

HEALTH AWARENESS PROMOTION TOWARDS SUSTAINABLE INDUSTRIAL DEVELOPMENT

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Abstract: The electronics sector in Malaysia increased with strong economic growth. Participation of multinational electronics manufacturing offers improvement mechanism especially in adoption of education and training in enhancing safety and health of the workforce. Sustainable development means preservation of resources for future development while the present operation continues its growth. The promotion of workplace wellness service will also strengthen a company's competitive advantage. The next phase of development pointing at a drive refers to health awareness in workplace. This study explores the attitude of workers towards workplace health promotion (WHP). In this study, workplace health promotion (WHP) awareness survey was conducted at an electronics company, a multinational corporation (MNC). Questionnaire was prepared and a survey was conducted with the company's workers. Survey on workers was used to investigate workers participation, opinion, knowledge and awareness to adopt the workplace health promotion (WHP). The ultimate goal of workplace wellness program is to foster an efficient, safe, and sustainable industrial development. Health talks and outdoor activities were encouraged. There is still room for improve through management commitment, employee involvement and training to achieve successful WHP programs. The paper recommends strategies to improve workplace health conditions. This paper reports strategies where the industry manages workplace wellness issues and pose future topics for the industrial management to consider. With implementation of these strategies, sustainable working environment shall be attained.

Keywords: Electronics; Occupational Safety and Health Program; Safety Awareness; Sustainable; Workplace Health Promotion (WHP).

INTRODUCTION

According to the Labour Force Survey, by second half of 2008, they were 11.1224 million employed persons. The number of employed persons data show that the manufacturing sector employs 1.9576 million persons (17.6%) of the work force [1]. In the business community, the ISO 9001: 2008 [2] international standard sets the requirements of a quality management system. In the ISO 9004: 2009 Managing for the sustained success of an organization, sustainability is defined as: "The sustained success of an organization is demonstrated by its ability to satisfy needs and expectations of its customers and other interested parties over the long term and in a balanced way". Among the interested parties or business stakeholders are customers/clients, shareholders, people in the organization (management, employees), suppliers / partners (insurers, financial institutions/lenders, and society (public / surrounding community/ government /regulatory bodies). ISO 9004:2009 [3] provides guidance for the continual improvement of an organization's overall performance, efficiency and effectiveness based on a process-based approach. It focuses on meeting the needs and expectations of customers and other relevant parties, over the long term, and in a balanced way.

The concept of workplace health promotion lies in preventive strategy, where the health management system is redesigned so that metabolism syndrome can be minimized. The method advocates a change from the reactive approaches and endeavours to shift the attention to the source. In the Ottawa Charter for Health Promotion endorsed by the World Health Organization in 1986 renewed in 2005 by the Bangkok Charter for Health Promotion in a Globalized World, "Health Promotion is the process

that permits people to exercise greater control over their own health and to improve it" [4]. The Charter calls for the private sector to ensure health and safety at workplaces, and to promote the health and well being of employees, their families and communities. It also directs the private sector to comply with local, national and international regulations and agreements in order to promote health. The Charter emphasizes the fact that the promotion of health should be made a basic requirement for good corporate practices. According to the Luxembourg Declaration adopted in 1997 and updated in 2005, Workplace Health Promotion is "the combined efforts of employers, employees and society to improve the health and well-being of people at work. This can be achieved through a combination of: improving the work organization and environment; promoting active participation; encouraging personal development" [5].

According to Malaysian Employers Federation (MEF) Man-Days Loss Survey 2009 as reported in New Straits Times [6], the average number of man-days loss due to sick leave (non-hospitalisation) was 4.04 days per employee. Based on 5.5 million employees in the private sector, the average wage paid per employee for the 4.04 sick leave was RM295 and estimated RM1.6 billion per year, while the average outpatient medical expenses spent per employee was RM511 and estimated RM2.8 billion per year. Other cost involved is average overtime paid to employee who covers those on sick leave was RM441 per year and estimated RM2.4 billion per year. In comparison, an average of 3.2 days of medical leave was taken per person per year in Singapore [7].

Health promotion is an effective means for improving the health of workers and hence the health of a nation. Wellness at work is important not only for improving productivity but also for influencing positive behaviour of the workers in the workplace. Promoting health in effect means adding value to the firm's human capital. Nevertheless, this concept is not yet understood or implemented by the majority in the workplace.

