THE MAIN PERCEIVED BENEFITS ASSOCIATED WITH HSE MANAGEMENT SYSTEMS CERTIFICATION IN MSME TOOL ROOMS POST QUALITY MANAGEMENT SYSTEM CERTIFICATION

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ABSTRACT

The purpose of this study is to characterize how Micro small and medium enterprises: Tool Rooms (MSME) view the Occupational Health and Safety Management Systems (OHSMS) certification process, after receiving the QMS certification. References were based on the ISO 9001 standard for a QMS and OHSAS 18001 for OHSMS.

The objective of the MSME Tool Rooms is to provide Technical Support to Micro, Small & Medium Enterprises (MSME) by designing & manufacturing of tools, dies, jigs and fixtures for increasing productivity, improving quality and adopting improved methods of production & by taking Training courses in the field of Tool & Die Technology.

The method used to understand the perception was by form of questionnaire. Those questioned had to have a certified QMS, an implemented OHSMS and be a MSME-Tool Room. The questionnaire was sent to tool rooms under MSME; 17 responses were received and validated. Of them, only 4 Tool Rooms had the OHSMS certificate according to OHSAS 18001.

The size of the sample though small, corresponds to MSME Tool Rooms reality. Moreover, 12 MSME Tool Rooms did not have the OHSMS certificate. The questionnaire requested the main reasons for MSMEs to opt for non-certification and it was related with high costs, while the main reasons for getting certified were, among others, need to eliminate or minimize risks to workers.

The perceived benefits that MSME Tool Rooms have gained from the referred certifications have been, improved working conditions, ensuring compliance with legislation and better internal communication about risks and hazards. Moreover the main impetus is on to the students who are undergoing training on the OHSMS during their course serving to the needs of the today’s industry. The main difficulties in achieving an OHSMS certification which includes high certification costs, difficulties motivating personnel, difficulties in changing the Tool Rooms culture and increased bureaucracy.
Keywords: Micro Small & Medium Enterprises (MSME) Tool Rooms, OHSAS 18001, Occupational Health and Safety Management Systems (OHSMS), ISO 9001, Quality Management Systems (QMSs)

1. INTRODUCTION

Micro, Small and Medium Enterprises (MSME) sector has emerged as a highly vibrant and dynamic sector of the Indian economy over the last five decades. MSMEs not only play a crucial role in providing large employment opportunities at comparatively lower capital cost than large industries but also help in industrialization of rural & backward areas, thereby, reducing regional imbalances, assuring more equitable distribution of national income and wealth. MSMEs are complementary to large industries as ancillary units and this sector contributes enormously to the socio-economic development of the country.

The objective of the MSME Tool Rooms is to provide Technical Support to Micro, Small & Medium Enterprises (MSME) by manufacturing various tooling items and providing assistance in designing, manufacturing of tools, dies, jigs and fixtures for increasing productivity, improving quality and adopting improved methods of production as well as conducting the Long Term, Medium Term, and Short Term Training courses in the field of Tool & Die Technology. MSME Tool Room’s philosophy of Integrated Solution for industrial growth is based on the provision of trained, skilled and innovative manpower to bridge up the gap between industrial need and aspiring Engineering Profession technology and high-end CAD/CAM solutions. A total of 18 MSME Tool Rooms fall within the purview of Ministry of Micro, Small and Medium Enterprises (MSME).

In recent years, the certification of management systems has become fundamental to achieving competitiveness for firms (Vinodkumar and Bhasi, 2011)[6], because firms’ long-term success depends on their ability to improve their operations, re-organise themselves, and meet the challenges that the rapidly changing environment throws at them.

The British Standards Institution officially published OHSAS 18001 and it came into effect on 15 April 1999. (OHSAS Project Group, 2007).

The fundamental objective of this standard is to support and promote good practice in the area of occupational health and safety via a systematic and structured management. But certification also has implications for strategy and competitiveness because it enables the organisation to guarantee to interested parties that it has an adequate occupational health and safety management system. The OHSAS specification is applicable to any organisation that wishes to: (a) establish an occupational health and safety management system to eliminate or minimise risk to employees and other interested parties who may be exposed to occupational health and safety risks associated with its activities; (b) implement, maintain and continually improve an occupational health and safety management system; (c) assure itself that the system complies with its stated occupational health and safety policy; and (d) demonstrate compliance with this standard to others.

