



Journal of Scientific Research & Reports
3(3): 407-418, 2014; Article no. JSRR.2014.002

SCIENCEDOMAIN international
www.sciencedomain.org



An Assessment of Small and Medium Enterprise Owners' Occupational Safety and Health Efforts: The Case of Southerton, Harare, Zimbabwe

N. Mudavanhu^{1*}, T. Zhou¹ and P. Dzomba¹

¹Chemistry Department, Faculty of Science, Bindura University of Science Education, Zimbabwe.

Authors' contributions

The author NM designed the study wrote the protocol, and wrote the first draft of the manuscript. The authors PD and TZ managed the methodology and the analyses of the study. All authors read and approved the final manuscript.

Original Research Article

Received 4th August 2013
Accepted 16th October 2013
Published 26th November 2013

ABSTRACT

Aims: To assess Small and Medium Enterprises (SMEs) owners' efforts towards the occupational health and safety scenario of their companies.

Study Design: This study followed a survey approach.

Place and Duration of Study: Southerton industrial area, Harare, Zimbabwe, between March 2013 and June 2013.

Methodology: Questionnaires were used to collect data from 26 managers and owners of SMEs (3 – 49 employees). Hundred and forty (140) questionnaires were administered to employees other than managers from the 26 SMEs. The number of employee participants were stratified from the size of the SMEs. A descriptive analysis of owners' characteristics, the interventions they have put in place and how employees felt about the management of safety at their work places was done.

Results: Research findings indicate that most SME managers attained tertiary level of education, and have relevant expertise and experience. This makes them capable of having sound occupational safety and health (OSH) management principles. Generally management responses show that SMEs' safety and health scenario can be characterized as inadequate. It was found that despite 70.8 % of the managers having

*Corresponding author: E-mail: normudavanhu@gmail.com, nmudavanhu@buse.ac.zw;

tertiary education and 38.9% having more than 2 years' experience still all (100%) SMEs had no safety management system, 92.3% had no safety policy, 96.2% had no hazardous exposure control strategies and 92.3% had no hazard management principles. Furthermore employees indicated that their managers used a reactive approach towards risk (87.5%), attached low priority to OSH against production, lacked commitment (62.9%), and had a blame attitude towards accidents causation (79,3%). Most employee responses indicate dissatisfaction with the OSH scenario at their work places.

Recommendations: It is recommended that SME managers may improve workplace safety and health and consequently improve business performance by implementing basic safety management principles. Secondly, there is need to improve employees involvement in safety matters. Thirdly, managers should seek OSH knowledge and advice through attending workshops or taking courses on OSH management. Training of managers and owners may make concertize them on how compliance to safety may improve productivity, quality and minimize production costs. Furthermore policy makers should develop a cost effective, simple and easy to use regulatory OSH framework for SMEs managers to implement. An SME easily-accessible-database should be developed and frequently updated to allow exchange of information within the sector.

Keywords: Safety management; SMEs; occupational safety and health; Manager; owner.

1. INTRODUCTION

Small and Medium Enterprises (SMEs) play a crucial role in the industrialization and economic growth of developing and developed countries [1]. SMEs though not homogeneous and varying in size structure and complexity are now generally defined in developing countries as an organization that employs less than 300 employees [2,3]. Most governments worldwide have realized the potential of SMEs in driving the economy and hence has embarked on expanding the SME sector in order to promote economic growth through creation of jobs. In Zimbabwe programmes like the National Youth Fund and Indigenization and Empowerment programme have recently been implemented to promote the development of the SME sector. This has resulted in an increase in SMEs.

However, the growth of SMEs sector has not been accompanied with evolution of Occupational Safety and health (OSH) [4]. Previous studies show that management plays an important role in to protecting its workers and the environment [4,2]. Research has shown that due to lack of skills and resources, operations in the sector depends primarily on the knowledge of the director or owner rather than through written rules, regulations and agreements [4,2,5]. SME owners tend to be personally responsible for almost all management functions in their companies without any training. It is impossible for the owner to have expertise in all relevant areas [6]. SMEs manager's contributions can greatly enhance the quality of their operations. Despite the fact that SMEs play an important role in contributing to the economy of the country, the sector experiences a number of constraints that inhibit the realization of their full potential. In most SMEs, the manager is usually the owner of the enterprise and is responsible for most of the administrative tasks of the firm including safety and health issues [6]. This implies that the OSH performance of SMEs depends on the attitudes, knowledge and practices of the owner and manager hence the need to assess how they contribute to their firms' chemical OSH performance.

