

# **MANAGEMENT PRACTICES AND OSH IMPLEMENTATION IN SMES IN MALAYSIA**

**Lilis Surlenty**

Senior Lecturer

School of Management, Universiti Sains Malaysia

11800 Minden, Pulau Pinang.

Malaysia

Email: [lilis@usm.my](mailto:lilis@usm.my)

February 2012

© 2012 Lilis Surlenty

No written or electronic reproduction without permission

# **Management Practices and OSH Implementation in SMEs in Malaysia**

Lilis Surienty

## **Introduction**

According to the most recent figures published by National SME Development Council (2012), small medium size enterprises (SMEs) with less than 150 employees made up 99.2% of all firms up to 1<sup>st</sup> quarter of 2011 and accounted for an average of 59% of jobs in all sectors and contributing 32% to total GDP (SME Annual Report, 2012). However, despite their economic importance and the number of employees dependent on them, small firms have received very little attention from occupational health and safety (OHS) researchers in Malaysia. It is difficult to quantify OHS problems in small firms. For example, neither Department of Occupational Safety and Health (DOSH) nor National Institute of Occupational Safety and Health (NIOSH), two institutions responsible for occupational safety in Malaysia produce risk indicators by firm size, and many people believe that small firms are more likely than larger firms to fail to declare injuries. In addition, accidents may be relatively rare in these firms due to their smaller workforce, and this may be a factor in the lack of attention given to the subject.

Nonetheless, then Deputy Prime Minister (Lim, 2002) quoted that the number of reported accidents at the workplace especially in SMEs was worrying and statistics showed that SMEs in Malaysia had the workplace accident rate of 30% to 50% higher than big companies. Specifically, they are the major contributors to 80% of total accidents in Malaysia. Results from audits conducted by the DOSH for two thousand and six hundred SMEs in 2002 showed poor compliance (Yahaya, 2002). Thus, although SMEs are important to the country, their contribution to workplace accident statistics is equally substantial.

Generally speaking, all employers and employees have the same OHS rights and obligations. The provisions of Malaysian's Occupational Health and Safety laws concerning prevention programs and joint health and safety committees, however, apply differently to small firms with 40 employees or less. Furthermore, a unit contribution rate applies uniformly to all firms, thus depriving them of an economic incentive to manage occupational health and safety. The models developed for larger corporations have proved to be ineffective and the difficulty of contacting smaller firms, their geographical dispersal and their short life spans, have all helped ensure that they have been left more or less to their own devices in terms of occupational safety (Lahm, 1997; McKinney, 2002).

In Malaysia, SMEs is categorized based on either their annual sales turnover or the number of full-time employees as shown in the table below:

	<b>Micro Enterprise</b>	<b>Small Enterprise</b>	<b>Medium Enterprise</b>
<b>Manufacturing, Manufacturing-related Services and Agro-based Industries</b>	Sales turnover of less than RM250,000 or full time employees less than 5	Sales turnover between RM250,000 and less than RM10 million or full time employees between 5 and 50	Sales turnover between RM10 million and RM25 million or full time employees between 51 and 150
<b>Services, Primary Agriculture and Information &amp; Communication Technology (ICT)</b>	Sales turnover of less than RM200,000 or full time employees less than 5	Sales turnover between RM200,000 and less than RM1 million or full time employees between 5 and 19	Sales turnover between RM1 million and RM5 million or full time employees between 20 and 50

(Source: SMIDEC, 2009)

SMEs have significantly different characteristics from large businesses in terms of their financial, expertise and staffing capabilities. These issues affect the performance of SMEs in terms of compliance with safety regulations and have generated substantial on-going debate between practitioners about designing regulatory and enforcement strategies that optimize compliance levels. However, the way in which these factors affect SME compliance in the past has been difficult to assess due to the problems in gaining published references to empirical research with regard to safety in Malaysian SMEs. This article builds upon works in this field by exploring the results of empirical research undertaken within the area of occupational safety around the world on SMEs. This research provides a significant contribution to the existing field of knowledge because it evaluates the way that factors perceived to affect SME compliance actually impact upon SME behaviour and compliance levels within individual employees. The issues found to affect SME behaviour and attitudes towards occupational safety have important implications for both occupational safety and environmental policies in terms of regulatory and enforcement strategies.

