

## Survey on employers' commitment towards OSH and its implementation in the metalworking industry

Haslinda A. Sahak<sup>a</sup>, M. Wijayanuddin Ali<sup>a\*</sup>, Kamarizan Kidam<sup>a</sup>, Saharudin Haron<sup>a</sup>, Mimi H. Hassim<sup>a</sup>, Norasikin Othman<sup>a</sup>, Adnan Ripin<sup>a</sup>, Zaki Yamani Zakaria<sup>a</sup>, Hairozie Asri<sup>b</sup>, Azman Ahmad<sup>b</sup>, Nazruddin Mat Ali<sup>b</sup>, Syed Abdul Hamid Syed Hassan<sup>b</sup>, Zulkifly Sulaiman<sup>b</sup> and Mohamad Fazli Masri<sup>b</sup>.

<sup>a</sup> Department of Chemical Engineering / Institute of Hydrogen Economy, Universiti Teknologi Malaysia, 81310 UTM Johor Bahru, Malaysia.

<sup>b</sup> Department of Occupational Safety and Health, Kompleks D Pusat Pentadbiran Kerajaan Persekutuan, 62530 W. P. Putrajaya, Malaysia.

\*[m.w.ali@cheme.utm.my](mailto:m.w.ali@cheme.utm.my); [hairozie@mohr.gov.my](mailto:hairozie@mohr.gov.my).

### Abstract.

The accident rate in metalworking industries does show a slight reduction over the years, but still so much higher compared to the other industries. The government of Malaysia has provided various incentives to improve this situation, however the problems still remain. Therefore, this paper aims to investigate the commitment and implementation of occupational safety and health (OSH) aspect in the metal working industry. Thus, a survey has been carried out by posting 550 questionnaires to metal manufacturing companies throughout Malaysia. As many as 131 questionnaires have been returned and statistical analysis has been done. Analysis shows that the employer commitment for safety operation is high but its implementation is poor due to lack of resources and OSH knowledge.

**Keywords:** SME; OSH; metal working; survey; operational problems, continuous improvement.

### 1.0 Introduction

It is well accepted by many safety practitioners that “*poor*” occupational safety and health (OSH) performance within small and medium enterprises (SMEs) is associated with poor commitment to OSH, focus on productivity and limited resources (Surienty, 2012). These factors, in theory, make the occupational safety and health OSH aspect seriously compromised at the workplace. However, this is only an opinion which is not supported by proper research data. Therefore, this survey aims to investigate the commitment and implementation of OSH aspect in the metal working industry.

### 2.0 Research Methodology and Questionnaire Development

The assessment of OSH commitment and its implementation at the workplace can be done by the aid of a questionnaire survey. In this study, the questionnaires are constructed based on the research objectives. The contents of the questionnaire were discussed with academicians and senior safety professionals from the industries. The questionnaires were designed and developed to take into account the possible factors that might affect the OSH organization at work including confidence in OSH, commitment, involvement, training, quality and productivity. A good questionnaire should be carefully designed by considering among others the following criteria: (a) Questionnaire should be completed by respondents in around ten to fifteen minutes; (b) Use basic and easily understood words and sentences; (c) Design questions with positive and negative rankings, opinions, etc.; (d) Design questions related to what to be learned from the sampling group.

In this research, respondents were asked to give their preference on a 4-point Likert scale in order to evaluate the respondents' level of agreement with each item. Most of the items were phrased positively and a few items negatively so that strong agreement in the

former and strong disagreement in the latter resulted in a higher score in favour of safety for the concerned item. A minimum of 550 sets of questionnaire were sent by post to metal manufacturing companies throughout Malaysia based on the SMIDEC database. According to sampling size given by Cochran (1963); for a large population, the minimum sample size for all SMEs in Malaysia is 400. Data collected from questionnaires will be analyzed using the *Standard Package for Social Sciences (SPSS)* version 21.0 (Coakes & Steed, 2007).

