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To cite this article: Suhaila Abdul Hamid *et al* 2020 *IOP Conf. Ser.: Mater. Sci. Eng.* **864** 012033

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Occupational Safety and Health Leadership and Performance in Malaysian Industries

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Abstract. Leading and managing form the framework for skills and abilities that are necessary for an individual to drive team success. Occupational safety and health (OSH) Leadership modeled the organisational commitment in OSH and for the commitment to growth and sustained, it requires management support for employees OSH engagement. Both of the leadership and management support are addressed in the safety and health policy as stipulated in the Section 16 of Occupational Safety and Health Act 1994 to provide assurance on the OSH compliance as well as providing opportunity for employer to establish decent work through freedom from injury and ill health and provision of safe and healthy workplaces. The aim of this paper is to determine the influence of OSH management support in the relationship between OSH leadership and Safety Performance in Malaysian Industries in the context of organisational culture model. 300 responses who were OSH practitioners were collected from twelve different industries in Malaysia. Data were analysed using SPSS and AMOS. Results showed that having a leadership alone is not sufficient to improve OSH performance, it needs the mediation effect of OSH management support on OSH performances.

1. Introduction

Business success and sustainability of an organisation is dependent on safety and health [1]. In achieving long-term success and viability, sustainable organisations should strive to balance between 3Ps; Planet, Profit and People [2]. Business sustainability is not just about what is done, but also on how it gets done. It is an approach that requires leadership; striving for excellence in business operations and achieving goals beyond regulatory compliance [3]. The OSHA 1994 provides a basic framework for collaboration at the workplace between employers and employees. Principle of self-regulation is one of the foundations of Occupational Safety and Health Act 1994. It is a principle that requires the employer and other duty holders (employee, designer, manufacturer and supplier) under the Act to formulate the best working rules and procedures relating to activities undertaken at the workplace based



on the enforced duty provisions (general and specific duties) provided in the Act [4]. Therefore, employer must have courage in planning, organising, leading and controlling all business activities to build OSH engagement to increase level of its OSH performance to sustain its business.

2. Organisational OSH Culture

According to ISO45001, organisation is person or group of people that has its own functions with responsibilities, authorities and relationship to achieve its objectives. In this study the organisation is referred to industries in Malaysia while culture is able to help a person or group of people to interact and communicate with others in the community [5]. In a simple word, organisational culture means “how organisation does things” or it is the DNA of the organisation [6]. Organisational culture plays the role as the central driver of superior business performance [7]. According to Edgar H Schein “the only thing of real importance that leaders do is to create and manage culture. “If you do not manage culture, it manages you, and you may not even be aware of the extent to which this is happening.” [8]. In 1990, Edgar H. Schein crafted an organisational culture model to make culture more visible within an organization [18]. Visibility of organisational culture provide better understanding and better sense on the needs of organisational change and right improvement initiatives can take place for continual improvement of organisational performance. To sustain the preventive culture, it is crucial for an organisation to continually measure its OSH performance so that improvement can be done in meeting with the robustness of business and emerging risks.

2.1. OSH Performance

According to ISO45001, OSH performance is related to the effectiveness of the prevention injury and ill health to workers and the provision of safe and healthy workplaces. OSH performance of an organisation can be influenced by the quality of safety climate [9]. In addition, they said that employees were found to be more likely to exploit their potential to the maximum to achieve organisational’s objectives if the safety climate was positive. On the other hand, if the safety climate was negative, the employees were demotivated and resulted in poor organisation safety performance. Hence, managers are required to continually monitor OSH performance metrics and regularly engage with their teams to discuss progress in meeting the targets. Good performance is rewarded; under performance triggers action to address the problem [10]. “Leading” indicators is used in measuring safety climate so that it capable to provide an immediate feedback mechanism which enable organisations to improve OSH management processes, before deficiencies have resulted in incidents, injuries or illnesses [11].

2.2. OSH Leadership

Leadership is a kind of power where one person has the ability to influence or change the values, beliefs, behavior and attitudes of another person. Lu and Yang and Wu et al. defined safety leadership as the process where the leaders used communication to exert their influence on employees’ daily routine work to achieve a low accident rate and positive safety performance [12] [13]. It is stipulated under Part IV General Duties of Employers and Self-Employed Persons under OSHA 1994 that employer has an important role to ensure their employees’ safety and health. Good leadership can motivate employees as leadership is all about getting thing done the right way [13][14]. Natalie C. S. and Charles, discovered that leadership visibility and behaviour affects safety culture and safety performance in the construction industry [15]. Next, Krause stated that culture is developed and sustained by the organisation’s leadership and not by the employees [16]. In 2004, R. Flin, and S. Yule emphasised that leadership behaviour plays an important role in achieving safety performance in organizations [17].