SMEs in Malaysia continue to face many challenges- both traditionally and new ones. One of the many challenges that SMEs face is the high workplace accidents rate which may reflect badly to workers' well being and safety. A reduction of 26.7% in accident rates reported from the previous year (DOSH Annual Report, 2008). However in Thailand for example, the non-fatal injury rate is 925 for 2000, 903 for 2001 and 802 for 2002, which is lower. Researches have shown that accidents at workplace can be reduced if employees and employer are more sensitive or have good safety behaviour (Makin & Sutherland, 1994; Christian et. al., 2009). In addition, effective implementation of OSH will assist in the formation of good safety behaviour because OSH implementation requires employer to cater the safety needs of the employees and the employees to have some responsibility towards their own safety. Accidents at workplace involve monetary cost as companies paid out compensation to employees involved in the workplace accidents. The amount has been high in the last few years and this costs a lot of money to the economy which can otherwise be used for other

productive purposes such as an investment in new technology to boost productions. In the year 2003, compensation due to accidents amounted to a staggering RM 745 million. The amount increased to RM 817 million in year 2004 and continued to rise to RM 883 million in year 2005 (Labour and Human Resources Statistics 2001-2005, 2009).

An effective implementation of the Occupational Safety and Health (OSH) practices could reduce accidents thus decreasing compensation paid. Studies (Jaselskis & Suazo, 1993; Teo & Phang, 2005) have found that safety measures taken in the workplace can lead to better safety performance and Laukkanen (1999) also emphasised on safety as being part of a skilful job performance. In order to generate higher returns by reducing cost incurred to pay out to compensation, it is important for the SMEs to acknowledge the importance of OSHA. If safety problems and health risks in the work environment is reduced, the country's economic competitiveness will eventually improve.

Workplace safety and health in Malaysia is the responsibility of the Department of Occupational Safety and Health (DOSH) an agency under the Ministry of Human Resources. The National Institute of Occupational Safety and Health (NIOSH) which provides training courses, seminars and research in OSH assists DOSH in its works to improve companies implementation of OSH. In term of regulations, OSHA 1994 and Control of Industrial Major Accidents 1966 (CIMA 1996) are the major laws that provide the provision on area such as the responsibilities of employers to provide a safe working environment, training, and emergency preparedness (Shaluf and Fakhru'l- Razi, 2003).

SMEs and large multinational companies are very different in many aspects. These differences have huge impact when it comes to the implementation of OSH and this raises several issues. The size of the company plays a big part in the effectiveness of OSH implementation (Cook, 2007). Large multinational companies often have the financial muscle and structure to effectively implement a good occupational and safety (OSH) system. They have the financial capability which in most cases, lacking in SMEs in committing and developing a safety program inside their organisation. Large multinational companies also have the necessary size and structure to effectively implement and benefit from OSH. Implementing OSH can consume a huge amount of financial resources and it represents a considerable investment by the company. When such an amount of financial resources are invested, the company expects it to benefit every employee inside the organisation. In this case, large companies with bigger number of employees lead OSH program to benefit more people thus spreading the cost per person much thinner. In the case of SMEs, OSH is often perceived as irrelevant as 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 (Lahm, 1997; McKinney, 2002). In conclusion, SMEs as important they are to the country's economic development and unique in their set up should be subjected a different OSH assessment than for those used to evaluate general establishments (such as MNCs and local business conglomerates) in order to ensure that SMEs do follow the health and safety requirements that could ensure that workers' safety is not compromised.

