes higher requirements for safety. New approaches in the system of OHS management require every person to be aware of potential risks, to identify these risks during the working process, to execute measures for their mitigation and to inform others about any residual risks. In a modern organization, OHS activities are part of integrated management systems in businesses and include environmental management systems and quality management systems, which creates the highest level of competitiveness in the market (Sinay, 2014).

Managing safety integration with the company management system and synchronizing it with business operations has become increasingly important in recent years. Thus, it is not only able to prevent costly accidents from happening but also can improve employee satisfaction, company productivity, and financial performance. A good safety management system can lead to fewer accidents, less property damage, less absenteeism, and it can lower insurance and medical costs. Hence, good safety management practices also increase company performance in term of higher productivity, higher efficiency, higher quality, better company image, and greater innovation (Mossink, 2002; Muniz, Peon, & Ordas, 2009).

As defined in ISO 45001: occupational health and safety management is “a management system developed to provide systematic programs supporting the company health and safety policy, providing a safe and healthy working environment to the employee, prevent accidents, injury and illness, and to achieve company strategic objectives such as health and safety performance and business performance”. ISO 45001 also provides the most recent requirements for implementation of an OHS management system in an organization that consist of “leadership and commitments, policy and objectives, organization’s structure, roles and responsibilities, planning, operation, performance evaluation, and continuous improvement” (International Standard Organization, 2018).

According to (Goetsch, 2015) occupational health and safety work close together; safety is concerned with unsafe conditions and dangerous hazards to workers, and health is concerned with disease-causing conditions. In this article, the word safety has been broadened to represent both occupational safety and health.

The main objective of this literature review is to provide a portrait of existing research on the benefits of adopting and implementing a safety management system for an organization and its direct as well as indirect effects on organization performance and sustainable competitive advantage, especially in a developing country like Indonesia. The literature review also presents discussions of research gaps and future research study and possibilities to fill these gaps.

2. What is Competitive Advantage?

Since introduced by (Porter, 1985), the concepts of competitive advantage and the value chain have enabled organizations to look in detail at each stage of their operations and then measure its competitiveness. Porter proposes three generic strategies for achieving above-average performance: cost differentiation, value differentiation, and focus in a niche market. Cost leadership and differentiation seek competitive advantage in a broad range of industry segments, while the focus was aimed at a narrow market segment. (Porter, 2008) suggested doing a competition on dimensions other than price by improving customer value through product features, support services, delivery time, and brand image in order to avoid loss of profitability.

(Hamel & Prahalad, 1989) criticize some strategy concepts, such as general strategy (low cost vs differentiation vs focus), strategic fit (between resources and opportunities), and strategy hierarchy (goals, strategies and tactics), and they propose strategic intent as an active management process that focuses on the organization's attention on motivating people, communication value, sustaining enthusiasm, providing new operational circumstances, and using this intent consistently to guide resource allocation to achieve strategic goals.

Another thought of competitive advantage comes from the Resource-Based View (RBV) theory that aims to explain the internal resources of a firm’s sustained competitive advantage. RBV theory focuses on company resources and company capabilities to create unique core competences that enable it to produce superior performance in business activities compared to its rivals. To achieve a sustainable competitive advantage, a company has to acquire valuable, rare, inimitable, and non-substitutable resources and capabilities and organize

them to fully exploit the competitive potential of its resources, capabilities, and competencies. Also, a company should create resource-based entry barriers which are the source of competitive advantage and create sustained profitability (Barney, 1991, 1995, 2001). Competitive advantage should lead an organization to superior performance since competitive advantage is defined as superior firm performance relative to competitors in the same industry or above the industry average (Grant, 1991). In line with that, (Peteraf, 1993) suggests a model which explains that for a firm to enjoy sustained competitive advantage, it has to own unique heterogeneity, imperfect mobility, ex-post and ex-ante limitations to competition. (Rumelt & Kunin, 2003) concluded that competitive advantage comes from owning a scarce, useful resource that is highly priced and marketable.