Moreover, according to Granerud and Rocha (2011)[3] the OHSMS is a systematic means for employers to handle challenges and reduce haphazard attitudes to risks and problems in the work environment. OHSAS 18001 offers numerous benefits to firms, since the standard facilitates the management of occupational health and safety in firms operating in different geographic areas and the integration of this management with systems for quality (ISO 9001) and the environment (ISO 14001) already certified or implemented. In short, this
standard can be seen as a strategic tool that firms can use to improve their competitiveness and achieve a favourable position in today’s global market Santos et al (2011)[4].

Thus, according to Fernández-Muñiz et al. (2007)[2], several fields are showing increasing interest in safety culture as a means of reducing accidents in the workplace. Literature shows that safety culture is a multidimensional concept; signifying that nowadays, companies which desire greater profitability and better organization implements the quality systems. Their aim being a reduction of defective products and lost time, as well as, striving for customer satisfaction and excellence. The progressive implementation of ideas and techniques related with quality management is one of the clearest demonstrations of organizational innovation in the industry in the last few decades. From the standpoint of risk prevention literature, it has been argued that the use of advanced quality management systems has helped reduce accident rates due to the fact that quality management methods are based on the principle of prevention rather than corrective actions. (Santos et al, 2013)[8]. The people that work in safety management and at the same time are members of quality teams; assure that quality management goes hand-in-hand with risk management. The actions that are carried out to achieve quality are the same actions necessary. In line with this, OHSAS 18001 has become compatible with the ISO 9001. This means compliance requirements for OHSAS 18001 are similar to those for ISO 9001. Though, the fact is OHSAS 18001 is an occupational health and safety reference Hence, if the aim of achieving quality is to remove deviations in the production process, it is clear that the occurrence of an accident is an unforeseen and undesirable situation. Thus, the implementation of quality control mechanisms is intended. For this and other reasons, the study’s questionnaire was sent only to the companies that had their QMS certified.

If the history of quality management is analyzed, one can observe that the concept of quality evolves from quality control to quality assurance. Considering the increase in industrial accidents and loss of life, material and environmental issues, more and more organizations are voluntarily embracing management system certifications. These management system certifications are expected to integrate safety management with the rest of the functions of the organization (Vinodkumar and Bhasi, 2011)[6]. Further, it would be expected that the joint use of advanced quality management techniques and innovative occupational risk prevention management would generate some synergetic effect in reducing occupational risk.

The majority of studies find that small enterprises have an increased risk of accidents compared to large enterprises (Sørensen et al., 2007)[5]. Trained and experienced workers who die or become injured result in disruptions to work progress and undeniably represent a reduction in industry performance.

To achieve excellence in prevention, safety must be integrated into all the organization’s decisions and actions. The focus of prevention must be more organizational and strategic than material, given the important role the human component plays in the causal chain of workplace accidents (Fernández-Muñiz et al., 2009).

The main reasons for interest in a safety scheme by MSME Tool Rooms are the desire to improve or ensure the health and safety of employees, and to raise awareness across the organization. The objective of this study was to characterize the situation of MSME Tool Rooms in the field of OHSMS, identify the reasons for non-certification, as well as certification, uncover the difficulties associated with the OHSAS 18001 certification process and finally, discuss the main benefits that arise from this certification in MSMEs with the ISO 9001 QMS certification.
2. METHODOLOGY

The Indian Industry consists mainly of Micro, Small and Medium Enterprises (MSMEs), where activity and performance are crucial factors for the country’s development. MSMEs make up 75% of the Total labor force employed in industry, trade and services. In order to characterize the MSME Tool Rooms (MSME TR’s), a survey based on a questionnaire was carried out in several MSME Tool Rooms. Such a tool enables researchers to gather a great amount of information at a low cost, regardless of the significant non-response usually associated to surveys.

