

Causal Relationship Model of Hospital Environmental Management

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Abstract: The populations were 270 workers of Roi-ed Thonburi Hospital in Northeastern region of Thailand. The populations of 270 workers were used as sample group. The questionnaire was used as instrument for data collection. LISREL was used for model verification. Considering on structural model confirmatory factors of Environmental Education (EE) and Hospital Environmental Management (EM) were able to explain the variation of endogenous factors of Inspiration of Public Consciousness (PM) to caused Environmental Conservation Behaviors (CB) with 72.00 percents. As a result, the equation 1 can be written as following.

$$CB = 0.51*PM - 0.13*EE + 0.34*EM \dots\dots\dots(1)$$

$$R^2 = 0.72$$

Equation (1) factors that had the most effect to Environmental Conservation Behaviors (CB) was Inspiration of Public Consciousness (PM) and subsequences were Hospital Environmental Management (EM) and Environmental Education (EE) with negative direction, these were able to explained the variation of Environmental Conservation Behaviors (CB) with 72.00 percents. Moreover, confirmatory factors of Environmental Education (EE) and Hospital Environmental Management (EM) were able to explain the variation of confirmatory factors of Inspiration of Public Consciousness (PM) with 63.00 percents. Therefore, the equation can be written as following equation 2.

$$PM = 0.17*EE + 0.44*EM \dots\dots\dots(2)$$

$$R^2 = 0.63$$

Equation (2) factors that had the most effect to was Inspiration of Public Consciousness (PM) and subsequences were Hospital Environmental Management (EM) and Environmental Education (EE), these were able to explained the variation of Inspiration of Public Consciousness (PM) with 63.00 percents

Key Words: Causal Relationship Model / Hospital Environmental Management / Environmental Education

1. Introduction

With the real situations facing in currently, environment and development are considered as the conflict philosophies because people cannot avoid the unbalance among social, economic and environmental aspects. However, every people should take the responsibilities of our daily activities that cause differently environmental problems. In order to solve environmental problem, it should inspire people to take a real participation. The participation would conquer the noise pollution, air pollution, land degradation, fresh water shortage for consumption, deforestation, solid waste accumulation, toxic chemicals, and hazardous wastes, increased of green house gases that are important factors of global climate

change and ozone depletion in stratosphere atmosphere including degrading of non-renewable natural resources with rapid rate. In addition, loss of biodiversity affects to balance of Ecosystem. These environmental problems have impacted to whole biosphere because one thing changes and then affects to others like as chain reaction (Thiengkamol, 2011e).

In line with the population growth, the more population grow the more poverties are because of the imbalance of equality of income gaining, it builds pressures to natural resources. The United Nations, predicted that in the last half of twenty first century, ninth of tenth of world population would be in the poorest countries of the world. Those poor people will lack of fresh water for consumption including lacking of other natural resources. The unstable status of agriculturists, the chance of dearth will occur together with natural resource degradation due to soil erosion (Thiengkamol, 2011e). This extends the gap between the rich and the poor wider. Even though, the cost of health care is also higher, consequently the high rate of death in some region of the world. The attempt to overcome the poverty through the birth control is not really successful because most of poor people often lack of knowledge due to illiteracy (Thiengkamol, 2011e).

Currently, the situation of pollutions, the pollutants are released and accumulated in the environment such as heavy metal in the water resources or toxic gases in the air. These cause the deprivation of environmental quality to affect to human health and life and other living organism. The environmental diseases become more vigorous at present. Such as lead toxicity, silicosis from construction activity, flu occurred from air pollution, headache, cancer, migraine, heart disease, and skin disease are commonly found in people who lived in the degraded environment (Thiengkamol, 2011e).

"Environmental Management" was defined by Zhongsuntharawong that referred to the process of work plan arrangement or activity to allocate the utilization of natural resources in order to respond the requirement of human being to accomplish the highest goal of development (Zhongsuntharawong, 2003). The stability of economic, social and maintenance of good environmental quality based on the maximization of utilization principle with sustainability and it caused a less damage to environment as most as possible. Nevertheless, Punjasuwan, compiled and gathered the meaning of "Environmental Management" that referred to method of implementation or way of practice systemically for sustaining environment as long as possible through prevention, conservation, and improvement to maintain the good environment (Punjasuwan, 2005). He also suggested that the best way of natural resources and environmental management is prevention, which is process or action to diminish and eliminate the environmental impact before causing damage to humans.