### 3.0 Results and discussion

Out of 550 sets of questionnaire sent to the metal companies, however about one third of the questionnaires (185 sets) were returned to the sender because of wrong or not-up-to-date company address. It shows that SMIDEC data was out dated. Only about 131 respondents answered our survey giving 36% rate of return which is acceptable for this kind of research. The respondents answer were compiled and analyzed systematically. Large majority (67%) of the respondents are employers or employers' representatives and most of the companies (59%) are classified as small size industry i.e. number of employees around 6 to 40 persons.

#### 3.1 Employers' belief in OSH Commitment

This section discusses the findings of employers' belief and commitment towards OSH. 10 OSH aspects related to policy development, accidents prevention and the importance of a safe working environment are questioned. Figure 1 shows that, large majority (81%) of respondents agree that by implementing proper OSH, the workers' awareness, productivity and quality of work will increase. In practice, OSH is their top priority and good for the business. This finding is again the normal perception of the safety practitioners in SME. The finding also gives hope to the government agencies such as DOSH, SOCSO and SMEDEC that SMEs accepted the concept and pillar of OSH for the safe operation and sustainability of the business. Through this OSH believes, proactive action plan for continuous improvement of OSH in the metal working industry could be enhanced.

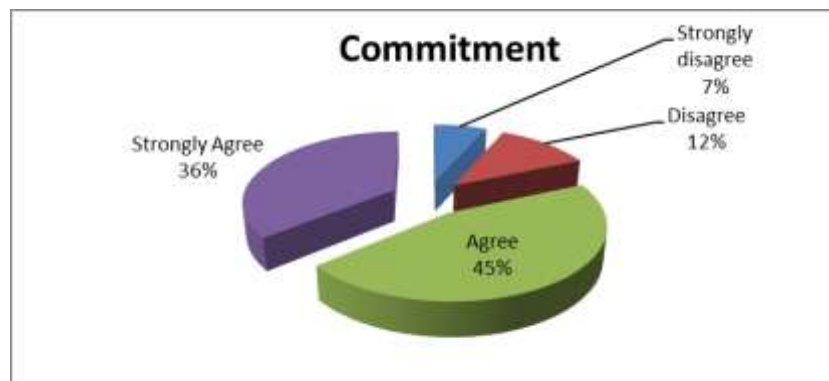
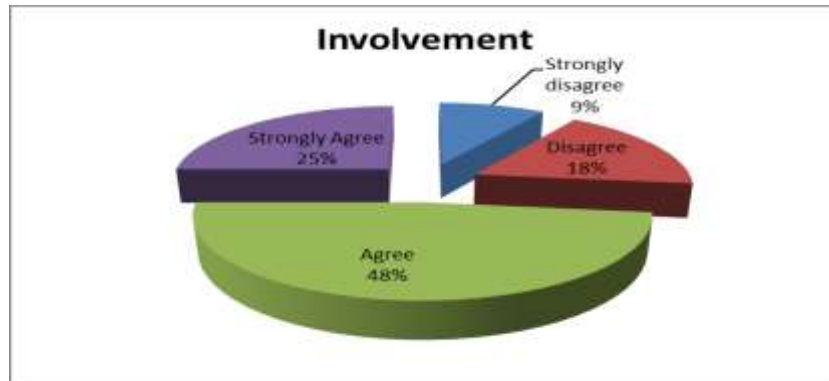


Figure 1: Employer confidence in OSH Commitment

#### 3.2 Employers' involvement on OSH

In this section, 10 questions have been developed to measure the involvement of employers in OSH aspects in their companies. Questions are related to OSH program at work such as hazard identification, risk assessment and risk control of the hazard; safe operating procedure (SOP) etc. Figure 2 shows that 73% of respondents agree that management be involved actively in OSH program. However, based on the specific question on OSH elements, the quality of OSH program or activities implemented is substandard. For example, the company has a safety and health policy, but the minimum requirement as stated in the

OSHA 1994 is not available, incomplete or missing i.e. no signature. In this situation, the level of OSH knowledge and exposure of the SMEs is questionable. Majority of the respondents declared that their OSH implementation is simple, not well planned and properly organized. Further study on this aspect is needed.