(Sigalas, 2015) found that competitive advantage causes confusion to both academics and business executives because there are various definitions of competitive advantage which have different meanings in strategic management literature. (Sigalas, Economou, & Georgopoulos, 2013) identified two major concepts of competitive advantage. The first concept defines competitive advantage as a firm's performance, e.g., high profitability, superior returns, financial performance, and profits. The second concept defines competitive advantage as sources or determinants, e.g., cost leadership, differentiation, technologies, product features, locations, and other unique resources and capabilities. (Sigalas & Papadakis, 2018) investigate the relationship patterns between competitive advantage and firm performance and provide evidence that competitive advantage and firm performance are not functionally equivalent.

Based on the above literature, the author defines competitive advantage as a company's unique resources, capabilities, and competencies that are valuable, rare, inimitable and non-substitutable. Furthermore, if these are well managed and organized toward the company's objective, they can boost company performance above its rivals or above the industry average.

3. Safety Management, Competitiveness, and Firm Performance

Related to an OHS management system, (Rechenthin, 2004) conducted a study to examine the relationship between a safety management system and a competitive advantage. This study concluded that safety has characteristics that match sustainable competitive advantage requirements, such as: 1) Valuable: adding value above the cost of creating it, 2) Rare: not homogenous across industry, 3) Inimitable: unique, based on culture and history of company, 4) Non-substitutable: as a culture, safety cannot be substituted by other programs, 5) Organized: as supported by company management system.

(Bottani, Monica, & Vignali, 2009) investigated the performance difference between safety management system (SMS) adopters and non-adopters against its substantial benefits to a company. The results indicated that companies adopting SMS exhibit higher performance in safety and security goals and communication to employees, updated risk data from risk analysis, risk mitigation and corrective actions and employee's safety training programs. However, the study does not provide a direction and causality of the results; investigating SMS adoptees in a specific market field could provide additional useful insights since the implementation of safety management systems involves the expenditure of substantial resources for organizations.

In the study conducted by (Muniz et al., 2009), it was found that safety management can become an important source of competitive advantage with the opportunity to gain significant benefits in market growth and financial indicators. Although it has been shown that safety management has a positive effect on competitive advantage and firm performance, the relationships were evaluated from the safety officer point of view and did not include company's top management who had authority to exercise strategic decisions.

The subsequent study reported by (Muniz, Peon, & Ordas, 2012), confirmed the important role of a safety management system in an organization, not only in the improvement of safety performance but also in the organization's competitiveness. This study provides strong empirical support for the relationship between communication and management's commitment to safety performance, employee satisfaction and firm competitiveness in OHSAS 18001 certified organizations. Management's commitment has a positive influence on incentives and communication, and a negative influence on work pressure. Also, communication has a positive effect on the safety behaviour of employees. Safety behaviour has a positive effect on the safety performance, employee satisfaction, and firm competitiveness, and safety performance has a direct positive effect on employee satisfaction, and employee satisfaction, in turn, has a positive effect on firm competitiveness.

Another study by (Gopang, Nebhwani, Khatri, & Marri, 2017) showed a positive relationship between occupational health and safety (OHS) measures and the performance of small and medium-sized enterprises. The study reflects that SME participants agreed that practicing safety programs helped increase the reputation of the firm, productivity of the organization, the level of employee's satisfaction, and production operations and product quality; hence assisting firms to realize their sales and profit targets, accordingly.

The safety culture and credit worthiness are associated with better, as well as worse, OHS management practices in companies, as reported by the study of (Nordlöf et al., 2017). The more positive safety culture resulted in better OHSM practices. This resulted in a lower risk in creditworthiness, and that was associated with the better financial performance of the firm. In this case, the achievement of good OHS management practices is also important from a financial perspective.

(Kontogiannis, Leva, & Balfe, 2017) proposed a new framework called Total Safety Management that is more proactive, integrative, and performance-oriented than traditional safety programs. This will provide benefits to an organization which includes the following: compliance to relevant regulations, encouraging proactive management, effective measures for safety and risk, improvement of safety performance, operational effectiveness and efficiency, better organizational learning, and improvement of stakeholder confidence and trust.

Some studies reported in Indonesia have shown that implementation of occupational health and safety management has a positive and significant impact on an increase in employee motivation, employee satisfaction, employee performance, and company productivity, as described more in the following studies.

