Effective mechanisms for environmental awareness enhancement of the Thai public company

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Effective mechanisms for environmental awareness enhancement of the Thai public company

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Abstract. The purpose of this paper is to explore effective mechanisms towards environmental awareness enhancement of the Thai public company. The environmental awareness has been strongly mentioned in the international agenda such as Agenda 21 to achieve sustainable development and be implemented at the global communities in all sectors. Thailand’s environmental awareness has been set up as the national policy and continuously promoted in the business sectors. The selected study area is one of Thai industrial public companies mainly utilizing natural resources for its business. Data collection was conducted by using questionnaires with a stratified sampling method comprising of 28 managerial and 134 operational levels. Descriptive statistics were be used for data analysis presented in terms of percentage. The study found that the effective mechanisms towards environmental awareness enhancement include employees’ participation in environmental friendly field trip, environmental knowledge provided by the company, supply chain involvement, law enforcement, and international environmental standard applied by the company. This study would recommend that public participation should be involved in order to make the mechanisms effectively.

1. Introduction

Environmental problems have been globally concerned by all countries. The issues concerned are, for example, food, biodiversity, land, climate change, energy, technology and waste management according to The United Nations Environment Programme (UNEP) [1]. Such concerning issues have been originated from human activities. The Fifth Assessment Report of the Intergovernmental Panel on Climate Change [2] summarized that 95 percent of human activities have created the global warming to the world. Those activities are expressed from the degree of people’s awareness towards the environmental problems. The awareness related to the environment has been strongly pointed out in many parts in Agenda 21 [3] as one of tools to cope with the environmental issues which the environmental awareness is needed to be raised, and to be continuously implemented under the Sustainable Development Goal (SDG). Although, all stakeholders such as public and private companies, governments, and non-governmental organizations in the global communities have given
more focuses on such issues, their environmental awareness have not been fully developed and be fully implemented. Corporate Social Responsibility or “CSR” in short is defined as the integration processes between business itself and its operations impact to the society and environment as a whole [4]. The CSR concept can be one mechanism to stimulate the environmental awareness inside people’s mindset. In Thailand, the environmental awareness has been set up as the country policy and promoted under the Thailand Business Council for Sustainable Development (TBCSD). The TBCSD has focused on the sustainable movement, raising the environmental awareness and capacity building on environmental management [5]. Nevertheless, the current environmental awareness in Thailand has been realized in some companies since it is not compulsory policy that company must comply with. To enhance environmental awareness, an effective mechanism technique towards increasing environmental awareness is needed to be raised the level of people environmental concerned, particularly at the company’s level. Additionally, this mechanism would encourage people to shape their behavior as environmental friendly concerned.

2. Literature Review

2.1. Relationship between environmental problems and human being

According to a primary assumption that most of the environmental issues originated from human being, this assumption was referred in “70 Ways the United Nations, Makes a Difference” [6]. This article summarized what United Nations has been dealt with global problems for the past 70 years and what the future actions that United Nations is going to take. However, UN achievements in the aspect of environmental issues were raised and the linkage between environmental problems and human being was also mentioned; for example, the Intergovernmental Panel on Climate Change (IPCC) reported in 2007 that human activities were a primary cause of climate change.

2.2. Environmental awareness framework

Dourish and Bellotti [7] described a definition of awareness as activities proceeding by others that needed to be conceived, and would be a part of individual activity. In other words, awareness was a pre-stage of thinking before taking actions that would be perceived from others’ actions. Hence, the environmental awareness could be described as the issues of environmental concern by people from different perceive such as individual direct experiences related to the impact from the environmental problems and indirect experiences like environmental issues raised by outsiders including community and society.