## Literature Review

**OSH Implementation.** ‘Implementation’ can be defined as a course of action taken to put into use an idea, decision, procedure or program (Klein & Sorra, 1996). Then, the immediate outcome of interest is initial use or early use of this new idea. OSH implementation that is measured here would be implementations that is following at least the minimum requirements outlined by the Occupational Safety and Health Act (OSHA) 1994. This activity is an organisational level construct as implementation OSH must be interdependent and coordinated among the many functional, departments, work shifts and locations. It is organisation wide initiatives and not individual basis. In addition, the outcome should be a collective benefit, such as workforce health, improve productivity and lower health care costs.

Occupational Safety and Health Act (OSHA) 1994 is the guiding act that governs occupational safety practices in the country. It became the main legislation in OSH regulation in Malaysia, replacing all other legislations before it. These regulations apply to all establishments in the country and do not differentiate between SMEs and other types of company such as MNCs. As such, the regulations may pose a burden to SMEs as they have different capabilities compared to other large establishments and the regulations fail to address the differences. The idea of OSHA 1994 is more of a self-regulation of occupational safety and health (DOSH, 2006). This means that both employer and employee share the responsibilities in the implementation of OSH at the workplace. However, Section 15 of the Act places that it is the general duty of an employer to ensure the safety, health and welfare at work of all employees. Thus, employer including those of SMEs has a higher burden to ensure implementation of OSH effectively following Section 15 of the Act.

Implementation of OSH measured in this study covers aspects such as assessing organisation’s OSH policy availability, employer’s safety leadership attitude, provision and offerings of safety training by trained safety personnel’s, documentation provision either manually or electronically, emergency preparedness and response arrangements, the appointment or the availability of a safety officer and risk assessment record and provision of the conducive environment to develop work safety at the workplace.

**Effective Legislation.** Singapore, which has one of the lowest workplace accident rates in the region is subjected to a strict enforcement of safety standard, training of workers and safe work practice through its Employment and The Factories Acts that aim to protect the safety and health of employees.(Koh & Jeyaratnam, 1998). Similarly, in Australia, employers have a duty of care to provide for their workers with a safe working environment. Studies have shown that effective enforcement of the legislation influences observance of rules and regulations. In this case it is the health and safety requirements at the workplace (Cooke & Gautschi III, 1981; McQuiston, Zakocs & Loomis, 1998). Cooke and Gautschi III (1981) found that the inspections on workplaces carried out by the authority managed to reduce workplace accidents. If rules and regulations are followed to the letter then it is concluded that OSH is implemented. Furthermore, Eakin and Weir (1995) have found that SMEs lack both the resources and motivation to deal with OSH issues. And with lack of enforcement from the legislative bodies overseeing the implementation of OSH Act, SMEs are not driven

to fulfill their role as implementation would also means additional cost. Enforcement is able because legislation written supports the action that follows. Thus, it is hypothesized that,

H<sub>1</sub>: Legislation role is positively associated to OSH implementation.

***Company size and implementation.*** Apart from the problem with OSH legislations, SMEs also face problems in term of the size of the company. Holmes (1999) found that smaller businesses are not effective in implementing OSH because the managements put the responsibility on employees to look after their own safety in the workplace. It is observed that bigger firms with more resources and experience tend to implement OSH more effectively (Lingard & Rowlinson, 1994). Implementing OSH needs considerable financial investment as employees need to be sent for training, allowing time off for training to create awareness and understanding as well as a continuous commitment of resources in updating OSH information within the organisation. In addition, the appointment of a personnel to carry out OSH matters at the workplace is important for an effective implementation of OSH but the appointment of an employee will add employment cost to companies. Therefore, it is reasonable to notice that OSH management runs more smoothly in large companies compared to SMEs with more resources at hand (Lindoe & Olsen, 2004). Thus, it is hypothesized that,

H<sub>2</sub>: Company size is positively associated to OSH implementation.