A study by (Paramita & Wijayanto, 2012) showed that there was a relationship between occupational health and safety with employee performance which was mediated by employee motivation. Occupational safety management considered factors of safety equipment, safety training, safety protection, and safety knowledge, while the occupational health variable considered factors of health indicators, medical equipment, and healthcare facilities. Employee performance considered factors such as time of delivery, the quantity of work, and the number of errors, while the motivation of employees considered the factors of safety feeling, the opportunity for growth, absenteeism, and time to work.

(Fitriani, Panji, & Dania, 2013) conducted a study that showed a positive relationship between occupational health and safety and company productivity with the dimensions of employee absenteeism, production targets, and on-time delivery. The dimensions of occupational health consist of work environment, medical facilities, and health care programs, while occupational safety was represented by support and communications, personal protective equipment, work pressure, and safety training.

Another study by (Sunariyanto, 2014) showed a positive relationship between occupational health and safety and employee performance. This was indicated by factors such as work quantity, work quality, work creativity, and work knowledge. The variable of occupational health and safety considered a safe workplace, safety training, healthy environment, employee facility, and healthcare facility.

(Busyairi, Tosungku, & Oktaviani, 2014) performed a study on the relationship between occupational health and safety with employee productivity and they found that these were positively correlated. There was a relationship between employee productivity and factors in occupational safety such as working environment, personal protective equipment, and working procedures, as well as a medical check-up, resting hours, and ergonomics. The more facilities related to occupational health and safety, the higher the productivity of employees.

(Sofyan, 2016) studied the relationship between employee performance and occupational health and safety and he found a positive relationship between them. The occupational health indicators included in the study were a workplace, machine, equipment, and work instructions. Employee performance was represented by indicators of work quality, work quantity, time of work, leadership, work facilities and systems, teamwork and employee absenteeism.

The study reported by (Sari, Susilo, & Brimantyo, 2017) showed that health and safety have a positive and significant impact on employee satisfaction, both individually or all together. This was a result from a multiple regression that showed a positive relationship between occupational safety (workplace, machine, and equipment, safety programs) and occupational health (employee conditions, work environment, medical facilities) with employee satisfaction (employee turnover, absenteeism, and level of occupation).

The study of (Setiawan & Khurosani, 2018) about the impact of physical safety on employee satisfaction and performance showed a positive relationship between them. Physical safety considered the equipment layout, toolboxes, health and accident insurances, and workplace conditions, while employee satisfaction considered salary, the work itself, teamwork, direct supervision, and the working environment. The results showed an increase in employee performance which consisted of work quantity, work quality, better on-time delivery, lower absenteeism, and better teamwork.

4. Discussions

From the literature, it has been found that there is a positive relationship between an OHS management system and both company competitive advantage and business performance. Occupational health and safety can contribute to competitive advantage since it is unique to each organization and it is a part of company history and culture that adds value to an organization above the cost of creating it. As a management system it also provides a company with a Plan-Do-Check-Act process for continual improvement of company operational excellence. Occupational health and safety management also contributes to competitive advantage both directly and indirectly by creating safe workplaces and a healthy environment. This results in an increase in employee satisfaction, motivation, productivity, communication, work quality, operational effectiveness and efficiency, organizational learning, risk management, and firm reputation. Thus, in turn, it increases firm performance; namely, market share, sales and revenue, profit and financial returns and it also improves shareholder's confidence and trust.

The link between safety management, competitive advantage, and firm performance can be summarized in the following figure.