2.3. Mechanisms towards increasing the environmental awareness

Effective mechanisms related to environmental awareness means a system, technique, process, tool that could increasingly change people’s attitude and behavior to be more environmental friendly concerned. Brennan, et al. [8] studied on the environmental sustainability concept which was widely recognized by stakeholders in the business. They found that the motivation of the environmental issues from top management level to operational level was an important mechanism to change employees’ environmental attitude and behavior in the future. Moreover, the moral of doing business in terms of environmental issues concerned was another effective mechanism that could help increasing the level of environmental awareness. They also revealed that most businesses did not consider the environmental issues as a part of their strategies of becoming a successful company. Agnes [9] also stated other effective mechanisms regarding environmental awareness enhancement, including a well-written environmental policy, internal and external environmental audits, environmental training programs for employees, and environmental performance goals or indicators. Remmen and Lorentzen [10] indicated the mechanism on the environmental awareness was the employee participation in the environmental activities. The employee participation could become an initiating point of changes in terms of environmental attitude and behaviour. It was highlighted that the best way to get the most employee participation was the cooperation at a management level on solving the environmental problems. Only information provided by the environment teams was not sufficient to create the
environmental activities, the discussion and brainstorming sessions were also required to implement such activities.

Gadenne, et al. [11] reported that the environmental awareness enhancement mechanisms that employers could receive as the indirect force were suppliers, customers, and laws. These matters could indirectly force them to change their operations to be more environmental friendly process. The supporting fund from either external environmental company or the government were also considered as mechanisms to motivate business to become more actions oriented in aspect of environmental friendly concerned. Abdul-Wahab [12] suggested that the public environmental awareness motivation was also needed to be increased in order to motivate all stakeholders taking more concern on the environmental issues of the society. One result from this study clearly showed that the major cause of environmental problems was “Lack of environmental awareness amongst some citizens”.

Eaganl and Streckewald [13] reported that another success factor to increase the environmental awareness was from end-customer’s requisition regarding the environmental products. In this regard, what the producer would definitely do was applying more environmental friendly concept into the internal production process. Additionally, it was also noticeable that another key success factor was promptly support by the top management.

3. Research Methodology
A quantitative research approach was used focusing on the operational and managerial level’s point of view in environmental awareness concerned of one of the Thai public companies which mainly utilizes natural resources for its business. Deductive method was applied to examine whether mechanisms are effective and well-functioned for real implementation at the company. Questionnaires were designed to collect primary data. The sample size of interview was used a stratified sampling method under the purposive research approach in order to avoid the bias that would be occurred. There were a total of 162 respondents participated in the questionnaire process. Among these respondents, 28 are in the managerial level (17.28%) and 134 are in the operational level (82.72%). Descriptive statistics was applied for data analysis. The study result is presented in terms of percentage by calculating the 5-point rating scale scoring by the respondents.

4. Results and Discussions
The study found that 89.81% of respondents viewed that they perceived and understood company’s mission and vision related to environmental policy, while 84.71% of them indicated that such management has conducted mission and vision based on the company’s effective actions. Meanwhile, respondents (88.54%) understood the purpose of environmental friendly activities originated by management. In aspect of environmental friendly activities, the study revealed that 92.99% of respondents perceived that the company has initiated the environmental friendly activities continuously. In the meanwhile, about 82% of them seen that the company usually monitor, evaluate the result of environmental friendly activities, and communicate to employees afterwards. From the lower percentage of agreements on company’s monitoring and evaluating process (82%). This would be implied that there would be some communication gaps exist between managerial and operational level that the management needs to take concern with. The study also found that 94.27% of respondents noted that they voluntarily participated in the environmental friendly activity. In addition, 90.45% of them agreed to adapt what they perceived from participating in those activities at workplace to be more environmental friendly behaviour in their personal lives.

The study also revealed that 85.99% of respondents agreed that if they were educated more on environmental knowledge, their level of environmental awareness would increase. On the other hand, their environmental awareness would enhance if they participated in the environmental friendly field trip. The number of respondents agreed with this statement was 89.81%. This would be implied that respondents would like to join more practical activities rather than the formal activity such as classroom training. The study also showed that 87.90% of respondents agreed on another effective tool to increase their level of environmental awareness as if the company collaborated with external
organization by setting up seminar, meeting, or environmental concerned field trip. The finding revealed that 81.53% of respondents agreed if the company complied with the international standard related to environmental concerned such as ISO14001:2004. Lastly, employees’ environmental awareness would enhance, if the company provided reward/recognition and an incentive in form of money for the outstanding employees whom explicitly perform their environmental concerned behavior. The study found that 84.08% of respondents agreed on reward/recognition provided by the company would increase their level of environmental awareness. Additionally, the number of agreed respondents decreased to 73.25% for the financial incentive provided by the company, whilst 7.64% of them disagreed with this statement. This would be implied that the financial incentive provided by the company might not be an appropriate approach to arouse employees to increase their environmental awareness in the sustainable way.