The questionnaire looked at two main areas: (a) reasons for non-certification vs. certification, and (b) benefits gained from certification. This area contained a Likert scale where four points were used for evaluating every question’s statement. The scale was assigned values from one to four to indicate the level of agreement or disagreement with the statement. Due to the questionnaire’s structure, the systems manager needs to first assess their certified management systems. Then, they must make a quantitative analysis of the benefits, importance and impact - mainly, of the QMS and OHSMS. Inherent arguments were also identified regarding the implementation of certification management systems. The questionnaire was sent to MSME Tool Rooms via email. MSME TRs addresses were collected from the Ministry of MSME website. The questionnaire was organized in five sections, according to Table 1. Both qualitative and quantitative answers were asked, depending on the nature of the question and the available data as shown in Table 1.

<table>
<thead>
<tr>
<th>Table 1: Main sections and question main topics of the questionnaire</th>
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<tbody>
<tr>
<td><strong>Main Sections</strong></td>
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<tr>
<td>General Description of MSME Tool Room</td>
</tr>
<tr>
<td>Quality Management system</td>
</tr>
<tr>
<td>Environmental System</td>
</tr>
<tr>
<td>Occupational Health and Safety Management System (OHSMS)</td>
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The questionnaire was sent by e-mail to 18 MSME Tool Rooms with a certified quality management system, along with a cover letter describing the objectives of the research & instructions on how to fill out the survey.

![Fig 1: Distribution of MSME Tool Rooms by sectors who are certified in ISO 9001](image)

![Fig 2: Distribution of Questionnaires sent to MSME Tool Rooms](image)

All MSME Tool Rooms were QMS certified but belongs to different sectors of activity. Out of 17 Tools Rooms that participated, Mechanical Tool Rooms were highest 59% (10), Glass & others 12% (2), Sports 11%, Foundry, Electrical & electronics were 6% each.

According to Fig. 2, about 17 questionnaires were received. The main criteria for validation were to be a MSME Tool Room, to have the ISO 9001QMS certification and to have answered the main questions completely. Thus, 17 were completed properly.& validated. However, it is known that there are MSME TRs with other certified systems, among them the OHSMS. Additional criteria was to have the OHSAS 18001 certification. Initially only 4 MSMEs fulfilled such criterion; though, some MSMEs were in the process of
getting the OHSAS 18001 certification. In the end, additional 1 questionnaire were completed and validated, which totaled 5 MSME TRs with OHSAS 18001 OHSMS certification. 12 MSME Tool Rooms do not have the OHSMS certification. Additionally, the questionnaire inquired about the main reasons for non-certification. The size of the survey was very small; however, it reflects MSME Tool Rooms reality. Thus, a detailed statistical response analysis not carried out. What this study presents are the benefits, drawbacks, and difficulties concerning the OHSMS certification process. Survey data created in an Excel spreadsheet provides the user with complex statistical calculations. However, two obstacles got in the way: (1) the small sample size, and (2) knowing what statistical test to use and how to interpret the results correctly.

3. RESULTS

The first system that was certified in MSME Tool Rooms was the Quality Management System (QMS). After this system was consolidated, the certified Environmental Management System (EMS) followed. In some cases, the Occupational Health and Safety Management System (OHSMS) was the last to be analyzed. This has been more or less the general rule that MSME Tool Rooms have adopted when researching the number of certifications, where quality (QMS) stands out in first place, followed by the environmental certification (EMS) and finally the OHSMS certification. Hence, this study presents the results of OHSMS certification, after the QMS certification.

3.1. Occupational Health and Safety Management System (OHSMS)

At this point, the OHSMS was analyzed in each organization of the 17 MSME Tool Rooms participating in the survey. 29% are certified by the OHSMS. The results prove that there is still a lot to do in MSME Tool Rooms regarding this field.

3.2. Reasons why MSME Tool Rooms do not have OHSMS certification

From Fig 2, the percentage of MSME Tool Rooms that do not have the OHSMS certificate or a non-existing system is 70.58%. As can be seen in Table 2, the main reasons for non-implementation of an OHSMS are as such: 29.5% stated the investment required to implement the certification is too high, 23.5% consider the certification a superfluous cost, only 20.5% believe the safety certification to be a form of positive marketing. A secondary reason included 14.7% which stated that “the benefits do not outweigh the costs necessary”. Less relevant reasons were that 8.9% believed “the risks of accidents are low” and 2.9% claimed “lack of investment support”. In some MSME Tool Rooms the risks of accidents are low. In a sense, many MSMEs are not yet aware of the safety problems of modern day business. Many have financial difficulties besides not having an OHSMS system.