Generally the SMEs managers are not fully aware of advantages that can accrue to them through implementing OSH and environmental management alongside their business activities [2]. Maudgalya et al. [7] argues that occupational injuries alone does not make a compelling business case for work place safety investment, but linking safety objectives to other business objectives such as productivity and quality is important. Their work [7] revealed that workplace safety initiatives had an average increase of 66% in productivity, 44% in quality and 71% in cost benefits. Approaching workplace safety investment from the business bottom line can motivate SMEs owners to comply with OSH standards. The notion that investing in health and safety pays is an important persuasion in getting some organizations and their managers to adopt OHS interventions once they have been proven effective [8]. The EU Community strategy 2007-2012 on health and safety at work improving quality and productivity at work states that the enormous economic costs of problems associated with health and safety at work inhibits economic growth and affects the competitiveness of businesses [9]. Studies have shown that providing a healthy and safe working environment has the potential to increase labour productivity and in turn increase business profits [9].

Effective management of health and safety involves leadership authority and coordination of resources in pursuit of organizational goals [10]. Management effects like; commitment, accountability, responsibility, knowledge, training and communication affect the overall health and safety culture of a company. It is the general duty of the owners and managers of SMEs to ensure that employees work in a safe and risk free environment. This responsibility extends to protection of the environment and public within the vicinity of the SME [11].

This study looks at how the owners and managers roles in SMEs affect OSH management. This assessment is made in view of the fact that, in small enterprises, the owner is often the manager and takes care of all management issues, such as production planning, sales, accounting, human resources, and procurement [2]. In addition compliance to safety regulations and provision of a safe working environment has the potential to increase labour productivity as it enhances worker morale and increases business profits. The performance of SMEs solely depends on the manager or owner and their enhancement would improve their organizations' performance.

2. METHODOLOGY

2.1 Research Design

A survey of chemical SMEs from Southerton Industrial area in Harare was carried out. A combination of both more qualitative and quantitative research was used in this study. The latter was considered necessary for capturing quantitative information of the study. The qualitative approach explored attitudes, behaviours and experiences through interviews [12].

2.2 Study Area

Southerton Industrial Area (shown in Fig. 1) contains a mixed array of large, medium, and small scale enterprises. The area is one of the busiest in the capital city, and has a variety of industries ranging from furniture, metallurgy, chemical manufacturing, fertilizer, plastics, food and beverage manufacturers, paints, pharmaceuticals, petroleum and many others.

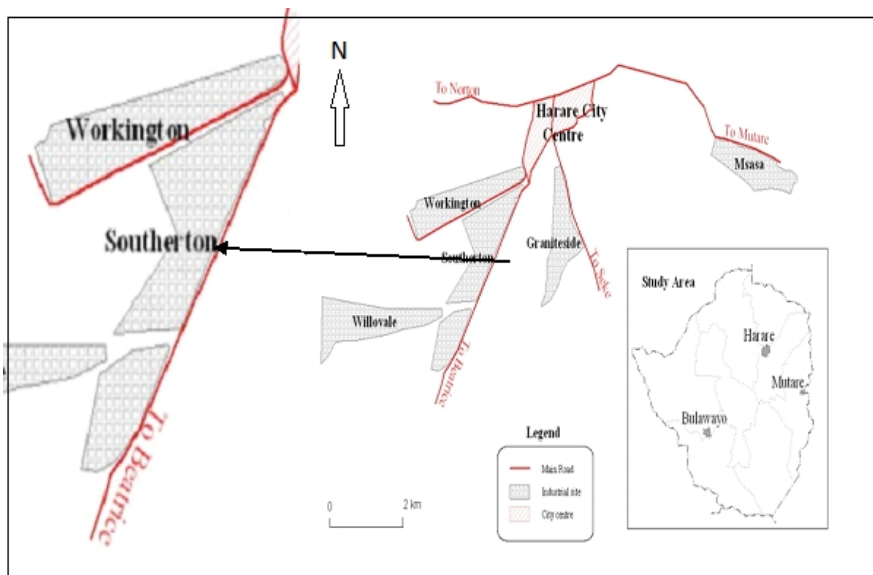


Fig. 1. Study area map, Southernton industrial area (adapted from [2]).