EPA New England, issued check list of hospital environmental assessment in accordance with the different acts such as Resource Conservation and Recovery Act, Clean Air Act, Federal Insecticide, Fungicide & Rodenticide Act, Clean Water Act, Toxic and Substances Control Act. In addition, solid waste with recycling concept, toxic waste and infectious waste management, energy and water conservation, and environmental topic training courses for workers such as general compliance, Clean Air Act (CAA), solid waste recycling, energy management systems, Resource Conservation and Recovery Act- hazardous waste (RCRA), Spill Prevention Control Countermeasure Plans (SPCC), red bag waste reduction, energy conservation, universal waste, EPA Audit Program, resource management, green buildings, mercury, water conservation, Environmental Management System (EMS), Integrated Pest Management, and green purchasing also are paid attention as well (EPA, 2004).

Throughout 5 decades of social and economic development of Thailand, governments announced different policies of environmental quality promotion and maintenance to prevent and solve the environmental problem but there is only governmental sector took the role but it lacked of real participation of all sectors, especially the people participation. Therefore, it might be needed to give environmental conservation knowledge through all systems of educations covering formal, non-formal, informal and lifelong education process based on concepts of environmental education that included lacked of knowledge and understanding, awareness, consciousness, attitude and belief to practice themselves towards environment and natural resource protection because they do not realize that they are an important part to take a responsibility for natural resource and environmental conservation (Thiengkamol, 2011e).

Even though, there is having no specific for hospital environmental management (HEM) clearly In Thailand, but some of them applied the Theoretically, ISO 14001 could serve as a comprehensive framework for significantly improving performance in an organization with minimal environmental management capacity, especially in agreement with legal compliance or as a set of common sense guidelines for enhancing performance in an organization to effectively implement for environmental quality maintenance for well being of human. However, an environmental management system requires support from all levels of management in every organization, therefore, participation from all sector is essential for implementing a successful environmental management system. Motivational training, information, and the presentation of success stories generate enthusiasm and help guarantee the environmental management system's success. Major components of successful environmental management systems include environment, people and cost. The most common of environmental problems included 6 aspects including energy consumption, waste water

management, solid waste management, green area increment, safety, and facilities (Wattanasaroch, and Thiengkamol, 2012, & Arunrimorakot, 2005).

Therefore, the environmental education principle for hospital workers should be introduced to them to practice until it becomes a part of their habit in daily living. In order to educate people to gain more knowledge and understanding on natural resource and environmental conservation, it need to introduce environmental education principles and hospital environmental management based on Environmental Management System in terms of ISO 14001. Environmental education comprising environmental knowledge transferring, awareness and consciousness raising, attitude and practice changing, inspiration of public consciousness creation and participation for hospital workers, these should facilitate them to be able to practice according to Environmental Management System in terms of ISO 1400 in terms of HEM based on principle of environmental management system and environmental education principles in order to meet the better practice and behavior of environmental conservation (Thiengkamol, 2010b, Thiengkamol, 2011a, Thiengkamol, 2011e, Thiengkamol, 2011g, Thiengkamol, 2011h, Thiengkamol, 2012, & Arunrimorakot, 2005).

Even though, Roi-ed Thonburi Hospital is operated with ISO 14000 but the most importance of hospital environmental management must be paid attention on worker behavior in their everyday practicing at hospital. Consequently, the most rapid and cheapest mean is to challenge the worker to collaborate energy effectively utilization, waste management, wastewater management and landscape architectural environment via the human resource strengthening with the worker based on the concept positive thinking like as owner. Environmental education concept is pertinent to sustainable principles that cover knowledge and understanding, awareness, attitudes, values, belief, responsibility, participation, and skill to make proper decision for solving the facing environmental problem correctly and repeatedly until it becomes permanent behavior in everyday living that leads to successful management to build a sustainable hospital management with minimization of energy and water utilization and management of waste water and solid with effectiveness and safety including increasing security for patient and workers (Thiengkamol, N., 2010, Thiengkamol, N., 2011a, & Thiengkamol, N., 2011b).