**Figure 2:** Employer involvement on OSH

### 3.3 OSH Training

Well planned training and dissemination of OSH information to the employees is very important to support the OSH implementation in the metalworking industry. Therefore, six questions have been developed to measure the OSH training implementation at work. Figure 3 shows that about 73% of respondents agree that their employees are well trained and competent to perform their work safely. However, majority of the training session are done “verbally”. No specific or formal training is given on OSH but the focus of the training is very practical, based on “*learn by doing*”. In practice, new employees undergo a minimum of ten days of basic training i.e. on-the-job training with close monitoring by the seniors. Normally, new comers, worked as a helper for several months before they are allowed to handle metalworking machine alone. In summary, the finding provides a clearer picture what really happens in the SMEs and generates a better understanding on the weaknesses of OSH implementation in this sector. Proper OSH plan could be created to overcome these weaknesses.



**Figure 3:** OSH Training

### 3.4 Quality

This section gives the findings of the survey on the relationship of working environment quality to OSH performance. Seven questions about quality of working environment have been developed especially on machine layout and positioning as well as

safe distance. Figure 4 shows that, 87% of respondents agree that their current working environment is well designed. Majority of employers believe that good working environments are the best way to prevent accidents. It will increase the moral of the workers that gives high compliance to OSH requirements. However, some OSH aspects still can be improved further such the quality of maintenance, repair works planning and work scheduling. At the moment, most of the machines lack of OSH documentation and written record keeping. This aspect is crucial for product quality and productivity as well as work planning.

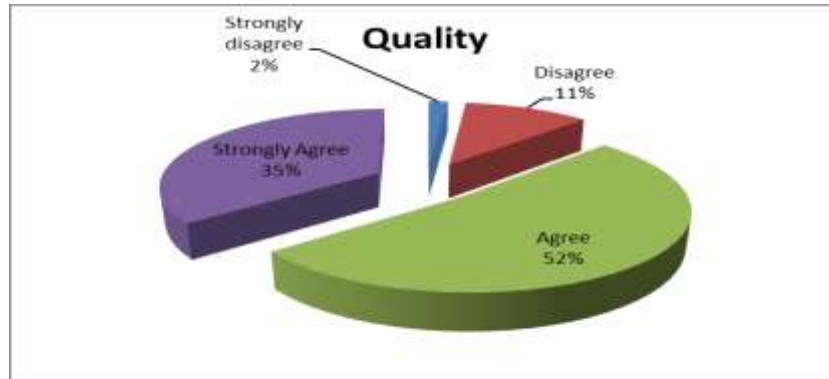


Figure 4: Quality

### 3.5 Productivity

In this section, seven questions have been developed to identify the relation between productivity and OSH implementation in the metalworking industry. Figure 5 show that, 87% of respondents agree that practicing good OSH will boost the company productivity. However, it required proper work scheduling and planning. Poor planning and support system such as preventive maintenance and safe system of work will produce low product quality and affected the machine availability for production.