2.3 Generation of Sample Frame

For a company to participate in the study it had to be a SME involved with chemicals. Generation of the sample frame employed two strategies. The first strategy, the major strategy used, involved systematic random walk routine in Southernton industrial area to identify suitable SMEs. A total of 30 SMEs were identified this way. The second strategy involved the use of the online directory and consultation with relevant regulatory authorities to provide another list of small chemical industries. A total of 16 new SMEs were identified using this strategy. The research altogether targeted 44 chemical based SMEs in Southernton industrial area.

2.4 Questionnaire Development

Two questionnaires were designed, for the management, and for the respective employees. A combination of semi-structured and structured questions were used in the interview questionnaire for managers and was divided into three sections, the personal information, basic company's information and safety culture sections. The employee questionnaire was designed to assess how management contributes to the SMEs performance with respect to OSH and hazard management. The questionnaire comprised only 8 five-point likert scale questions on the safety culture of their company.

2.5 Data Collection

A total of 44 companies which had earlier showed interest of being included in the research sample frame were first contacted via telephone for the purpose of making appointments. Agreement was reached with 26 (3 – 49 employees) SMEs to proceed with the research. Data collection process took 3 weeks. A total of 26 management questionnaires were completed from 26 SMEs (with a total of 416 employees) and 140 employee were randomly

sampled and these completed employee questionnaires. Employee participants were stratified from the size of the SMEs as shown in Table 1.

Table 1. Distribution of employee interviewed in the study

SME identity	Size (No. of employees)	Number interviewed	SME Identity	Size (No. of employees)	Number interviewed
1	3	1	14	11	4
2	5	2	15	11	4
3	6	2	16	14	4
4	6	2	17	15	5
5	7	2	18	18	7
6	8	3	19	21	7
7	8	3	20	24	8
8	9	3	21	24	8
9	9	3	22	25	8
10	9	3	23	31	11
11	9	3	24	34	11
12	10	3	25	40	13
13	10	4	26	49	16

2.6 Data Analysis

A descriptive analysis of owners' characteristics, the interventions they have put in place and how employees felt about the management of safety at their work places was done using IBM Statistical Package for Social Sciences (SPSS) version 20. The following steps were taken in the analysis of qualitative data from questionnaire; responses were coded using the participants own words and phrases without preconceived classification; the participants language or phrases were examined, categorized and recurrent themes were identified and inputted into SPSS for analysis.

3. RESULTS AND DISCUSSION

Out of the 44 SMEs in the sample frame, 26 participated in the study giving a response rate of 59.09%. The 18 SMEs that could not participate were all involved with chemicals and fit in the categories explained below. Reasons for not participating were mainly suspicion and for few of them lack of commitment by senior management after various efforts to schedule interviews. However the response rate is higher than the 34.5% that was obtained by [2]. One hundred and forty (140) employees from the 26 participating SMEs filled in a 5 likert scale questionnaire ranging from strongly agree to strongly disagree.

Most SMEs that participated in the survey had 50 or less employees. SMEs that had less than 10 employees constituted 42.3% of the sample while those that had more than 10 constituted 57.7%. The small sizes of SMEs break communication barriers and should improve OSH. The distribution of the chemical SMEs by nature of business is illustrated in Fig. 2. The majority (38.5%) of the SMEs was involved in supply of chemicals. As shown in Fig.2, chemical SMEs nature of business varied from purchasing and supplying of chemicals to manufacturing. The way each type of organization handles chemicals varies and has associated occupational risk that requires appropriate remedial action.

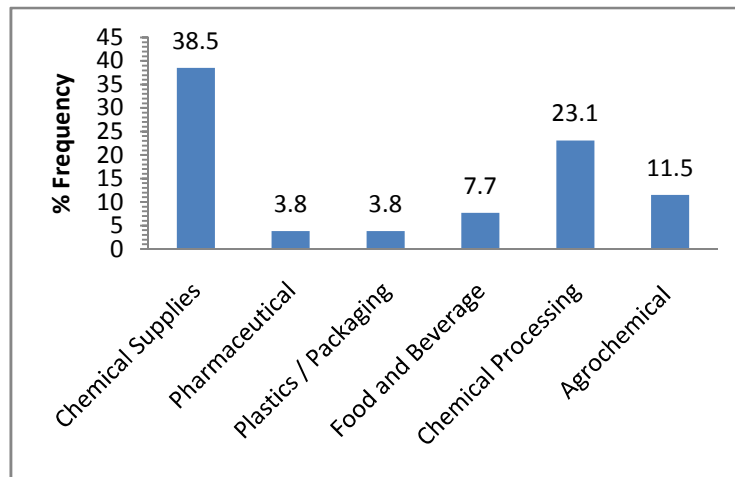


Fig. 2. Nature of business of the SMEs within the chemical industry

Most (80.3%) managers had tertiary education with at least a diploma as indicated in Fig. 3.