Accordingly, Thiengkamol mentioned on public consciousness or public mind based on inspiration from insight and inspiration different from motivation because inspiration needs no rewards. Inspiration of public consciousness or public mind, especially, for natural resources and environment conservation, one doesn't receive any reward, admiration or complement for ones act for natural resources and environment conservation. Inspiration of public consciousness might occur due to appreciation in a person as role model or idle, impressive events, notable situations, impressive environment, media perceived such as movies, book, magazine, and internet (Thiengkamol, 2009a, Thiengkamol, 2009b, Thiengkamol, 2011a, & Thiengkamol, 2011e).

Regarding to environmental conservation behavior for hospital, therefore the workers in hospital should have actual knowledge and understanding, awareness, positive attitude, public consciousness and responsibility for conservation behavior. They should be trained and practiced in accordance with appropriate Environmental Management System based on their inspirations, the success of hospital environment management will be occurred effectively. Therefore, the research will be studied on development of causal relationship model hospital environmental conservation with integration of environmental education and hospital environmental management affecting through inspiration of public consciousness for environmental conservation to environmental conservation behaviors for workers of Roi-ed Thonburi Hospital, it might lead to good environmental quality for hospital, community and society as whole.

2. Objective

The objective of this research was to develop a causal relationship model of hospital environmental management in Roi-Et Province.

3. Methodology

The research design was implemented in steps by step as follows:

The populations were 270 workers of Roi-ed Thonburi Hospital in Northeastern region of Thailand. The populations of 270 workers were used as sample group. The research instrument was the questionnaire and it was used for data collection. LISREL was used for model verification. The content and structural validity were determined by Item Objective Congruent (IOC) with 5 experts in the aspects of environmental education, psychology, social science and social research methodology. The reliability was done by collecting the sample group from 30 workers from another hospital in Roi-ed Province that is a private hospital nearby Roi-ed Thonburi Hospital. The reliability was determined by Cronbach's

Alpha. The reliability of environmental education, hospital environmental management, inspiration of public mind, and environmental behaviors, and the whole questionnaire were 0.970, 0.983, 0.976, 0.983 and 0.989 respectively.

The descriptive statistics used were frequency, percentage, mean and standard deviation. The inferential statistics used was LISREL by considering on Chi-Square value differs from zero with no statistical significant at 0.05 level or Chi-Square/df value with lesser or equal to 2, P-value with no statistical significant at 0.05 level and RMSEA (Root Mean Square Error Approximation) value with lesser than 0.05 including index level of model congruent value, GFI (Goodness of Fit Index) and index level of model congruent value, AGFI (Adjust Goodness of Fit Index) between 0.9-1.00.

4. Results

4.1 General Characteristics of Sample Group

The populations of 270 workers of Roi-ed Thonburi Hospital, were used as sample group. Most of them were female with 76.67% and had age with mean of 33.00 years. Majority of them were Administrator and Assistant with 34.44% and their education level at Lower Secondary School or Lower with 41.11%. Their average work duration was 7.11 years. Most of them had marriage status with 55.19%, their average income with 10,755.64 Bahts as presented in table1.