***Management commitment and OSH implementation.*** Management commitment is defined as the management's involvement and engagement in actions towards achieving a goal (Cooper, 2006). Gilkey et. al. (2003) found that management support is important in the implementation of OSH. Ashill, Carruthers and Krisjanous (2006) found that management commitment is manifested through various ways such as having safety education and training, giving rewards, and empowerment of employees to make decisions. Investment in safety education and training will allow employees to gain the necessary safety knowledge and help them to work safely. Furthermore, giving rewards to employees that report unsafe behaviours of co-workers during working is also an important aspect of OSH successful implementation. All the measures mentioned require a considerable amount of financial investment. For example, the company needs to pay for the safety training of the employees. The management must be committed to invest money into those activities in order to effectively implement OSH. On the other hand, management commitment can also be viewed from their commitment in penalizing employees who do not follow safety measures such as the use of personal protective equipments (Harper, 1998; Holmes, 1999). This view is supported by Dejoy (1985) as well as Lin and Mills (2001) with the former stressing on a two way communication between employees and managers to facilitate the effective implementation of OSH. It is a fact that an SME organization structure usually conform of a simple structure that include a managing director who sometimes acts as the financial manager and also as the human resource manager. Because of the small size of the organization, every additional head count means cost to the organization and people are usually assigned more than just one job responsibility. And, management of SMEs spends little time on safety issue- a phenomenon that is also prevalent in the United Kingdom and Spain (Vassie et. al., 2000). Thus, it is hypothesized that,

H<sub>3</sub>: Management commitment is positively associated to OSH implementation.

**External support.** Saksvik et. al. (2003) suggested a systematic approach of implementation that includes the cooperation between the government and employers as important to this issue. Considering the fact that SMEs lack financial resources to implement OSH, subsidy given by the government would be helpful. In Japan, half of the cost to implement OSH is subsidized if a group of SMEs is organized to fulfill certain condition such as holding joint occupational health and safety meeting regularly (Mizoue et. al., 1999). In addition, advisory services provided by the Regional Occupational Health Centers in Japan are free to help SMEs in OSH issues. In the same study, Mizoue et. al. also explored the subsidy provided by the Finnish government. The costs of OSH that satisfied the requirements stipulated in the Good Occupational Health Services can be subsidized by 50%. The nationwide action program is to provide SMEs with comprehensive services that are free of charge. Apart from the financial supports, other forms of supports are also important in helping SMEs in OSH. In the Netherlands, where the legislations stipulate the need to use a certified OSH provider, employers have a choice of external or in-house OSH system to choose from. In-house OSH system is more effective because it is integrated into the organisation. On the other hand, external OSH package is less comprehensive and is more profit-oriented (De Valk et. al., 2006). In Singapore, professional bodies such as Society of Occupational Medicine, Society of Occupational Health Nurses, and the Singapore Institute of Safety officers provide OSH training and supports to members and non-members to improve their implementation of OSH (Koh and Jeyaratnam, 1998) whereas in Japan, OSH service is provided by various frontline services such as occupational health organisations, health examination centers, hospital and clinics in term of advisory services. They are supported by various professional organisations such as Occupational Health promotion Center (OHPC) specializing in information, training and consultation. Apart from that, Japan Medical Association (JMA), Japanese Federation of Occupational Health Organizations, and Japan Industrial Safety and Health Association provide training for OSH personnel involved in SMEs (Mizoue et. al., 1999). These services are vital as they can help to build up and enhance SME's capability in implementing OSH in the workplace. Past studies have found that any support or assistance received by SME in implementing OSH do encourage proper implementation of OSH in SMEs (Lingard & Rowlinson, 2005).

Thus, it is hypothesized that,

H<sub>4</sub>: External support is positively associated to OSH implementation

## **Methodology**

**Sample and Procedure.** Questionnaires about OSH implementation status and the demographic profiling of employees representing companies were distributed to attendees of a national seminar on occupational safety and health for SMEs organised by NIOSH. The respondents are company's employees who are responsible for OSH issues at their workplace. It is believed that the knowledge on OSH possessed by those individuals would enable them to answer the survey because they are involved in the day-to-day operation of OSH in their company. Therefore, for this study, the survey is targeted at employees who are in charge of OSH issues at their workplace. Forty six usable questionnaires were collected and analysed using SPSS. The 46 respondents represents 35 companies in the manufacturing, packaging, maintenance, services and construction. The majority of the employees occupied the junior management position but there are also from the middle and the top management.

