

# A Study on Safety Climate in OHSAS 18000 Certification

Deng Hua\*

Kim Chang-Eun\*\*

## Abstract

The purpose of this research is to understand the role of safety climate in the safety management system. Based on the 121 responses from facilities got Occupational Health & Safety Assessment Series (OHSAS) 18000 certification, the results of statistic analysis show that there is significant relationship between safety climate, work attitudes and Organizational Citizenship Behaviors (OCB).

**Keyword: Occupational Health & Safety Management System (OHSMS), Safety Climate**

## 1. INTRODUCTION

In recent decades, the issues of occupational health and safety (OHS) have become more and more important. It is due to the gradual complex operation process, the awareness of workers' welfare and executives begin to regard OHS management as a necessary way to ensure employees' productivity and the quality of products. Furthermore, many countries had legislated OHS law for protecting workers in the workplace from hazards. When workers experienced accidents in their jobs, they tend to be dissatisfied with their organizations. Further, the work environment, management safety practices, and supervisor safety will also relate to the occurrence of accidents, job satisfaction, and safety behaviors. Because the OHS will affect the psychological status, how the psychological performance will be influenced should be noticed except the physical damage and direct lost time due to occupational hazards.

## 2. LITERATURE REVIEW

Occupational health and safety assessment series(OHSAS) 18000 is a certification system that can help organizations to build their OHSMS and provides guidelines to implement it. Hayes et al. (1998) used the similar concept of safety climate to

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\* Department of Industrial Engineering, MyongJi University

\*\* Professor, Department of Industrial Engineering, MyongJi University  
propose a Work Safety Scale(WSS) for measuring perceptions of workplace safety;

and their result indicated that WSS could predict job satisfaction, accident rates, and employee's compliance with safety behaviors. Because management commitment, employee involvement and coworker safety seem to relative important between organization and employee. this research tries to use these 3 factors on explaining the effect of safety climate when organizations got OHSAS 18000 certification.

The terms of organizational citizenship behavior(OCB) was first introduced by Organ(1988). Although Organ's(1988) five-dimension framework was adopted in the greatest amount of studies due to its longest history and representative. However, when the independent variable which would take effect to OCB came from the level of organization, in order to make sure that the benefit of OCB can be reciprocated to specific organization or individual, William and Anderson's (1991) classification would be adopted. In this research, management commitment to safety and perceived work safety are what we concern when an OHSMS has been implemented; and how this actions or improvements that are taken by executive do take effect on OCB will be investigated.

In past research, when scholars talked about work attitudes, job satisfaction and organizational commitment were the two of most adopted. Williams and Anderson (1991) suggested that job satisfaction and organizational commitment should be considered together to address their relative effects on OCB. Hence, this research will take these two variables as work attitude construct.

### 3. RESEARCH DESIGN AND METHODOLOGY

The purpose of the study is to explore relationships among safety climate, work attitudes, and organizational citizenship behaviors when an organization certificated by OHSAS 18000. On the basis of the purpose, the propositions and null hypotheses are offered as Table 3.1.

In order to increasing the validity and reliability, questionnaire was generated by some research and was done some revisal. However, due to the time constraint and the hardship of contacting subjects, the questionnaire of this study did not do pre-test but asked some experts for their advice.

### 4. RESEARCH RESULTS AND ANALYSIS

#### 4.1 Questionnaire Retrieval

This research send questionnaires to facilities got OHSAS 18000 certification, and five questionnaires were sent to each facility for validity and representation. And since this research is interest in employee's citizenship behaviors, the participants

will be first-line operators and supervisors. This research sent 940 questionnaires to 188 facilities. 138 questionnaires were returned but 121 were valid. The valid respond rate is 12.87%.

Table 3.1 The Summary of Hypotheses

Proposition1. Safety climate will be significantly related to work attitudes.
H-1-1: Safety climate is not significantly related to job satisfaction.
H-1-2: Safety climate is not significantly related to organizational commitment.
Proposition2. Safety climate will be significantly related to work attitudes.
H-2-1: Job satisfaction is not significantly related to OCBO.
H-2-2: Job satisfaction is not significantly related to OCBI.
H-2-3: Job satisfaction is not significantly related to IRB.
H-2-4: Organizational commitment is not significantly related to OCBO.
H-2-5: Organizational commitment is not significantly related to OCBI.
H-2-6: Organizational commitment is not significantly related to IRB.
Proposition3. Safety climate will be significantly related to OCB.
H-3-1: Safety climate is not significantly related to OCBO.
H-3-2: Safety climate is not significantly related to OCBI.
H-3-3: Safety climate is not significantly related to IRB.
Proposition4. Work attitudes mediate the relationships between safety climate and OCB.
H-4-1: Job satisfaction does not mediate the relationships between safety climate and OCBO.
H-4-2: Job satisfaction does not mediate the relationships between safety climate and OCBI.
H-4-3: Job satisfaction does not mediate the relationships between safety climate and IRB.
H-4-4: Organizational commitment does not mediate the relationships between safety climate and OCBO.
H-4-5: Organizational commitment does not mediate the relationships between safety climate and OCBI.
H-4-6: Organizational commitment does not mediate the relationships between safety climate and IRB.

## 4.2 Reliability Analysis

The value of Cronbach's  $\alpha$  is used to measure the reliability of the questions in the measures.  $\alpha$  coefficient greater than 0.7 is high reliability while less than 0.35 is low reliability, which should be rejected. The results shown that Cronbach's  $\alpha$  of each dimension were greater than 0.8, the measures have high reliability.

## 4.3 Regression Analysis and Mediation Tests

The results show the regression result of safety climate. When job satisfaction is the independent variable, safety climate can significantly predict it. Organizational commitment can also be predicted by safety climate significantly. Hence, this research can reject Hypothesis 1-1 and 1-2. It also shows that safety climate can significantly predict OCBO, OCBI, and IRB. After testing by statistic methods, all the results of hypotheses are significant.

## 5. CONCLUSION AND DISCUSSION

The effect of safety climate on job satisfaction was tested and the result was significant. This result consisted with the previous researches that claimed

workplace safety would affect on job satisfaction and could be easily understood. When organization paid attention on the improvement of physical surrounding, risk avoidance, safety condition, and safety management system, employees would feel that the overall safety climate was good or excellent.

The results of this research were consistent with the previous researches that suggested that job satisfaction and organizational commitment are the main antecedents of OCBs. When employees' work-related attitudes such as job satisfaction and organizational commitment were positive, they would behave more discretionary behaviors and improved organizational effectiveness. It was shown that when organizations adopt OHSAS 18000 certification and introduced OHSMS into their facilities, once their perception with organizational safety was well, they would have positive attitude toward organization and then behave positively.

Safety is important to every employee, but unfortunately, it is costly to most organizations. In the past, firms would usually ignore the safety need of their employees and caused numerous work accidents and work diseases. However, with the awareness of labor right and the coming of knowledge economics, employees became most important asset within organizations. The safety policies and management systems were proposed to improve employees' safety in order to prevent the lost of productivity.

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