Table 1 Demographic Characteristics of Sample Group

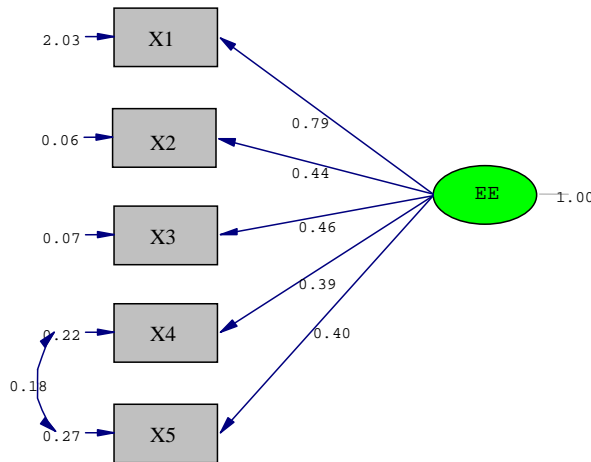
Characteristics of Sample Group	Workers of Roi-ed Thonburi Hospital	
	Number	Percent
Sex		
Male	63	23.33
Female	207	76.67
Age	Mean=33.00 years	SD.=4.51
Position		
Nurse	40	14.82
Nurse Aid	24	8.89
Patient Aid	65	24.07
Technologist and Assistant	17	6.30
Pharmacist and Assistant	10	3.70
Nutritionist and Assistant	21	7.78
Administrator and Assistant	93	34.44
Educational Level		
Lower Secondary School or Lower	111	41.11
Diploma	71	26.30
Bachelor	86	31.85
Higher than bachelor	2	0.74
Work Duration	Mean = 7.11 years	SD=2.56 years
Characteristics of Sample Group	Workers of Roi-ed Thonburi Hospital	
	Number	Percent
Status		
Single	104	38.52
Marriage	149	55.19
Widowhood	8	2.96
Separated	9	3.33
Income per month = 10,755.64 Bahts		
Total	270	100

4.2 Confirmatory factors Analysis of Exogenous Variables

1) Confirmatory factors Analysis of Exogenous Variables of Environmental Education (EE)

Confirmatory factors of EE had Bartlett's test of Sphericity of 776.612 statistically significant level ($p < .01$) and Kaiser-Mayer-Olkin Measure of Sampling Adequacy/MSA) of 0.732. This indicated that components of EE aspect had proper relationship at good level and it can be used for analysis of confirmatory factors as shown in picture 1 and table 2.

Picture 1: Model of Confirmatory factors of Environmental Education



Chi-Square=4.35, df=4, P-value=0.36116, RMSEA=0.018

Table 2 Results of Analysis of Confirmatory factors of Environmental Education

Components of Environmental Education	Weight	SE	t	R ²
X1 Knowledge and Understanding	0.79	0.099	7.97**	0.24
X2 Environmental Attitude	0.44	0.026	16.59**	0.77
X3 Environmental Awareness	0.46	0.028	16.18**	0.74
X4 Environmental Responsibility	0.39	0.035	11.16**	0.41
X5 Environmental Public Mind	0.40	0.038	10.54**	0.38
Chi-square = 4.35 df = 4 P = 0.36116				
GFI = 0.99 AGFI = 0.98 RMSEA = 0.018 RMR = 0.011				

** Statistically significant level of .01

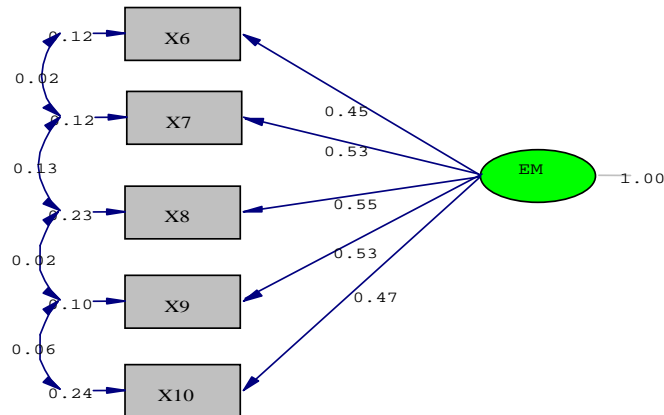
From picture 1 and table 2, results of analysis of confirmatory factors of EE from 5 observed variables was revealed that the model was congruent to empirical data by considering from 1) Goodness of Fit Index (GFI) equaled to 0.99 and Adjust Goodness of Fit Index (AGFI) equaled to 0.98 2) Root Mean Square Error of Approximation (RMSEA) equaled to 0.000 (RMSEA < 0.05) and 3) Chi-Square value had no statistically significant at level of .01 and degree of freedom was lesser than or equaled to .05 ($\chi^2 / df \leq 5.00$).

Considering on loading weight of observed variables in model, it was revealed that observed variables had loading weight with 0.39 to 0.79 and had covariate to model of Environmental Education with 24.00 to 77.00 percents.