The mean age was 35.8 years, ranging from 22 to 62 years. Of the 46 respondents, 29 (63%) were male and 17 (37%) were female.

## Measures

**Demographical variables.** Type of organisation, years of establishment, and company size were used as demographical variables in the analyses, as this is an exploratory of the implementation status of OSH in SMEs in Malaysia.

**OSH Implementation.** The OSH implementation status was measured by a self-assessment instruments adapted from an OSH compliance study done for Proton vendors based upon Part 1:2005 OSH MS (Occupational Safety and Health Management Systems – Requirements). OSH implementation was measured by an 86-item instrument. The response scale was a 7-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree).

**Management Commitment.** Management Commitment was measured using the scale from Alison (2002). The scale used consists of 26 items and the response scale was a seven-point Likert scale (ranging from "Strongly Disagree" to "Strongly Agree").

**Legislation.** Information about legislation was adapted from McQuiston, Zakocs, and Loomis (1998) and Fairman and Yapp (2005) whom both were investigating the enforcement elements of legislation on safety behaviours. The final edited scale used consists of 8 items and the response scale was a seven-point Likert scale (ranging from "Strongly Disagree" to "Strongly Agree").

**External Support.** External support was measured using the a 10-item instrument measuring the different types of support possibly received by the organisation in implementing OSH. This measurement was adapted from European Agency for Safety and Health at Work (2003). All scales range from 1 (Never) to 7 (Always).

## Results

The descriptive statistics (means and standard deviations) and the correlations between OSH implementation, management commitment, external support, and legislation are presented in Table 1.

Descriptive statistics illustrate that SMEs have implemented OSH requirements to an extent even if it is only just 50% compliance (mean = 4.88). The correlation analysis showed that from the four factors tested; only management commitment and external support were found to have positive associations with SMEs OSH implementation. On the other hand, company size and legislation role did not show to have any association with OSH implementation. Thus, hypotheses 3 and 4 are supported whereas hypotheses 1 and 2 are not supported.

**Table 1: Correlation matrix, mean and standard deviation of study variables.**

Variables	Mean	Standard Deviation	1	2	3	4	5	6	7
1. OSH Implementati on	4.88	0.64	<b>.93</b>						
2. Management Commitment	4.92	0.79	.72**	<b>.90</b>					
3. External Support	4.54	1.39	.42**	.25	<b>.94</b>				
4. Legislation.	5.22	0.66	.28	.29	.08	<b>.63</b>			
5. Company Size. <sup>a</sup>	1.49	0.51	.25	.18	.02	.10	-		
6. Years of Establishmen t.	14.84	10.38	.10	.16	.29	.02	.54**	-	
7. Type of Organisation <sup>b</sup>	1.85	0.36	-.00	.06	-.05	-	-.01	.16	-
						.41**			

Note: \*\*  $p \leq 0.01$ . <sup>a</sup>. 1= small, 2 = medium, <sup>b</sup>. 1 = public, 2 = private. Number in diagonal refer to cronbach alpha values.

## Discussions

Descriptive statistics illustrate (Table 1) that SMEs has to an extent implemented 50 per cent of OSH Act requirements. There is still a lot of room for improvements and confidence that accident rates could be reduced with higher OSH Act compliance. Results also showed that management commitment is required in successfully implementing and executing OSH requirements in the organization. And this result is consistent with past studies where management initiatives such as providing appropriate reward, training, and investing in the environment are important in a successful implementation of OSH (Gilkey et. al., 2003; Ashill, Carruthers, & Krisjanous, 2006). In addition, external support is also associated to successful OSH implementation. External support such as information and experience exchange, mentoring and being in a network that share OSH implementation importance is helpful in SMEs' OSH implementation. This is consistent with past studies such as Saksvik et. al. (2003), that showed cooperation with government support is also important for a successful OSH implementation. And one initiatives already implemented even if it is just in a small scale is the partnership program that match MNCs with a SME to assist with their OSH implementation issues (Ng, 2003).