OBJECTIVE

Electronics works represent a large portion of the workforce and it is important that they possess the correct knowledge and attitude towards WHP issues. It will be of concern if the health level of employee is sacrificed in the midst of pursuing profit. The manufacturer produces materials used as inputs in the flat panel displays and semiconductor manufacturing. The aim of this study was to determine the level of awareness of Workplace Health Promotion (WHP) among workers at an electronics manufacturer in Kedah, Malaysia. This study presents the process of

evaluating implementation of WHP in an electronics manufacturer categorized as MNC. This process involves workers from all levels of the organizational hierarchy.

LITERATURE REVIEW

McLeroy, Bibeau, Steckler and Glanz [8] propose an ecological model for health promotion which focuses attention on both individual and social environmental factors as targets for health promotion interventions. The model addresses the importance of interventions directed at changing interpersonal, organizational, community, and public policy, factors which support and maintain unhealthy behaviours. The model assumes that appropriate changes in the social environment will produce changes in individuals, and that the support of individuals in the population is essential for implementing environmental changes.

There is abundance of concrete effects on WHP. Literature reviewed by Gebhardt and Crump [9] found relations between reduction in health care costs, absenteeism, and turnover and implementation of comprehensive health promotion programs. Extensive evidence indicates that employee well-being has a significant impact on the performance and survival of organizations by affecting costs related to illness and health care [10]. When determining how to manage absenteeism, Aldana and Pronk [11] suggested that employers should carefully consider the impact that health promotion programs can have on rates of absenteeism and other employee-related expenses. Health care cost is found the most significant economic variable while sick leave effects are the one of the most prevalent economic variable used to examine the economic impact and return associated with workplace health promotion programs [12]. Experience does in fact demonstrate that investments that allows workers to exercise effective actions on impediments to their health and wellness leads to a reduction in disease and death rates. Sparks, Faragher and Cooper [13], concluded that the development of a healthy workforce through properly managed health-promotion schemes within the workplace, and organizations may enhance not only employee well-being but also employee commitment and performance. In a meta-analysis of the literature on costs and savings of WHP programs, Baicker, Cutler, and Song [14] found that medical costs fall by about US\$3.27 for every dollar spent on wellness programs and that absenteeism costs fall by about US\$2.73 for every dollar spent.

Several industrial practices in the USA and European companies have been studied. In a case study of workplace health promotion in Du Pont, Bertera [15] described an in-house network of lay committees, site medical personnel, and corporate health education, nutrition and fitness specialists was used to staff

critical program functions. Interventions included: public health approaches to program kick-off and health risk assessment; group and self-directed lifestyle change activities; recognition and awards; and workplace climate changes such as smoking policies that favor nonsmokers. One pilot Du Pont location experienced decline in hourly employee absenteeism. Chu et al. [16] reported workplace health promotion in Volkswagen AG (VW) for which the management is understood to be a continuously developing process based on the principles of active participation, solidarity and subsidiarity (self-help takes precedence over corporate support). The active participation of employees is realized by health circles, extended job inspection routines involving employees, regular employee surveys on health matters, and special training modules for health and safety education. At the Wolfsburg works, employees can be given medical treatment and sports pedagogical counselling in the company's rehabilitation centre. They reported the most important successes of the health management system at VW AG included halved absenteeism, increased attendance rate and personnel costs savings. Zucconi et al. [17] shared the health promotion Program of Scandinavian Airline System (SAS) where the Health Management Department is formed part of the Human Resources Division with staff comprises physicians, experts in aerospace medicine, ergonomics experts and other professionals in addition to organizational psychologists, social assistants and experts in health in the workplace and the environment.

There are quite substantial studies on overcoming obstacles to health promotion. According to [18], research indicates that people with a higher degree of education, who play sport, have strong family support, perceive their lives as stressful, and are only slightly overweight are most likely to participate in WHP in the US. Glasgow, McCaul and Fisher [19] reviewed participation in worksite health promotion programs and recommend procedures for defining participation for different types of programs, for reporting determinants of participation, and for increasing participation. Moss and Kincl [20] identified practices by labour unions with regard to wellness or health promotion programs and the roles labour unions in successful initiatives. Ball [21] studied perceived barriers and incentives for participation in an existing WHP program.—In the commonwealth countries, Bilterys and Dedobbeleer [22] discussed the need of an ecological approach when implementing workplace health promotion for nurses in Canada. LaMontagne [23] studied WHP in addressing rising chronic disease the author proposed improvements to government WHP initiatives in line with international best practice in Australia.