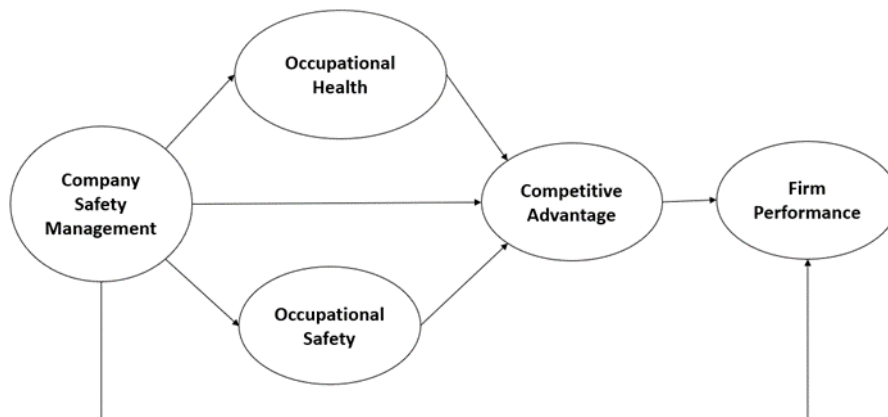


Figure 1. Safety Management, Competitive Advantage, and Firm Performance

From the literature, it was found that studies related to safety management, competitive advantage, and firm performance have covered several aspects of organizations, i.e., safety performance, safety culture, employee satisfaction, quality, productivity, customer satisfaction, financial performance, etc. However, most of the studies were conducted from safety professional's and employee's point of view, and As mentioned by (Muniz et al., 2009) these might not be suitable to represent the top management of organizations. (Bottani et al., 2009) highlighted that the studies also do not show clear causalities between the variables studied: i.e., relationships between safety management, competitive advantage, and business performance. This issue remains unexplored and further research is still necessary to fill this gap and provide more evidence on these topics.

There is also an opportunity to explore and develop a conceptual model that attempts to explain clearly the relationship between safety management, competitive advantage and business performance of an organization, including its mediating factors such as safety culture, employee satisfaction, company productivity, customer satisfaction, and company safety reputation.

(Sigalas & Papadakis, 2018) recommend retesting the relationship between competitive advantage and firm performance and hopefully this can solve the inconclusive results of the previous tests. By doing so, the scholarly community, both in safety sciences and business management, will have more rigorous evidence regarding causation of those key concepts of safety management and the competitiveness of firms from the strategic management point of view.