2. Confirmatory factors Analysis of Exogenous Variables of Hospital Environmental Management (EM)

Confirmatory factors of EM had Bartlett's test of Sphericity of 1604.346 statistically significant level ($p < .01$) and Kaiser–Mayer–Olkin Measure of Sampling Adequacy/MSA) of 0.781. This indicated that components of Environmental Management (EM) aspects had proper relationship at good level and it can be used for analysis of confirmatory factors as shown in picture 2 and table 3.

Picture 2: Model of Confirmatory factors of Hospital Environmental Management



Chi-Square=1.48, df=1, P-value=0.22437, RMSEA=0.042

Table 3 Results of Analysis of Confirmatory factors of Hospital Environmental Management

Components of Hospital Environmental Management	Weight	SE	t	R^2
X6 Energy Conservation	0.45	0.033	13.84**	0.63
X7 Waste Water Management	0.53	0.035	15.00**	0.69
X8 Waste Management	0.55	0.042	13.18**	0.56
X9 Arrangement of Green Area	0.53	0.034	15.43**	0.74
X10 Safety Management	0.47	0.041	11.33**	0.48
Chi-square = 1.48 df = 1 P = 0.22437				
GFI=1.00 AGFI=0.97 RMSEA = 0.042 RMR =0.0033				

** Statistically significant level of .01

From picture 2 and table 3, results of analysis of confirmatory factors of Environmental Management (EM) from 5 observed variables was revealed that the model was congruent to empirical data by considering from 1) Goodness of Fit Index (GFI) equaled to 1.00 and Adjust Goodness of Fit Index (AGFI) equaled to 0.97 2) Root Mean Square Error of Approximation (RMSEA) equaled to 0.000 ($RMSEA < 0.05$) and 3) Chi-Square value had no statistically significant at level of .01 and degree of freedom was lesser than or equaled to .05 ($\chi^2 / df \leq 5.00$).

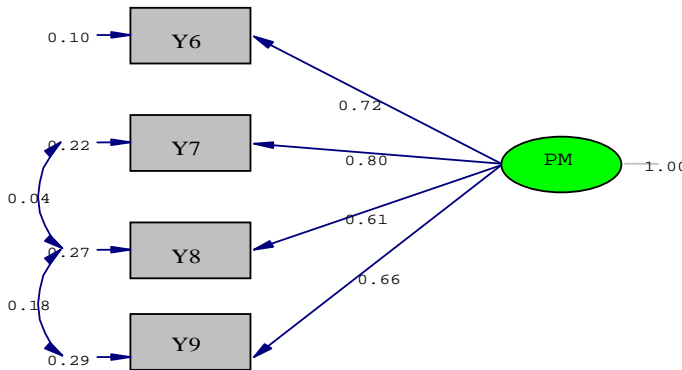
Considering on loading weight of observed variables in model, it was revealed that observed variables had loading weight with 0.45 to 0.55 and had covariate to model of Environmental Management (EM) with 56.0 to 74.0 percents.

4.3 Confirmatory Factors Analysis of Endogenous Variables

Results of Confirmatory Factors Analysis of Endogenous Variables of Inspiration of Public Consciousness influencing to Environmental Behaviors for Sustainable Development, was revealed as followings.

1) Confirmatory Factors Analysis of Endogenous Variables of Inspiration of Public Consciousness (PM) Confirmatory Factors of Inspiration of Public Consciousness (PM) had Bartlett's test of Sphericity of 878.356 statistically significant level ($p < .01$) and Kaiser–Mayer–Olkin Measure of Sampling Adequacy/MSA) of 0.838. This indicated that components of Public Consciousness (PM) aspect had proper relationship at good level and it can be used for analysis of confirmatory factors as shown in picture 3 and table 4.