3.3. The main reasons which led to OHSMS implementation

The number of companies with the OHSMS certificate in MSME Tool Rooms is very small but it is gradually growing. Therefore, the interest in this work was to study the degree of importance MSME Tool Rooms put on implementing and certifying the OHSMS. Table 3 shows reasons that lead to the implementation of the health and safety at work in MSME Tool Rooms for the said group.
Table 2: The reasons for non-certification option

<table>
<thead>
<tr>
<th>Reasons for non-certification option</th>
<th>Main reason (%)</th>
<th>Secondary reason (%)</th>
<th>Less relevant (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – The investments required to implement the certification are high</td>
<td>29.5</td>
<td>20.6</td>
<td>5.9</td>
</tr>
<tr>
<td>2 – Consider the certification a cost</td>
<td>23.5</td>
<td>11.8</td>
<td>5.8</td>
</tr>
<tr>
<td>3 – Consider the certification as a form of marketing</td>
<td>20.5</td>
<td>5.8</td>
<td>2.9</td>
</tr>
<tr>
<td>4 – The benefits do not outweigh the costs necessary</td>
<td>14.7</td>
<td>32.4</td>
<td>5.8</td>
</tr>
<tr>
<td>5 – The risk of accidents are low</td>
<td>8.9</td>
<td>11.8</td>
<td>52.9</td>
</tr>
<tr>
<td>6 – Lack of investment support</td>
<td>2.9</td>
<td>17.6</td>
<td>26.7</td>
</tr>
</tbody>
</table>

Table 3: Main reasons that led to the implementation of OHSMS in accordance with OHSAS 18001

<table>
<thead>
<tr>
<th>Groups</th>
<th>Reasons that led to the implementation and certification of the OHSMS</th>
<th>Major impact(%)</th>
<th>Impact(%)</th>
<th>Less impact (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – Valuing human capital</td>
<td>Eliminate or minimize risks to workers</td>
<td>73.1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2 – Business reason</td>
<td>Improvement of the organization image with the reduction of accidents at work</td>
<td>16.3</td>
<td>87.2</td>
<td>8.3</td>
</tr>
<tr>
<td>3 – Social reason</td>
<td>High rate of absenteeism due to occupational diseases</td>
<td>10.6</td>
<td>0</td>
<td>33.3</td>
</tr>
<tr>
<td></td>
<td>Serious accidents at work</td>
<td>0</td>
<td>12.8</td>
<td>33.3</td>
</tr>
<tr>
<td></td>
<td>Rate of industrial accidents high</td>
<td>0</td>
<td>0</td>
<td>25.1</td>
</tr>
</tbody>
</table>

According to Table 3, five variables were divided into -three groups. Group 1 – “Valuing human capital” which enables the maximum safety within an organization. The aim is to minimize or eliminate occupational accidents and diseases acquired in the workplace. This is the most important reason that led to the implementation of the OHSMS in MSME TRs, with 73.1% of the responses as “major impact”. It may be noted that the 5 Tool Rooms with certified OHSMS are almost undivided in the same issue by stating that this issue is very important. Group 2 – “Business reason” which aim to strengthen Tool Rooms public image by reducing accidents to its workers and society. The majority of responses were “Impact”. The MSME Tool Rooms chosen as the most accurate claimed they wanted “Improvement of the Tool Rooms image by reducing accidents” (87.2%). Group 3 – “Social Reason” had 3 questions where the aim is to minimize social problems, such as, “high rate of absenteeism due to occupational diseases”, “serious accidents at work” and “rate of industrial accidents”. All these questions are considered less important as they are geared to “eliminate or minimize risks to workers.”.
3.4. The main benefits gained from the OHSMS certification

Analysis of the chart (Fig. 3) shows the greatest impact (above 65% of responses) and main benefits companies have gained from OHSMS certification: “Improvement of working conditions” clearly took the majority with 94.1% of the responses.

In this question MSME TRs were almost unanimous, responding that the working conditions were really improved with the implementation and certification of the OHSMS; another important question with great impact was “Ensuring compliance with legislation” with 75% of responses.