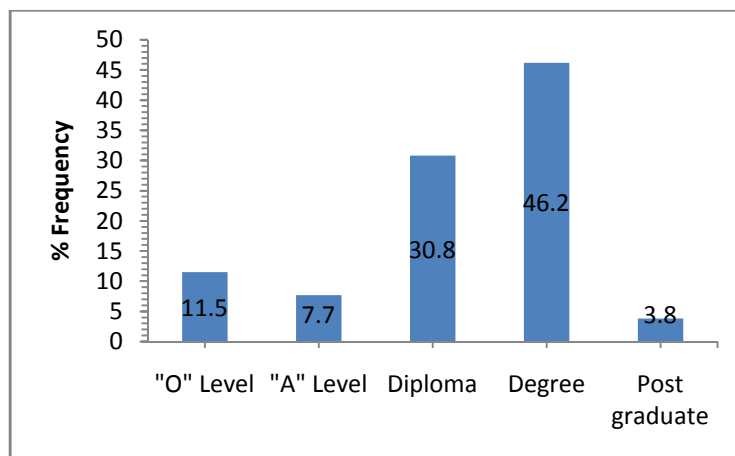


Fig. 3. Managers' highest level of education attained.

From Fig. 3 the least qualification is General Certificate in Education (GCE) Ordinary levels ("O" Level) obtained from secondary school. This is followed by GCE Advanced Level ("A" Level) obtained after "O" Level. This shows that most SMEs have highly educated managers, who in essence should transform the health and safety management and performance scenario within their firms. It is therefore expected that they uphold high standards of work practice. The education status of managers can be greatly enhanced by work experience. Experience exposes workers to critical issues at the work place such as safety especially accidents and injury. An analysis of the work experience of the managers in chemical industry indicated that 38.9% of them had more than 2 years' experience and 50% them having at least 6 months experience. This is illustrated in Fig. 4.

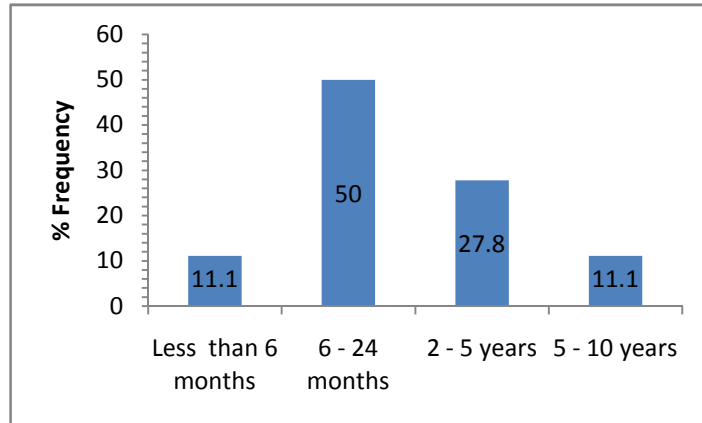


Fig. 4. Managers' job experience

Fig. 5 shows that most (88.9 %) of the SMEs were established less than five years ago after the 2008 economic crisis. This trend agrees with [2] who pointed out that most of these SMEs in Zimbabwe emerged after the revival of the economy in 2009. In addition the government had embarked on SME sector expansion as realized by the establishment of the Ministry of Small to Medium Enterprises Development in 2008 and the recent adoption of SME expansion strategies like Indigenization and Empowerment Policy. As a result most of the SMEs are still relatively new, and the managers lack appropriate SME management experience; hence they have not yet applied all aspects necessary enhance their operations. However Fig. 4 and 5 tallies manager's job experience and the years since business was established. The Ministry of Small and Medium Enterprises and Cooperative Development should support endeavours by the owners and managers in business development strategies.