On the other hand, company size and legislation role play no role in SMEs OSH implementation. The different company size measured here based upon employee size may not have any significance because generally, SMEs in Malaysia are not significantly different from one to another in terms of number of workers. Future research may want to measure company size based upon sales turnover figure which may showed significance because sales

turnover may reflect financial capability of a company to invest in OSH initiatives or programs. Moreover, legislation role did not show to have an association with OSH implementation as suggested by past studies (Cooke & Gautschi III, 1981; McQuiston, Zakocs & Loomis, 1998). It is possible that legislation role is over-shadowed by the lack of legislation awareness among SMEs and thus, they are not aware of legislation requirements. It is a known fact that SMEs have low awareness with regard to OSH requirements and that is the reason why SMEs became the target community for OSH compliance for DOSH Malaysia Plan until 2015. Legislation role may not be appropriate here if the level of awareness about it is low among SMEs. Thus, this factor would need to be considered as a controlling factor instead of a direct influencing factor of SMEs OSH implementation.

This study acknowledge some limitation can be attributed to the number of factors being studied which may not reflect the overall picture of factors that could associate SMEs OSH implementation. In addition, no inference analyses were conducted to investigate an inference relationship. This study only uses correlation analyses. Future studies may want to test the hypotheses using inference analyses with bigger sample that would be representative of the SMEs population in Malaysia.

## **Conclusion**

Existing SMEs-OSH issues posed a need to understand the influence of SMEs capabilities such as the management commitment, legislative role, demographic profiling, and external support on current OSH implementation status. Further empirical work is needed to further understand how these factors and other possible factors impacted OSH implementation in SMEs. This study did not make any direct association with the extent of OSH implementation at SMEs. In addition, SMEs selected must represent the true population of SMEs in Malaysia so that results could be generalized to the true population.

## **REFERENCES**

- Ashill, N.J., Carruthers, J. and Krisjanous, J (2006). The effect of management commitment to service quality on frontline employees' affective and performance outcome: an empirical investigation of the New Zealand public healthcare sector. *International Journal of Nonprofit and Voluntary Sector Marketing*. 11: 271-287.
- Bibbings, R. (2007). Simplifying Standards. *The RoSPA Occupational Safety & Health Journal*. 37: 46-47.
- Bradshaw, L. M., Curran, A. D., Eskin, F. and Fishwick D. (2001). Provision and perception of occupational health in small and medium-sized enterprises in Sheffield, UK. *Occupational Medicine*. 51: 39-44.
- Champoux, D. and Brun J. P. (2001). Occupational health and safety management in small size enterprises: an overview of the situation and avenues for intervention and research. *Safety Science*. 41: 301-318.
- Charles, M. B., Furneaux, C., Pillay, J., Thorpe, D., Castillo, C. P. and Brown, K. (2007). *Uptake of an OHS Code of Practice by Australian Construction Firms*. World Building Congress.