3. Methodology

In order to investigate the relationship between OSH leadership and OSH management support with OSH performance, organizational culture model from Edgar H. Schein in 1990 is used as the theoretical framework for this research [18]. He crafted the three fundamental levels at which culture manifests itself, namely: (a) artefacts: visible organizational structures and processes... all the phenomena that one sees, hears and feels... (b) espoused values: strategies, goals, philosophieswhat the organization says about itself. (c) underlying assumptions: "unconscious, taken-for-granted beliefs, perceptions, thoughts and feelings... the ultimate source of values and action. He added the strength and degree of internal consistency of a culture are dependent to positive reinforcement or avoidance conditioning, and the strength and clarity of the assumptions held by the founders and leaders of the group [18]. Figure 1 shows the Edgar H. Schein organizational culture model.

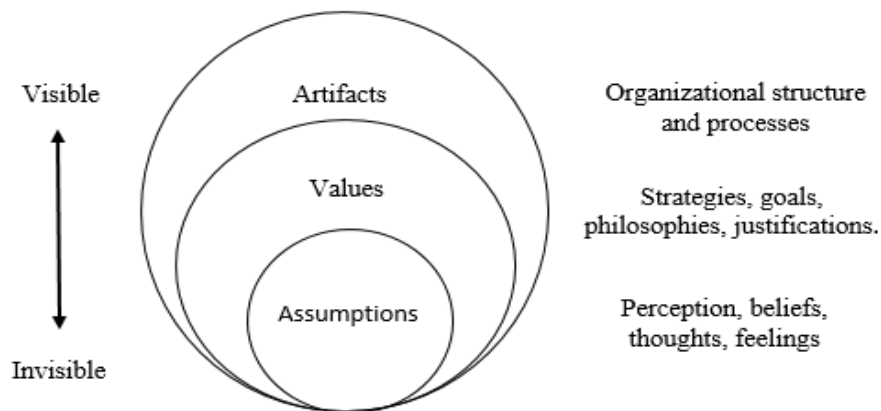


Figure 1. Edgar Schein organizational culture model [18]

Based on Edgar H. Schein organizational culture model, research proposed the relationship between the three constructs, namely; OSH leadership and OSH management support (independent variables); and OSH Performance (dependent variable) as shown in figure 2.

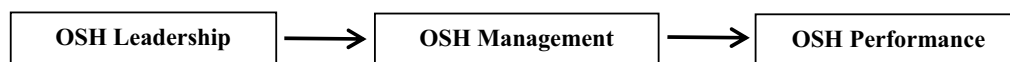


Figure 2. The relationships between OSH leadership, OSH management support and OSH performance

R. Flin, and S. Yule emphasised that leadership behaviour plays an important role in achieving safety performance in organizations. Indeed, organisational's leads lays the ultimate source and values in OSH that is OSH should be one of the core values in the organization [17][19]. Meanwhile, OSH Management Support create enhanced work environments that reinforce the implementation of OSH programs required to enhance both employees and organisational productivity as a result of improved work satisfaction due to reduced workplace accidents and injuries [20]. Simply put, OSH Management Support espoused OSH values towards the realisation of preventive OSH culture through vision, mission and strategies. Finally, OSH culture is evidenced when employees capable to identify and focus on their most important objectives, goals, and desired outcomes with the assistance of performance-oriented

managers [21]. Therefore, it requires the formation of “leading” and “managing” framework for skills and abilities that are necessary for an individual to drive team success [22].

4. Result and Discussion

From four hundred (400) questionnaires that have been distributed, only three hundred and twenty-seven (327) are returned making response rate of 81.75 % (higher than the average level of response rate; 52.7%) [23]. From the three hundred and twenty-seven (327) returned questionnaire, only three hundred (300) questionnaires are completely fill up by the respondents and ready for the analysis. Next, regression is performed in this study to determine the strength of the relationship between dependent variable (OSH performance) and independent variables (OSH leadership). Next, path analysis is performed. A form of multiple regression statistical analysis is performed to evaluate causal model developed by examining the relationships between a dependent variable (OSH performance) and independent variables (OSH leadership and OSH management support) based on the direct effect, indirect effect and total effect.

Table 1 shows the demographic profile on the respondents organisations. It was observed that the respondents are mainly coming from construction (n = 66, 22.0%), manufacturing (n = 65, 21.7%) and oil and gas industries (n = 54, 18.0%). It was also discovered that the majority of the respondents were coming from the large industry (n = 185, 61.7%), followed by the medium industry (n = 94, 31.3%) and only 21 (7.0 %) is coming from the small industry. According to Lilis, S., there are very different in the safety and health implementation among SMEs and large multinational companies [24]. Large multinational companies often have the financial muscle and structure to effectively implement a good occupational and safety (OSH) system. On the other hand, SMEs due to its small size, used to perceive OSH as irrelevant and they do not have a huge workforce and OSH implementation cannot be translated into direct monetary gain for the company and thus seems as unimportant for companies’ survival. That’s the main reason most of the OSH practitioners or professionals are coming from either medium or large industries.

