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The Occupation Health for Elderly Employment in the Thai Automotive Industry

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Abstract

This research aimed at exploring the needs for occupational health of old-age employees in the Thai automotive industry and the implementation of occupational health in the Thai automotive industry. Mixed-methods research was utilized. The findings from the qualitative part revealed the needs for occupational health of old-age employees in the automotive industry which are comprised of 1) promotion and maintenance of employees' health, 2) prevention and protection of employees at work, 3) placing and appropriate working environment, and 4) adaptation of work assignments for old-age employees. Results from the survey show that occupational health for old-age employees in the automotive industry are implemented at a quite high level. Prevention and protection of old-age employees from dangerous work had the highest score of implementation, followed by placing and appropriate work environment as well as promotion and maintenance of employees' health, consecutively. However, it was found that the adaptation of appropriate work for old-age employees was implemented at a quite low level. Therefore, it is suggested that all four aspects of occupational health for old-age employees should be implemented in the Thai automotive industry, accordance to the research findings. However, the adaptation of appropriate work for old-age employees should be the first priority of the implementation.

Key words: Occupational health, Employing old-age workers, Automotive industry, Mixed–methods research

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INTRODUCTION

Occupational safety and health is generally defined as the science of the anticipation, recognition, evaluation and control of hazards arising in or from the workplace that could impair the health and well-being of workers, taking into account the possible impact on the surrounding communities and the general environment (Alli, 2008). Weill and Susan (1985) argue that all occupations are potentially hazardous, whether the occupation involves agriculture or industry.

Measures and strategies designed to prevent, control, reduce or eliminate occupational hazards and risks have been developed, however, occupational accidents and diseases are still too frequent and their cost in terms of human suffering and economic burden continues to be significant. The economic costs of these injuries and deaths are colossal, at the enterprise, national and global levels. The loss includes compensation, lost working time, interruption of production, training and retraining, medical expenses, and so on. (Alli, 2008).

According to Castleman (1979), there have been instances where hazardous industrial plants are exported to developing countries. Labor is cheap and abundant in these countries and safety regulations are not very stringent. Many machines which are used in developing countries are made in Europe and North America. The construction of these machines does not consider the anthropometric differences between, for example, the smaller-sized Southeast Asian and the European workers. As a result, the worker suffers from unnecessary fatigue and locomotor disorders (Phoon, 1982).

In Thailand, the Department of Labour Protection and Welfare (2014) reports that 100,392 workers were suffering from work related accidents which mainly involve injures caused by sharp objects, shocks or crashes, collapsing or falling objects, exposure of the eye to objects or chemicals, nipping objects and falls, respectively.

The ageing of the world's workforce raises many concerns, including some related to occupational safety and health. Alli (2008) reports that;

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"The ILO has always been committed to the protection of ageing workers, and has been active specifically in elaborating international labour standards in invalidity, old age and survivors' insurance. The most comprehensive instrument on this subject is the Older Workers Recommendation, 1980 (No. 162), which aims to protect the right of older workers to equality of treatment and stresses the measures that should be implemented to protect their needs, including the identification and elimination of occupational hazards and working conditions that hasten the ageing process and reduce their working capacity. The ILO contribution to the 2002 Second World Assembly on Ageing (ILO, 2002c) stressed this fact and called for measures to promote the adaptation of working conditions for older workers. The means used by the ILO to promote occupational safety and health include international labour standards, codes of practice, the provision of technical advice and the dissemination of information. By these means it aims to increase the capacity of member States to prevent occupational accidents and work-related diseases by improving working conditions."

Published information addressing occupational health in developing countries is available, but not easily accessible. This information is usually not published in American professional journals. Therefore, presently, only people with access to foreign and international journals may obtain information on this subject matter (Weill and Susan, 1985). Thus, there is a research gap to study this issue, especially in the Thai automotive industry.

RESEARCH OBJECTIVES

1. To investigate the needs for occupational health of old-age employees in the Thai automotive industry.
2. To examine the implementation of occupational health in the Thai automotive industry.