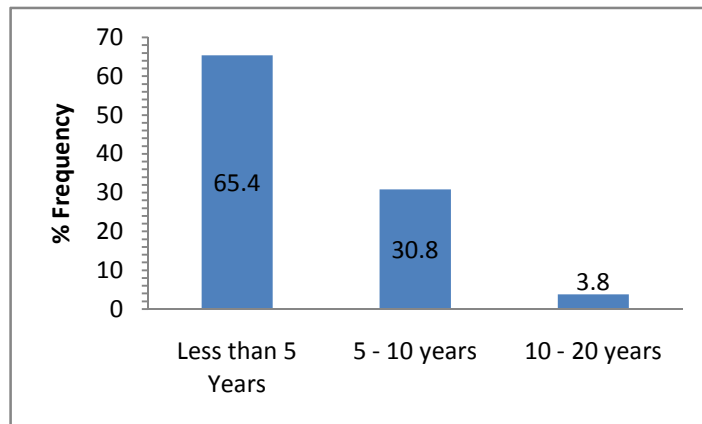


Fig. 5. Age of SME

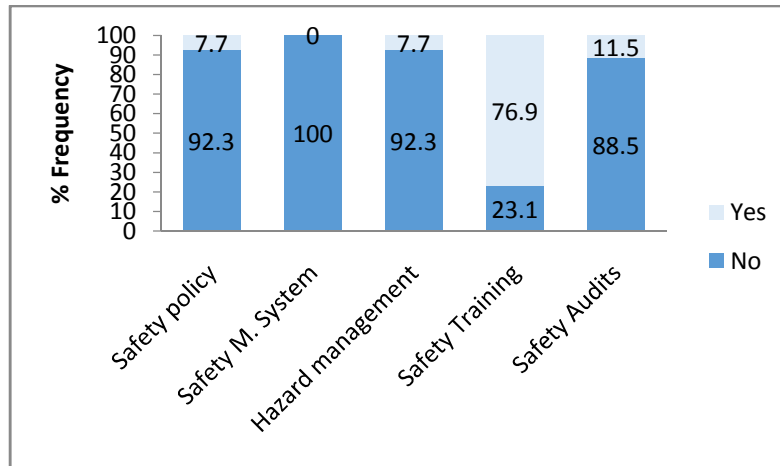


Fig. 6. OSH management scenario

Fig. 6 shows that 92.3% of the organizations had no safety policy. This compares well with 85.6 % found not to have a policy by [2]. It is also been confirmed in Fig.6 that all SMEs had no safety management system; this can be explained by the fact that to have a safety management system it requires more commitment and provision of resources as required by the general philosophy stated in the safety policy. The 100% noncompliance rate in safety management system compared to 92% in safety policy reveals that even though some organizations have a policy, there is general lack of commitment to safety management as the organizations did not operationalize their safety policies. Only 7.7% of the organizations indicated that they have a way of managing hazards. This tallies with the 7.7 % who had a policy. Chemical safety cannot be guaranteed without a policy [2]. Lack of a policy and a corresponding management system leads to lack of or poor safety training (23%) and audits (11.5%) at the work place. The significance of higher level of manager's academic education and experience viz-a-vis inadequate OSH and hazard management practices in SMEs can be attributed to manager's negligence, notably health and safety irresponsible, lack of commitment, concern and specific OSH knowledge. The work environment in these SMEs can be considered to be very high risk. A huge fraction (71.4%) of the employees indicated that their places of work were not safe. Research on the contrary shows that poor health and safety performance impacts on business operations [4,7,8,9]. SMEs with poor safety management are most likely to have low productivity and high operational costs [7,8,9].

Fig. 7 showed that 50% of the organizations had established first aid in their organizations. However areas such as emergency management (19.2%), exposure control (3.8%), accident reporting (30.8) and documentation of safe working procedures (26.9%) are still of great concern and requires attention. These areas are components of a safety management system that can be described as inadequate in the SMEs. If these areas are not attended to SME employees remain demoralized and that negatively affects business performance.

Results presented in Table 2 show that 48.6% of employees feel there is a general lack of OSH concern by their managers. Since SME managers have a lot of responsibilities, attending to health and safety issues might not be a priority [13]. This seemingly lack of concern may be due to general lack of knowledge on the benefits managing OSH.