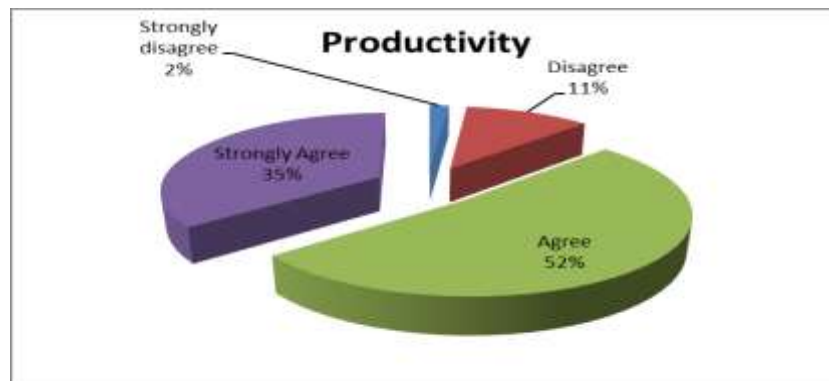


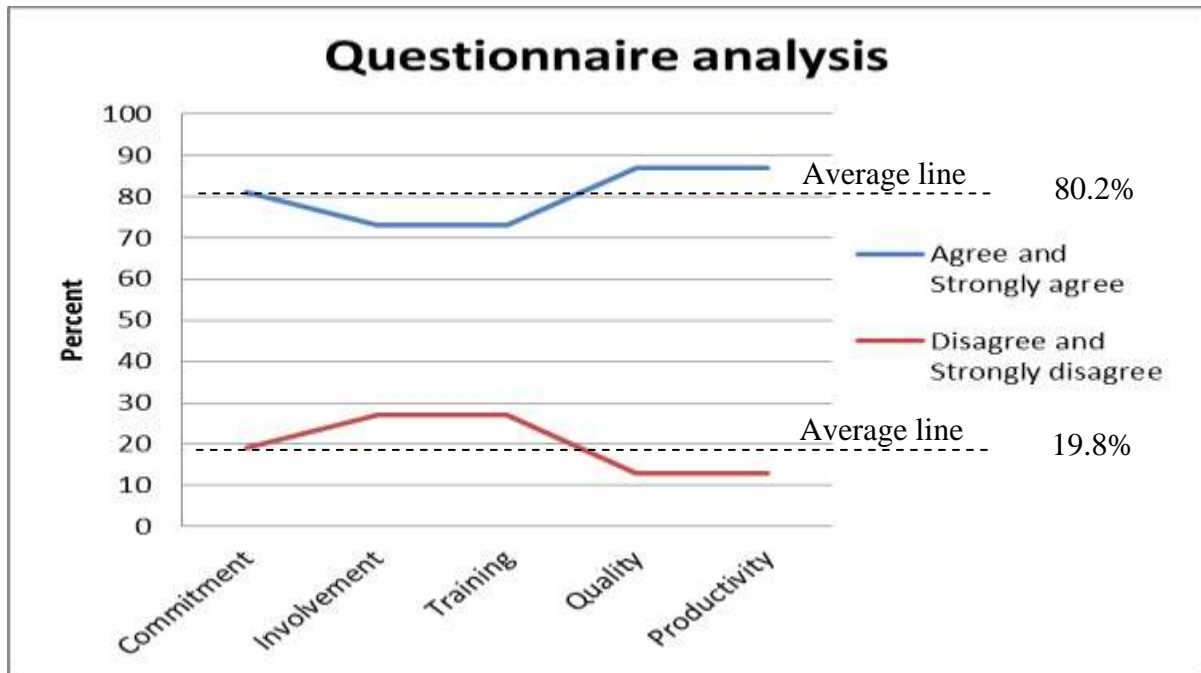
Figure 5: Productivity

### 4.0 Results and Conclusion

The questionnaire survey on the OSH commitment and its implementation among employer in the metalworking industry has been successfully carried out. The focus of the survey is to measure the commitment, involvement, training, quality, productivity and belief in OSH. A clear relationship of these five elements to OSH performance is established. As shown in Figure 6, all respondents provided a positive response to the questionnaire. Majority of respondents (i.e. factory owner) are committed to OSH. In average, 80.2% of respondents believe that a good OSH implementation is needed for safe operation. It shows that the perception of safety practitioner that “poor” OSH performance within SMEs is associated with

poor commitment to OSH is not true. Employers' confidence in OSH commitment is very important as an approach for accident prevention. Therefore, the accident rate in the metalworking sector can be reduced in the future.

The result of the analysis also confirms that the SMEs give more focus to quality and productivity (both 87%) as compared to OSH involvement and training (both 73%). Unbalanced approach in daily SMEs operation, indirectly affects the time and resources allocated for OSH. As a result, poor quality of OSH program is implemented on site.



**Figure 6:** Questionnaire analysis

In conclusion, the survey confirms the factory owners' belief and commitment to OSH. However their focus is still for product quality and productivity that compromise the OSH implementation on site. Due to lack of OSH knowledge, exposure and resources; poor OSH implementation has been recorded in the SMEs. These weaknesses can be corrected by developing a simple yet practical total OSH management system specifically for SMEs.

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