RESEARCH METHODOLOGY

A mixed-method was utilized in this research by employing a sequential exploratory strategy. It began with the collection and analysis of qualitative data during the first phase of research, followed by the collection and analysis of quantitative data in the second phase, which built on the results of the initial quantitative results (Creswell, 2003).

Qualitative Research Method

This research is based on a constructivist methodology and a phenomenology strategy was utilized. An interview guide was designed using the same approach as Patton (1990) and Joungtrakul (2010). Then, the instrument was reviewed and approved by five experts. In addition, the researchers as the instrument of data collection also enhanced their interviewing skills by practicing interviews before collecting data.

In accordance with the theoretical sampling method, only those directly involved or responsible for issues relevant to occupational health were selected as key informants in this study. Purposive sampling was then used to select the first key informant to be interviewed. By snowballing, the first key informant suggested the next key informant for interviewing.

Data collection and data analysis were simultaneously carried out and data was managed using the Atlas-ti software. After the interviewing sessions, transcripts were produced and then transferred to the software. The transcripted data was analyzed using the Glaserian approach (Glaser, 1978). Starting from open coding which attaches initial labels to the data. Then, selective coding was used to develop core categories by grouping together initial codes that share central features or characteristics with one another. This was done until theoretical saturation, the point at which no additional data were found, was reached (Urquhart, 2013).

An audit trail was established at the early stages of this research to ensure the rigor of this study. Researcher's activities and information were detailed from the research proposal to the completion of the study. Comparing and cross-checking for the consistency of the information from the various perspectives of people was carried out. Member checking was conducted by taking the research result back to some key informants in order to test the accuracy of their answers. In addition, the research ethics of this study were approved by the Research Ethical Committee of Burapha University.

Quantitative Research Method

Because this study employed a sequential approach, the approach of instrument development was then utilized. This can be done by using themes and specific statements from initial findings from qualitative data as the basis for specific items in the survey questionnaire. This is followed by validating the instrument with a large sample representative of a population (Creswell, 2003). Thus, the occupational health model in the Thai automotive industry identified in the qualitative part was validated with a quantitative research method.

The population in this phase consisted of 146 human resource managers that had worked for companies that were members of the Thailand Automotive Institute. The questionnaire was designed using a 4-point scale, in order to avoid a central tendency of answering (Bendig, 1954; Cronbach, 1950). 1 corresponded to strongly disagree and 4 corresponded to strongly agree. Content validity was approved by five experts, both academics and human resource professionals. The Index of Item Objective Congruence (IOC) scores ranged from 0.60-1.00. In a pilot test, 30 human resource managers in a similar industry were asked for the reliability of the questionnaire. Cronbach's alpha was 0.89. Questionnaires were distributed via postal mail to all 582 companies.

RESEARCH RESULT

From the qualitative part, total 20 key informants which were old-age employees in the automotive industry revealed that the need for occupational health can be categorized into 4 main themes; promotion and maintenance, prevention and protection, placing and adaptation. Details are presented in Table 1.

Table 1: Categories and Meanings Analysis

Category	Meanings	Examples of quotation
Promotion and Maintenance of Employees' health	-Nursing facilities -Employees' health record - Providing of health related knowledge -Health check -Health insurance -Good nutrition -Elderly respective	"Health insurance... Nursing facilities for basic treatment...In emergency case, ambulance must be ready... Employees' health record is another aspect that the company must have". "In terms of health promotion, I emphasize nutrition for the elderly. In the company, unhealthy food should not allow to be sold. While on the issue of mental health, respect for seniority should be promoted". "Old-age employees are valuable. We must take care for and respect them."
Prevention and Protection of Employees at Work	-Safety officer -Occupational training -Danger symbol -Danger at work warning -Safety equipment -Employees' right & responsibility	"In our company, we have one safety manager, three professional safety offices and almost ten staff in this function." "The machines in our company have a prevention mechanism… It is the safety process". "Increasing the area of protection for the elderly employees. Clarify what the elderly can or cannot do in the workplace." "The Kaizen method is used to improve work procedures. I prefer this one since it is facilitates the working process."