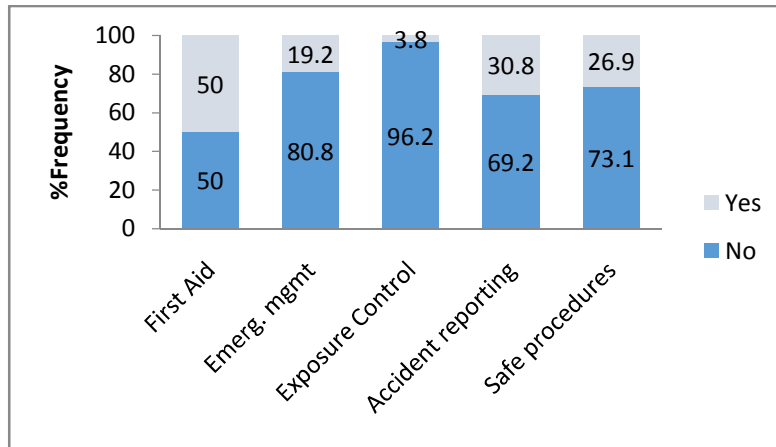


Fig. 7. Other parameters associated with safety management

Table 2. Employee responses to OSH management issues

Response to Question about whether:	% Strongly agreeing	% Agreeing	% Neutral	% Disagreeing	% Strongly disagreeing
Management is concerned with OSH	0	6.4	45.0	47.9	0.7
Management is committed to OSH.	0	3.9	34.3	52.9	10.0
Managers had a preventive attitude towards OSH	0	0	12.1	75.0	12.9
There is absence of a blame culture towards accidents	0	2.1	18.6	67.9	11.4
Communication is two way in their organization	0	42.9	32.9	23.5	0.7

A similar trend to that of management concern to safety is also shown in Table 2 in which 62.9% of the employees indicated that management lacked commitment to OSH. Lack of concern and commitment indicates that managers show that they have nothing to do with OSH and that they are not obliged to incorporate OSH management at the workplace. A total of 87.5 % of the workers indicated that management lacked a proactive approach to OSH and that production issues were of higher priority than workers' health and safety concerns as shown in also Table 2.

Most workers (79.3%) indicated that there is an accident blaming culture within their firms as shown by results in Table 2. When an accident has occurred instead of carrying out a thorough accident investigation to ascertain direct and indirect causal factors, management usually blames workers. Managers with a blame attitude promote accidents to be underreported. This presents problems since measurement of safety performance uses accident and incident rates. Without a good idea picture of safety performance the work

place cannot be effectively managed. Poor manager-employee consultation and discourses about OSH issues will emanate from suspicion from the blame culture.

On the contrary, results in Table 2 also show that most employees (42.9%) view communication within their firms as easy and two-way. Effective communication should be a positive tool used to effectively manage OSH issues. Communication in SMEs is effective due to the sizes of the organizations. Employees deal directly with management on operational basis. This positive trait has not been utilized to improve the occupational safety in SMEs. Table 3 shows that most (76.5 %) of respondents who came from SMEs employing 3 – 10 employees agreed that communication was two – way process. This constituted 43.3% of the total “agree” responses. The percentage of responses of those who agreed dropped as the size of the organization increased (23.5% for 26 – 50 employees category and 20% of the “agree” responses). These results confirm that communication improves with size of the organization. This is a positive trait in the SMEs that when capitalized can improve their performance.

Table 3. Analysis of SMEs' nature or size for those employees who answered “agree” for communication question

Size of SME (no. of employees)	Total employees interviewed	No. who agreed that communication is two way (% of those who agree)	% agreement per category of SME
3 -10	34	26 (43.3)	76.5 %
11 - 25	55	22 (36.7)	40.0%
26 - 50	51	12(20.0%)	23.5%
Total	140	60 (100%)	

From the employees responses show in Table 2 it can be noted that there is no strong agreement to management concern, commitment, having preventive approach and absence of blame culture. All these responses were skewed to strong disagreement with absolutely no strong agreement. Managers in their own responses acknowledged failing to implement key OSH management issues. These are areas that owners and managers should work on to improve the general environment of the work place. Improvement on these issues would greatly improve the working environment of the workers, boost worker morale and improve productivity [7; 8; 9]. Lack of compliance to OSH initiatives in SMEs is mainly because of the expense view of the safety standards. There is an abundance of literature that concur on [7; 8; 9] how compliance to safety standards may improve business bottom line can greatly encourage safety investment by SME owners and hence a huge turn around in OSH compliance.