- Christian, M.S., Wallace, J.C., Bradley, J.C. and Burke, M.J. (2009). Workplace Safety: A Meta-Analysis of the Roles of Person and Situation Factors. *Journal of Applied Psychology*. 94: 1103-1127.
- Cooper, D. (2006). Exploratory Analyses of the Effects of Managerial Support and Feedback Consequences. *Journal of Organizational Behaviour Management*. 26: 41-82.
- Definition of SMEs by size (2009). Retrieved from <http://www.smidec.gov.my/detailpage.jsp?page=defsme> on 21<sup>st</sup> August 2009.
- Dejoy, D. (1985). Attributional process and hazard control management in industry. *Journal of Safety Research*. 16: 61-71.
- Department of Safety and Health (DOSH) (2006). Guidelines on Occupational Safety and Health Act 1994 (Act 514). Retrieved from <http://dosh.mohr.gov.my/> on 26<sup>th</sup> October 2010.
- De Valk, M. M. A., Oostrom, C. and Schrijvers, A J. P. (2006). An assessment of occupational health care in the Netherlands (1996–2005). *Occupational Medicine*. 56: 475-479.
- DOSH Annual Report. (2008). Department of Occupational Safety and Health: Putrajaya.
- Dugdill, L., Kavanagh, C., Barlow, J., Nevin, I. and Platt, G. (2000). The development and uptake of health and safety interventions – aimed at small businesses. *Health Education Journal*. 59: 157-165.
- Eakin, J.M. and Weir, N. (1995). Canadian approaches to the promotion of health in small business. *Canadian Journal of Public Health*. 86: 109-122.
- EASHW. (2004). *Promoting Health and Safety in small and medium sized enterprises SMEs*. European Agency for Safety and Health at Work.
- European Agency for Safety and Health at Work. (2003). *Improving occupational safety and health in SMEs: examples of effective assistance*. Luxembourg: Office for Official Publications of the European Communities.
- Fairman, R. and Yapp, C. (2005). *Making an impact on SME compliance behaviour: An evaluation of the effect of interventions upon compliance with health and safety legislation in small and medium sized enterprises*. Research Report 366. Kings Centre for Risk Management, Kings College London.
- Flagstad, K. (1995). *The functioning of the internal control reform*. Trondheim: Dissertation, NTNU.
- Gilkey, D.P., Keefe, T.J., Hautaluoma, J.E., Bigelow, P.L., Herron, R.E. and Stanley, S.A. (2003). Management commitment to safety and health in residential construction: HomeSafe spending trends 1991–1999. *Work*. 20: 35-44.
- Hale, A. and Baram (1998). *Safety Management*, Pergamon Books, Amsterdam.
- Hasle, P. and Limborg, H. J. (1997). *A method for introduction of preventive working environment activities in small enterprises*. Centre for Alternative Social Analysis.
- Holmes, N. (1999). An exploratory study of meanings of risk control for long term and acute occupational health and safety risk in small business construction firms. *Journal of Safety Research*. 30: 61-71.
- Jaselskis, E. J. and Suazo, G. (1993). A survey of construction site safety in Honduras. *Construction Management and Economics*. 12: 245-255.
- Jaselskis, E. (1996). Strategies for achieving excellence in construction safety performance. *Journal of Construction Engineering and Management*. 122:61-70.
- Klein, K.J., & Sorra, J. S. (1996). The challenge of implementation. *Academy of Management Review*, 21, 1055-1080.
- Koh, D. and Jeyaratnam, J. (1998). Occupational Health in Singapore. *International Archives of Occupational and Environmental Health*. 71: 295-301.