***Table 1** (Cont.)*

Category	Meanings	Examples of quotation
Placing and Appropriate Working Environment	-Appropriate working space -Elderly toilet -Social activities -Exercise activities -Relax corner	"Walking up on the high ladder is not suggested. Old-age employees may suffer from that". "Old-age employees are not able to walk a lot and walk up on the ladder" "Elderly toilet is one of the issue that we must beware. The traditional Thai style of toilet may make the elderly suffer". "Exercise activities are required. A relaxing area to release tension is also addressed"
Adaptation of Work Assignments	-Work hours -Reducing work with machine -Consulting -Inspector -Supervisor -Office work	"Assignment with appropriate work hours to elderly employees. Not too early or not too late". " Do not assign the elderly employees work in a risky area." "Working at night is not appropriate for elderly employees" "Moving the old-age employees away from the heavy operation line. Office work is more suitable. Alternatively, inspection work is a choice. Low risk jobs are suggested" "Consulting work is more suitable to the elderly employees than a operation job"

In quantitative research method, 146 HR managers reported that Thai automotive companies implement occupational health at quit a high level. The highest mean score was found for prevention and protection of employees at work (μ=3.215, σ=.637), then placing and appropriate working environment (μ=2.563, σ=.648), and promotion and maintenance of employees' health (μ=2.524, σ=.706), respectively. However, the implementation of adaptation of work assignment earned the lowest mean score (μ=2.328, σ=.726). Details were illustrated in Table 2.

***Table 2:** Implementation of Occupational Health in Thai Automotive Companies*

The Implementation of Occupational Health	μ	σ	Meaning
Prevention and Protection Employees at work	3.215	.637	Quite high
Placing and Appropriate Working Environment	2.563	.648	Quite high
Promotion and Maintenance of Employees' health	2.524	.706	Quite high
Adaptation of Work Assignments	2.328	.726	Quite high
Total	2.657	.568	Quite high

CONCLUSION DISCUSSION AND SUGGESTION

It is obvious that the demands for occupational health expressed by old-aged employees align with the international standard set by the International Labour Organization (ILO). These are comprised of 1) prevention and protection of employees at work, 2) placing and appropriate working environment, 3) promotion and maintenance of employees' health, and 4) adaptation of work assignments. In addition, the findings also illustrated that Thai automotive companies implement all of those elements at quite high level. Thus, it can be conclude that the occupational health in the Thai automotive industry is suitable for the employment of the elderly.

However, key informants in this study did not mention the right to protection and work safety much. This might be because this issue is mandate in the Labor Protection Act. Therefore, the protection element is well implemented and enforced under the law. Apart from that, the findings in this study aligned with

Wathaka et al. (2015) and Natchakorn (2008) in that, employees participate well in occupational health management. Rattanawan and Kornnatyapat (2002) also found that occupational health was implemented in accordance with the law.

It is therefore suggested that Thai automotive companies should emphasized activities that promote both physical and mental health of the elderly workers such as providing nursing facilities, keeping employees' health record, disseminating health related knowledge, providing health checks, providing health insurance, providing good nutrition, elderly respective. In terms of placing and appropriate working environment, companies are advised to prepare a suitable working space for the elderly, such as having a restroom for the elderly, social activities, exercise, and a corner for relaxing. The most important criteria that must be focused on the adaptation of work assignments. Companies are required to adapt work assignments to the elderly employees such as working hours, reducing work with machines, transferring elderly employees to work as a consultant, inspector, supervisor, or office worker.

For further research, it is suggested to study the occupational health for elderly employment in other sectors. This study obtains data from the Japanese companies, thus different type of the owners require examination. Finally, the issue of adaptation of work assignments requires further in-depth study.

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