Legislation exists in order to be followed. Most MSME Tool Rooms with certified OHSMS fulfill legal requirements. “Notice to workers about the risks and dangers at work” had 65% of the SMEs responding affirmatively. Hence, it can be concluded that there is “better internal communication for workers about the risks and hazards” when an OHSMS is implemented. Less than 65% but above 40% of responses are related to issues that had some impact on the companies; as such, they can be considered secondary benefits. To improve and fortify the organization’s image was believed to improve working conditions. Compliance with legislation results in better internal communication for workers which surely, decreases the number of work related accidents (45%).

Less than 40% of responses (but above 15%) are related to issues that had little to no impact for the companies. Therefore, they can be considered minor benefits, such as: Increase the number of suggestions from employees (33.3%). Many employees are requested to be involved in problem solving and oftentimes have good ideas; unfortunately, there are no
mechanisms, like a suggestion box for example, for them to be heard. Decreased absenteeism was (20%).

Fewer than 15% of responses got no impact on the following issues: motivation of employees (12%), which needs more time for data collection and allowing some MSME TRs to become OHSMS certified.

Inferred from the questionnaire, 100% of the companies with QMS and OHSMS certifications have a system of medicine in place at work. It appears that 82% of QMS and OHSMS MSMEs make a systematic assessment of the risks of accidents. Regarding activities aimed at improving working conditions and preventing occupational diseases, 80% of MSME TRs with two certified management systems are implementing these activities through training and awareness raising. But for enterprises with only the QMS certificate, just 40% of MSME TRs have activities aimed at improving work conditions and the prevention of diseases. Whereas, 100% of the MSME TRs with two certified management systems are currently implementing the use of personal protective equipment.

4. DISCUSSION

Among others, the main benefits that MSME TRs have gained from the certification of OHSMS according OHSAS 18001 were: 1 – improvement of conditions in the workplace; 2 – ensuring compliance of safety and health legislation; 3 – better internal communication for workers about risks and hazards; 4 – solidifying the Tool Rooms image. In relation to improvement of conditions of health and safety in the workplaces it is required to create and maintain safe working environment which assures workers improved health levels, protects them from accidents, illness or discomfort in the workplace, and increases the efficiency of work processes as well as improves employee perceptions of the working environment and leads to higher recruitment Tsai and Chou (2009) [7]. Satisfactory working conditions provide benefits of many kinds, and the beneficiaries are both direct and indirect. The direct beneficiaries are the workers themselves, since they are the most affected by accidents, although the firm also benefits because it avoids losses and improves profitability. The indirect beneficiaries are the insurers, contractors, consumers, families and society in general.

Nowadays, there is wide recognition in professional literature regarding views on safety culture as an essential element in the organization’s efforts to prevent accidents in the workplace Fernández-Muñiz et al. (2007) [2].

Accidents do have adverse affects on decreasing productivity and quality which results in deterioration of the firm’s public image or internal climate. It is for this reason that a good occupational safety management can have a positive effect not only on accident rates, but also on competitiveness variables and financial performance.

5. CONCLUSION

The current study aimed to analyze the main reasons for non-certification. Those companies with non-certified OHSMS mentioned high implementation and maintenance costs. The main reason for certification is also analyzed and companies mentioned “Valuing human capital - Eliminate or minimize risks to workers”.

The main benefits identified from OHSMS certification were the “improvement of working conditions” (94%), “ensuring compliance with legislation” (75.2%) and “better internal communication for worker about the risks and hazards” (65%). This helps decrease
the number of accidents and their associated costs (45.3%), which dominoes into improving the company’s image in the surrounding area and among customers (60%), as well as increasing profitability. Decrease in absenteeism (20%), as well as, increase in the number of suggestions from employees (45%), are considered minor benefits. Moreover the main impetus is on to the students who are undergoing training on the OHSMS during their course serving to the needs of the today’s industry No drawbacks have been concluded.

The main difficulties uncovered in relation to OHSMS certification can be pinpointed to difficulties in changing MSME Tool Rooms culture, high certification costs, the increase of bureaucracy and management difficulties in the early stages of the certification process. Several MSME Tool Rooms have already implemented the OHSMS and others will follow, mainly, because money cannot pay for a human life or a severe disability which lasts the rest of a worker’s life.

ACKNOWLEDGMENT

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REFERENCES