5. Conclusion and Recommendations

5.1. Conclusion
Effective mechanisms towards environmental awareness enhancement can be included motivation and cooperation from top management level of the company, effective environmental friendly policy applied, environmental training program and knowledge provided, employees’ participation in environmental activities, supply chain involvement, law enforcement, and public participation.

In addition, this study also affirms that those finding mechanisms are really effective as reflecting by percentage of agreement. Such mechanisms include company’s mission and vision on environmental friendly company, the management intention to initiate and develop environmental friendly activities continuously such as providing more environmental knowledge, collaborating with external institutes for organizing environmental friendly trip, presenting reward or recognition for the outstanding environmental friendly employees, and complying with the international standard related to environmental friendly consideration.

5.2. Recommendations

- The mechanisms can be applied to any organization including government and private sectors, as appropriate.
- The mechanisms towards environmental awareness enhancement should be further studied to other types of case study such as governmental sector, service sector, public organization, and non-profit organization which indirectly uses the natural resources as their primary sources to increasing the environmental awareness.
- Stakeholder’s involvement and public participation would be another effective mechanism for environmental awareness enhancement.

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References
[1] United Nations Environment Programme (UNEP) 2012 21 Issues for 21st Centuries, Results of the UNEP Foresight Process on Emerging Environmental Issues [Online]. Available from: http://www.unep.org/publications/ebooks/foresightreport/Portals/24175/pdfs/Foresight_Report-21_I ssues_for_the_21st_Century.pdf [2012, February]
[2] Intergovernmental Panel on Climate Change (IPCC) 2014 Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp
[3] United Nations (UN) 1992 *Agenda 21* [Online]. Available from: http://sustainabledevelopment.un.org/content/documents/Agenda21.pdf

[4] United Nations Institute for Training and Research (UNITAR) 2012 *Introduction to Corporate Social Responsibility* [Online]. Available from: http://www.unitar.org/event/introduction-corporate-social-responsibility

[5] Thailand Business Council for Sustainable Development (TBCSD) 2014 *The 1/2014 Joint Meeting of Council and Associates of Thailand Business Council for Sustainable Development (TBCSD)* [Online]. Available from: http://www.tei.or.th/tbcsd/reports/140325-presentation-2014.pdf

[6] United Nations (UN) 2015 *70 Ways the UN Makes a Difference* [Online]. Available from: http://www.un.org/un70/en/content/70ways#environment

[7] Dourish P and Bellotti V 1992 *Conference on Computer Supported Cooperative Work. Awareness and coordination in shared workspaces* (Toronto: In J. Turner & R. Kraut (Eds.), Proc. of ACM CSCW'92) p. 107

[8] Brennan L, Binney W, McCrohan J and Lancaster N 2011 *Australasian Marketing Journal. Implementation of environmental sustainability in business: Suggestions for improvement* 19 52

[9] Agnes N. 2008 *Journal of Cleaner Production. Consistency and awareness gaps in the environmental behavior of Hungarian companies* 16 322

[10] Remmen A and Lorentzen B 2000 *Journal of Cleaner Production. Employee participation and cleaner technology: learning processes in environmental teams* 8 365

[11] Gadenne D, Kennedy J, and McKeiver C 2009 *Journal of Business Ethics. An Empirical Study of Environmental Awareness and Practices in SMEs* 84 45

[12] Abdul-Wahab S 2010 *Climatic Change. Level of environmental awareness towards depletion of the ozone layer among distributors and consumers in the solvent sector: a case study from Oman* 103 503

[13] Eagan P and Streckewald K 1997 *J. Cleaner Prod. Striving to improve business success through increased environmental awareness and design for the environment education. Case study: AMP incorporated* 5 219