In Malaysia, studies on illnesses including those occurred in the workplace were reported in the past decade. Lim, Chee, Kandiah, Yahya and Shuib [24] report that morbidity was high (85.5%) of the electronics women workers with reporting of chronic health problem, namely persistent headache, eye problems, menstrual problems, and persistent backache. National Health and Morbidity Survey (NHMS III) 2006 [25] indicated that 11.2% of adults in Malaysia has some form of psychological distress at any one time. Nevertheless, there are limited workplace health promotion (WHP) studies reported in Malaysia. Moy, Sallam and Wong [26] studied in a public university intervention of intensive individual and group counselling on diet, physical activity and quitting smoking of whom the intervention group showed a statistically significant reduction in their mean total cholesterol levels and a reduction in the amount of cigarettes smoked. Abdullah, Ali and Oon [27] found that the implementation of wellness programs help in reducing the impact of stress at the workplace, improve overall employee satisfaction, as well as help in reducing absenteeism among the executive employees in a telecommunication company.

METHODOLOGY

A survey was carried out to investigate worker's participation, opinion, knowledge, and awareness to workplace health promotion. The survey was conducted in volunteer basis during the environmental safety and health week. Over a one-week period including both day and night shift workers completed a questionnaire. In this study, self-administered questionnaire was used as an instrument for data collection. Basically, the items in the questionnaire were derived and adapted from Jamal Khan [28], Lim [29] and Loushine [30]. The first section was designed to obtain the information regarding the demographic characteristic of the respondents like age and gender. The questionnaire consists of statements on employees' response to the workplace health promotion programs that had been carried out by the company. The questionnaire also has open-ended questions to ease the respondents' opinion without framed choice.

RESULTS AND DISCUSSION

This section provides the results of the survey. A survey has been conducted an evaluation of the awareness of workplace health promotion (WHP) in November 2010. The number of staff employed as of End October 2010 was 491 from the liquid crystal display (LCD), large-scale integrated circuit (LSI) and other common departments.

Refer to **Table 1**, respondents included thirty-two personnel (6.5% of population) with effective 31

respondents, were from LCD (N = 7, 23%), LSI (N = 13, 42%), and Common (N = 11, 35%). The profile of the respondents showed 63% of the respondents are male and 37% are female and most of the respondent's age is from 26 to 30 years old. Most of the respondents (69%) joined to work in the company in the last two years at the LSI division (42%). Difference between the tenure in the company and in the division is probably due to existence of inter-division job rotation mechanism.

Among the effective responses, all the respondents agreed health's effect on productivity. Among the effective responses, most (ninety-three percent) of the respondents agreed health's effect on quality. On company commitment to health, thirty-four percent of the workers indicated that company commitment is good, whereas thirty-one percent indicated that company commitment is satisfactory. Most (94%) of the respondents usually take two days of sick leave or less and only 6% take more than two days of sick leave in one month. Three quarter (75%) of the respondents has carried out medical check-up, while one quarter (25%) has not; 46% of those carried out medical check-up last done in the current year. Fifty-eight percent of the respondents agreed that the company has provided with measures to improve the health level of employees. Furthermore, most (fifty-nine percent) of the respondents agreed that these health promotion measures is effective. According to feedback by respondents, further health promotion measures are healthy cafeteria menu and in-house clinic. Healthy lifestyle information (48%), exercise ("Rajio Taiso") (41%), company sports, recreation club (37%) and health screening (30%) were programs employees attended.

Stress management (52%), exercise (38%), healthy food at cafeteria and vending machine (38%), weight management (34%) counselling on nutrition (28%), and others such as medical check and gymnasium (7%) were programs employees would likely volunteer to attend. Participants were asked to select from a list of interested groups. The most popular were bowling (48%), badminton and hiking (33% each). Other topics were cycling (26%), table-tennis (19%), futsal (19%), football (15%), basketball (4%) and others such as swimming and yoga.

As the barriers not attended the programs when available, 81% of respondents said lack of time was the main reason, followed by lack of support from superiors (38% of respondents), lack of energy (12%), lack of time (12%), outside work hours (8%), still in recovery of injury or disease (4%), no interest to involve with colleagues in health promotion (4%) and lack of suitable programs (4%). The survey asked respondents' main encouraging factors for joining the

program. 96% said time, followed by 59% who said venue. 33% said encouragement of the superior, followed by 30% who said involvement of colleagues, and 4% said nature of the program. Employees were asked for additional comment of the program. 63% stressed encouragement from management and superior, 25% said suitable time, 13% said monetary support and 13% said health awareness.