Table 1. Demographic profile on the respondent’s organizations

Profile	N	Percentage
Current organisation nature of business		
Manufacturing	65	21.7
Mining and Quarrying	3	1.0
Construction	66	22.0
Agriculture, Forestry and Fishing	3	1.0
Utilities	23	7.7
Transport, Storage and Communication	16	5.3
Wholesale and Retail Trades	8	2.7
Hotels and Restaurants	2	0.7
Finance, Insurance, Real Estate and Business Services	22	7.3
Public Services and Statutory Authorities	25	8.3
Oil and Gas	54	18.0
Education	13	4.3
Classification of organisation		
Small industry	21	7.0
Medium industry	94	31.3
Large industry	185	61.7

4.1. Relationship between OSH leadership and OSH performance

Regression is performed in this study to determine the strength of the relationship between dependent variable; OSH performance and its independent variables; OSH leadership and OSH management support. Table 2 shows the correlations between the three constructs. It was shown that the Sig. (1-tailed) values are 0.000 for all the constructs and this means that the dependent and the independent variables is statistically significant. Referred to Pearson Correlation, it showed that all constructs were positively associated. According to Evans, suggests the strength of the correlation for the absolute value of r is as follows: 0.00 - 0.19 (very weak); 0.20 - 0.39 (weak); 0.40 - 0.59 (moderate); 0.60 - 0.79 (strong); and 0.80 - 1.00 (very strong). Therefore, the strength of relationship between OSH performance and OSH leadership (0.491) and with OSH management support (0.579) was moderate. Table 2 shows the correlations between the constructs.

Table 2 Correlations between the constructs

		OSH Performance	OSH Leadership
Pearson Correlation	OSH Performance	1.000	.491
	OSH Leadership	.491	1.000
Sig. (1-tailed)	OSH Performance	.	.000
	OSH Leadership	.000	.
N	OSH Performance	300	300
	OSH Leadership	300	300

Table 3. Coefficients for OSH performance framework^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	-.172	.374		-.461	.645	-.908	.563		
	OSH Leadership	.020	.113	.014	.175	.861	-.202	.241	.340	2.940

a. Dependent Variable: OSH Performance

Table 3 shows the unstandardised coefficient (B) and standardised coefficient (β). The beta value is a measurement of how strong each predictor variable influenced the criterion variable. The higher the beta value the greater the impact of the independent variable on the dependent variable. The unstandardised coefficient (B) of OSH leadership was 0.020, while its standardised Beta coefficient was 0.014. This meant that a change of one standard deviation in OSH leadership score would result in a change of 0.014 standard deviations in the OSH performance variable. While its standardised Beta coefficient was 0.461. This meant that a change of one standard deviation in employees OSH values score would result in a change of 0.461 standard deviations in the OSH performance variable. Simply put, OSH management support had a more powerful predictive power than OSH leadership in improving the organisational OSH performance. Tolerance in multiple regressions is linked to the concept of multicollinearity. It indicates the relationship among the independent variables in the regression equation. When the tolerance level is low, it means that the independent variables in the regression equation are highly related with each other. In this study based on findings shown in Table 3, the tolerance value for OSH leadership was 0.340. The question is whether these tolerance values were within the acceptable cut-off points. According to Tabachnick and Fidell, the tolerance values should not be below 0.10 [26].

In addition, Menard stated that the minimum tolerance values should be 0.20 while Huber & Stephens proposed a minimum values of 0.25 [27][28]. Based on the results, the tolerance values in this study were above 0.25 and therefore were within the acceptable cut-off points. The Variance Inflation Factor (VIF) values as shown in Table 3 were the inverse of the tolerance values. It was shown that the VIF of the study were between 1.224 to 2.940. Therefore, there was no collinearity problem exists between the predictors (VIF < 10). As the p-value for OSH leadership was above 0.05 ($p = 0.861$). Hence, Researcher agreed with Neelam, A. et al statement that “leading” and “managing” form the framework for skills and abilities that are necessary for an individual to drive team success [22].

5. Conclusion

As explained in the introduction, the objective of this study are to (i) to measure the mean values of the constructs based on the responses by sample respondents; (ii) to determine the relationship between OSH leadership and OSH performance. The reliability and mean values results of the constructs are as follows: OSH leadership ($\lambda=0.914$, $\bar{x}=4.13$, good). As for the relationship between OSH leadership and OSH performance, it was observed that the strength was moderated (0.579). This finding supported that statement “Leading” and “managing” form the framework for skills and abilities that are necessary for an individual to drive team success.

Acknowledgement

The authors express thanks to Faculty of Engineering Technology and Centre for Graduate Studies (CGS), Universiti Tun Hussein Onn Malaysia. Thanks to School of Manufacturing Engineering, Universiti Malaysia Perlis and Special thanks to those who contributed to this project directly or indirectly.

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