References

- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99–120. <https://doi.org/10.1177/014920639101700108>
- Barney, J. (1995). Looking Inside for Competitive Advantage. *Academy of Management Executive*, 9(4), 49–61.
- Barney, J. (2001). Is the Resource-Based “View” a Useful Perspective for Strategic Management Research ? Yes. *Academy of Management Review*, 26(1), 41–56. <https://doi.org/10.1002/smj.332>
- Bottani, E., Monica, L., & Vignali, G. (2009). Safety management systems : Performance differences between adopters and non-adopters. *Safety Science*, 47, 155–162. <https://doi.org/10.1016/j.ssci.2008.05.001>
- Busyairi, M., Tosungku, L. O. A. S., & Oktaviani, A. (2014). The Impact of Health and Safety to Employee Productivity. *Jurnal Ilmiah Teknik Industri*, 13(2), 112–124.
- Christos Sigalas, Victoria Pekka Economou, N. B. G. (2013). Developing a Measure of Competitive Advantage. *Journal of Strategy and Management*, 6(4), 320–342. <https://doi.org/https://doi.org/10.1108/JSMA-03-2013-0015>
- Fitriani, N., Panji, D., & Dania, W. A. P. (2013). Analysis of Occupational Health and Safety Effects on Labour Productivity with Partial Least Square Method (Case Study at PT Surya Pratista Hutama Sidoarjo). *Industria*, 2(2), 93–105.
- Goetsch, D. L. (2015). *Occupational Safety and Health : For Technologists, Engineers, and Managers. New Solutions* (Vol. 13). Pearson Education. <https://doi.org/10.1093/oxfordhb/9780199928286.013.0036>
- Gopang, M. A., Nebhwani, M., Khatri, A., & Marri, H. B. (2017). An assessment of occupational health and safety measures and performance of SMEs: An empirical investigation. *Safety Science*, 93, 127–133. <https://doi.org/10.1016/j.ssci.2016.11.024>
- Grant, R. M. (1991). The Resource-based theory of competitive advantage: implications for strategy formulation. *California Management Review*, 33(3), 114–135.
- Hamel, G., & Prahalad, C. K. (1989). Strategic Intent. *Harvard Business Review*.
- International Standard Organization. (2018). *ISO 45001: 2018 Occupational Health and Safety Management Systems*. BSI Standard Publication.
- Kontogiannis, T., Leva, M. C., & Balfe, N. (2017). Total Safety Management : Principles , processes and methods. *Safety Science*, 100, 128–142. <https://doi.org/10.1016/j.ssci.2016.09.015>
- Mossink, J. (2002). *Inventory of sosioeconomic costs of work accidents*. Retrieved from <http://edz.bib.uni-mannheim.de/www-edz/pdf/osha/report-207-en.pdf>
- Muniz, B. F., Peon, J. M. M., & Ordas, C. J. V. (2009). Relation between occupational safety management and firm performance. *Safety Science*, 47(7), 980–991. <https://doi.org/10.1016/j.ssci.2008.10.022>
- Muniz, B. F., Peon, J. M. M., & Ordas, C. J. V. (2012). Safety climate in OHSAS 18001-certified organisations : Antecedents and consequences of safety behaviour. *Accident Analysis and Prevention*, 45, 745–758. <https://doi.org/10.1016/j.aap.2011.10.002>
- Paramita, C. C. P., & Wijayanto, A. (2012). The Impact of Occupational Health and Safety to Employee Performance at PT PLN (Persero) APJ Semarang. *Jurnal Administrasi Bisnis*, 1(1), 1–11.
- Peteraf, M. A. (1993). The Cornerstone of Competitive Advantage: A Resouce-Based View. *Strategic Management Journal*, 14, 179–191.
- Porter, M. E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*. The Free Press.
- Porter, M. E. (2008). Strategy Strategy the Five Competitive, (January), 78–94.
- Rechenthin, D. (2004). Project safety as a sustainable competitive advantage. *Journal of Safety Research*, 35(3), 297–308. <https://doi.org/10.1016/j.jsr.2004.03.012>
- Rohani, J. M., Johari, M. F., Hamid, W. H. W., Atan, H., Adeyemi, A. J., & Udin, A. (2015). Occupational Accident Direct Cost Model Validation Using Confirmatory Factor Analysis. *Procedia Manufacturing*, 2(February), 286–290. <https://doi.org/10.1016/j.promfg.2015.07.050>
- Rumelt, R. P., & Kunin, E. (2003). *What in the World is Competitive Advantage?* Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.530.4193&rep=rep1&type=pdf>
- Sari, S. D. R., Susilo, E. A., & Brimantyo, H. (2017). The impact of health and safety on job satisfaction in Sugar Refinery Kebon Agung Malang. *Jurnal Bisnis Dan Manajemen*, 4(2), 121–128.
- Setiawan, I., & Khurosani, A. (2018). the Impact of Physical Safety and Working Environment to Employee Performance (Empirical Study of PT Krakatau Posco at Cilegon Banten). *Jurnal Riset Bisnis Dan Manajemen Tirtayasa (JRBMT)*, 2(1), 1–19.
- Sigalas, C. (2015). Competitive advantage: the known unknown concept. *Management Decision*, 53(9), 2004–2016. <https://doi.org/10.1108/MD-05-2015-0185>
- Sigalas, C., Economou, V. P., & Georgopoulos, N. B. (2013). Developing a measure of competitive advantage. *Journal of Strategy and Management*, 4, 320–342. <https://doi.org/10.1108/JSMA-03-2013-0015>
- Sigalas, C., & Papadakis, V. M. (2018). Empirical investigation of relationship patterns between competitive advantage and superior performance. *Journal of Strategy and Management*, 11(1), 81–111. <https://doi.org/https://doi.org/10.1108/JSMA-01-2017-0010>

- Sinay, J. (2014). *Safety Management in a Competitive Business Environment*. CRC Press, Taylor & Francis Group.
- Sofyan, A. (2016). The Impact of Occupational Health and Safety to Employee Performance at PT Bakaert Indonesia Plant Karawang. *Jurnal Manajemen Dan Bisnis Kreatif*, 2(1).
- Sunariyanto, K. (2014). The Impact of Occupational Health and Safety and Work Stress to Employee Performance. *Jurnal Ilmu Manajemen*, 2(3), 952–964.
- Zou, P. X. W., & Sunindijo, R. Y. (2015). *Strategic Safety Management in Construction and Engineering* (1st ed.). John Wiley & Sons.