4. CONCLUSION AND RECOMMENDATIONS

Employee responses have confirmed that most SME managers attached low commitment towards OSH, did not consult with employees, and had a tendency to blame employees when involved in an accident. All these features negatively affect overall OSH performance of SMEs. Though most SME managers had reached tertiary level of education they showed lack knowledge about the importance of including health and safety at work. Analysis revealed that though the managers had a high level of education and experience, their SMEs performance with respect to OSH was seemed to be inadequate. The results seem to

be indicating that employees generally feel that there is a general lack of implementation, compliance, and monitoring of OSH regulations within the SME sector by the managers.

It is recommended that SME managers may improve workplace safety and health and consequently improve business performance by implementing basic safety management principles. Secondly, there is need to improve employees involvement in safety matters. Thirdly, managers should seek OSH knowledge and advice through attending workshops or taking courses on OSH management. Training of managers and owners may make concertize them on how compliance to safety may improve productivity, quality and minimize production costs. Furthermore policy makers should develop a cost effective, simple and easy to use regulatory OSH framework for SMEs managers to implement. An SME easily-accessible-database should be developed and frequently updated to allow exchange of information within the sector.

ACKNOWLEDGMENT

The authors wish to thank all SMEs owners and directors for taking part in this study and their cooperation. This work was supported in part by a grant from Bindura University Research and Post graduate center. The authors wish to thank J. Mapuva for thorough final manuscript proof reading.

ETHICAL APPROVAL

This study is not against public interest and that the release of findings is allowed by legislation.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. He G, Zhang L, Lu Y, Mol AP. Managing major chemical accidents in China: Towards effective risk information, *Journal of hazardous materials*. 2011;187(1):171-181.
2. Mudavanhu N, Dzomba P, Mudavanhu C, Mazorodze S. Occupational safety and environmental risks scenario of small and medium enterprises (SMEs): An analysis of the situation in Harare chemical industries, Zimbabwe, *American chemical science journal*. 2013;3(2):98-110.
3. Champoux D, Brun JP, Occupational health and safety management in small size enterprises: an overview of the situation and avenues for intervention and research, *Safety Science*. 2003;41:301–318.
4. Diugwu IA, Re-strategising for effective health and safety standards in small and medium-sized enterprises, *Open Journal of Safety Science and Technology*. 2011;1(3):115-128.
5. Taderera H, Occupational Health and Safety Management Systems: Institutional and Regulatory Frameworks in Zimbabwe, *International Journal of Human Resource Studies*, 2012;2(4): 99-117.
6. Andersen LP, Kinesand P, Hasle P. Owner attitudes and self-reported behaviour towards modified work after occupational injury absence in small enterprises: a qualitative study, *Journal of occupational rehabilitation*. 2007;17(1):107-121.

7. Maudgalya T, Genaidy A, Shell R. Productivity–Quality–Costs–Safety: A Sustained Approach to Competitive Advantage: A Systematic Review of the National Safety Council's Case Studies in Safety and Productivity Human Factors and Ergonomics in Manufacturing. 2008;18(2):152–179.
8. Tompa E, Roman Dolinschi R, de Oliveira C, Practice and potential of economic evaluation of workplace-based interventions for occupational health and safety; J Occup. Rehabil. 2006;16:375–400. DOI 10.1007/s10926-006-9035-2.
9. Hesapro Partners, The link between productivity and health and safety at work, Background research paper, 2013. EU Lifelong learning programme accessed from http://www.hesapro.org/files/Background_Research.pdf on 13/09/13
10. Stranks JW. The health & safety handbook, Kogan Page Ltd, London; 2006.
11. Hillary R. Small and medium sized enterprises and the environment, London: Greenleaf Publishing, ISBN 1874719225, 2000.
12. Dawson C, Introduction to Research Methods. A practical guide for anyone undertaking a research project, How to Content, Oxford, London; 2009.
13. Hasle P, Limborg HJ. A review of the literature on preventive occupational health and safety activities in small enterprises, Industrial health. 2006;44(1):6-12.

© 2014 Mudavanhu et al.; This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/3.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Peer-review history:

The peer review history for this paper can be accessed here:
<http://www.sciencedomain.org/review-history.php?iid=359&id=22&aid=2607>