In summary, important results obtained are:

[1] The respondents have very high level of awareness on health's effect on productivity, and most of the respondents agreed health's effect on quality.[2] On company commitment to health, thirty-four percent of the workers indicated that company commitment is good, whereas thirty-one percent indicated that company commitment is satisfactory. Over half of the respondents agreed that the company has provided with measures to improve the health level, and these health promotion measures are effective. High management commitment in health promotion is essential for creation of wellness culture in the organization.[3] Over one-third of the respondents have received healthy lifestyle information and attended exercise ("rajio taiso") and the sports, recreation club activities. Stress management was a WHP program most of the respondents likely volunteer to attend. This indicated awareness on mental health as well. Over one-third of the respondents indicated interest to join bowling, badminton and hiking groups.[4] As the barriers to join the programs, an overwhelming four out of five respondents said lack of time was the main reason. Almost all of the respondents said time was the main encouraging factors for joining the program. Six out of ten of the respondent stressed encouragement from management and superior.[5] In general, the health level of the workers seem to be high, carried out medical check-up, usually take two days of sick leave or less.

Refer to **Table 2**; there is similarity of the survey results administrated in electronics sector and public institution of higher learning. Majority of the respondents took two days or less of sick leave per month, and over three quarter of the respondents have carried-out medical check in the past year. Over six out of seven respondents recognized the health's effect on quality. Almost two out of three respondents perceived commitment from the management towards employee's health, with almost six out of ten respondents recognized that the management has provided with health measures, and they perceived that these measures were effective.

Table 1: Profiles of the Respondents

<i>Items</i>	<i>Profile</i>	<i>No</i>	<i>Percent (%)</i>
Gender	Male	20	63
	Female	12	37
Age	18-25	8	25
	26-30	14	44
	31-40	8	25
	41-55	2	6
Tenure	Below 2 years	22	69
	3-5 years	8	25
	Above 5 years	2	6
Tenure in Division	Below 2 years	21	66
	3-5 years	8	25
	Above 5 years	3	9

Table 2: Selected Comparisons of Results

<i>Authors</i>	<i>Current Study</i>	<i>Lim (2005)</i>
Industry	Electronics, Kedah, Malaysia	Faculty of Civil Engineering; Johor, Malaysia
Sick leave per month	97% (Two days or less)	96% (Two days or less)
Medical Check	75%	87%
Health's effect on quality	93%	85%
Management commitment	65%	80%
Management has provided measures	58%	59%
Health promotion measures is effective	59%	66%

CONCLUSION AND RECOMMENDATION

The findings indicate a generally favourable level of participation among the workers. Based on the results, majority of the employees do care for their health. Most of them had conducted medical check. In overall the health level of the employees are considered satisfactory by looking at the outcomes of questions. The creation of a wellness program is just one option for reducing musculoskeletal-related injuries by improving the strength, flexibility, and overall conditioning of workers.

If a workplace is perceived as unhealthy, it may bring about outcomes such as somatic complaints, job dissatisfaction, and intention to quit among the workers [31]. This is particularly true within the context of a Health and Productivity Management (HPM) approach, in which health plan cost, sick leave cost, workers' compensation costs, disability management costs, and presenteeism costs are a primary objective [32].

The management should ensure a work environment that matches the workers. To enhance the quality of life of the workers to minimize illnesses, workplace wellness program must be carried out. Two of the main benefits expected to achieve by implementing health promotion at the workplace are increased production and improved morale. It must be recognized as an area of strategic importance to the productivity and profitability, and be integrated into the company's mission. It is necessary to adopt innovative strategies that create involvement of the workers to make health promotion usable. Most intervention Programs target the individual however the work environment also need consideration. Without more inputs to improve efficiency the medical cost may not be reduced and affect competitiveness of the company.

To accelerate promotion of health at the workplace, there were suggestion including award of national workplaces health promotion prize, tax benefits, favourable treatment in public tender, "Healthy Firm" certification, database of excellence in workplace health promotion, publication of health promotion bulletin and television events showing examples of excellent firms [17].

Lack of time especially those working in shifts is one of the greatest barrier employees not taking care of themselves. The challenge remaining is interventions to encourage employees to voluntarily participate in workplace health promotion program outside work hours for which they are not being paid. Therefore if the WHP program is exciting covering topics employees are interested in, they are more likely to attend.

Although surveys are easy to be administrated and completed, they restrict responses to unclear concepts [33] and may provide limited insight to worker perception. The use of voluntary surveys recorded limited success in collecting data for this study as the respondents skewed to those who may have higher health awareness level. With only thirty-two respondents, it would be near impossible to conduct statistical analysis. Due to the small sample size, it is possible that there are additional concerns by other employees that were not identified in this study. Finding of the study may be different for Malaysian-owned companies. Therefore it cannot be assumed this is a true indicator of the entire sector, however merely it does give an insight. Future research is recommended to obtain higher response rate or study at other industries in describing the relationship between accident or illness and work environment conditions.

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