- Kongtip, P., Yoosook, W., and Chantanakul, S. (2008). Occupational Health and Safety Management in small and medium-sized enterprises: An overview of the situation in Thailand. *Safety Science*, 46, 1356–1368.
- Labour and Human Resources Statistics 2008. Retrieved from [http://www.mohr.gov.my/Statistik\\_Perburuhan\\_2008.pdf](http://www.mohr.gov.my/Statistik_Perburuhan_2008.pdf) on 2nd January 2010.
- Lamm, F. (1997). Small business and occupational health and safety advisors. *Safety Science*, 25: 153-161.
- Laukkanen, T. (1999). Construction work and education: occupational health and safety reviewed. *Construction Management and Economics*, 17: 53-62.
- Lin, J. and Mills, A. (2001). Measuring the occupational health and safety performance of construction companies in Australia. *Facilities*, 19: 131-138.
- Lindoe, P. H. and Olsen, O. E. (2004). Implementing Quality and Health/Safety Systems in the Hospitality Industry. A Comparison with the Aluminium Industry in Norway. *Scandinavian Journal of Hospitality and Tourism*, 4: 154-172.
- Lingard, H. and Rowlinson, S. (1994). Construction site safety in Hong Kong. *Construction Management and Economics*, 12:501-511.
- Lingard, H and Rowlinson, S. (2005). *Occupational health and safety in construction project management*. Abingdon, Oxon: Spon Press.
- Makin, P.J. and Sutherland, V.J. (1994). Reducing Accidents Using a Behavioural Approach. *Leadership & Organization Development Journal*, 15: 5-10.
- McKinney, P. (2002). Expanding HSE's ability to communicate with small firms: A targeted approach (No. 420/2002): Prepared by AEA Technology plc for the Health and Safety Executive.
- Mizoue, T., Huuskonen, M. S., Muto, T., Koskinen, K., Husman, K. and Bergstrom, M. (1999). Analysis of Japanese Occupational Health Services for Small- and Medium-scale Enterprises in Comparison with the Finnish System. *Journal of Occupational Health*, 41: 115-120.
- Neville, H. (1998). Workplace Accidents: The Cost More Than You Might Think. *Industrial Management*, 40: 7-10.
- Ng Wei Kiang. (2003). OSH profile in the service sector in particular the small and medium sized enterprises. Retrieved from [http://www.mtuc.org.my/osh\\_profile\\_service.htm](http://www.mtuc.org.my/osh_profile_service.htm) on 16th January, 2010.
- Prahu, V.B. and Robson, A. (2000). Impact of leadership and senior management commitment on business excellence: an empirical study in the North East of England. *Total Quality Management*, 11: 399-409.
- Saksvik, P. O., Torvatn, H. and Nytro, K. (2003). Systematic occupational health and safety work in Norway: a decade of implementation. *Safety Science*, 41: 721-738.
- Seneviratne, M. and Phoon, W. O. (2006). Exposure Assessment in SMEs: A Low-Cost Approach to Bring OHS Services to Small-Scale Enterprises. *Industrial Health*, 44: 27-30.
- Shaluf, I. and Fakhru'l-Razi, A. (2003). Major hazard control: the Malaysian experience. *Disaster Prevention and Management*, 12: 420-427.
- SME Performance Report 2008 (2008). Retrieved from <http://www.smecorp.gov.my/sites/default/files/SME%20AR08%20Eng%20Text.pdf> on 2<sup>nd</sup> January 2010.
- SME Annual Report 2010/2011. (2012). Leveraging Opportunities, Realising Growth. Kuala Lumpur: National SME Development Council.
- Storey, D.J., & Westhead, P. (1994). Management training and small firm performance: A critical review. Working paper No. 18. Warwick University: Small and Medium Enterprise Centre.

- Tang, S. (1997). Safety cost optimization for building projects in Hong Kong. *Construction Management and Economics*. 15: 177-186.
- Teo, A. L. and Phang, T. W. (2005). Singapore's Contractors' Attitudes Towards Safety Culture. *Journal of Construction Research*. 6: 157-178.
- Torner, M., Cagner, M., Nilsson, B. and Nordling, P. (2000). Occupational injury in Swedish fishery: promoting implementation of safety measures. *Occupational Ergonomics*. 2: 91-104.
- Vassie, L., Tomas, J. M. and Oliver, A. (2000). Health and Safety Management in UK and Spanish SMEs: A Comparative Study. *Journal of Safety Research*. 31: 35-43.
- Wilson, J., Joe, M., and Koehn, E. (2000). Safety management: problems encountered and recommended solutions. *Journal of Construction Engineering and Management*. 126: 77-80.
- Yapp, C. and Fairman, R. (2004). Factors affecting food safety compliance within small and medium-sized enterprises: implications for regulatory and enforcement strategies. *Food Control*. 17: 42-51.
- Yu, C. K. and Hunt, B. (2004), "A fresh approach to safety management systems in Hong Kong. *The TQM Magazine*. 16: 210-215.