Picture 3: Model of Confirmatory factor of Inspiration of Public Consciousness



Chi-Square=0.00, df=0, P-value=1.00000, RMSEA=0.000

Table 4 Results of Analysis of Confirmatory factors of Inspiration of Public Consciousness

Confirmatory factors of Inspiration of Public Consciousness	Weight	SE	t	R ²
Y5 Person as Role Model	0.72	0.040	18.26**	0.83
Y6 Impressive Event	0.80	0.048	16.83**	0.74
Y7 Impressive Environment	0.61	0.044	13.94**	0.58
Y8 Media Receiving	0.66	0.046	14.55**	0.60
Chi-square = 0.00 df = 0 P = 1.0000				
GFI = 1.00 AGFI = 1.00 RMSEA = 0.000 RMR = .0000				

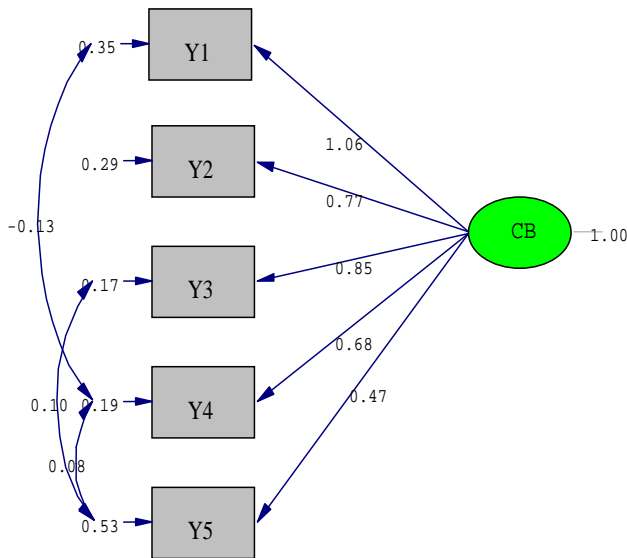
** Statistically significant level of .01

From picture 3 and table 4, results of analysis of confirmatory factors of PM from 4 observed variables was revealed that the model was congruent to empirical data by considering from 1) Goodness of Fit Index (GFI) equaled to 1.00 and Adjust Goodness of Fit Index (AGFI) equaled to 1.00 2) Root Mean Square Error of Approximation (RMSEA) equaled to 0.000 (RMSEA < 0.05) and 3) Chi-Square value had no statistically significant at level of .01 and degree of freedom was lesser than or equaled to .05 and $\chi^2 / df \leq 5.00$.

Considering on loading weight of observed variables in model, it was revealed that observed variables had loading weight with 0.61 to 0.80 and had covariate to model of Inspiration of Public Consciousness (PM) with 58.00 to 83.00 percents.

Confirmatory Factors Analysis of Endogenous Variables of Environmental Behaviors Confirmatory Factors of Environmental Behaviors (CB) had Bartlett's test of Sphericity of 537.564 statistically significant level ($p < .01$) and Kaiser–Mayer–Olkin Measure of Sampling Adequacy/MSA) of 0.824. This indicated that components of CB aspect had proper relationship at good level and it can be used for analysis of confirmatory factors as shown in picture 4 and table 5.

Picture 4: Model of Confirmatory factors of Environmental Conservation Behaviors (CB)



Chi-Square=0.09, df=2, P-value=0.95634, RMSEA=0.000

Table 5 Results of Analysis of Confirmatory factors of Environmental Conservation Behaviors

Confirmatory factors of Environmental Conservation Behaviors	Weight	SE	t	R ²
Y1 Waste Management Behavior	0.65	0.045	14.58**	0.63
Y2 Water Conservation Behavior	0.63	0.041	15.30**	0.68
Y3 Recycling Behavior	0.52	0.041	12.83**	0.54
Y4 Energy Conservation Behavior	0.64	0.045	14.09**	0.61
Y5 Traveling Behavior	0.64	0.045	14.09**	0.61
Chi-square = 0.08 df = 1 P = 0.77356				
GFI = 1.00 AGFI = 1.00 RMSEA = 0.000 RMR = 0.0011				

** Statistically significant level of .01

From picture 4 and table 5, results of analysis of confirmatory factors of Environmental Conservation Behaviors (CB) from 5 observed variables was revealed that the model was congruent to empirical data by considering from 1) Goodness of Fit Index (GFI) equaled to 1.00 and Adjust Goodness of Fit Index (AGFI) equaled to 1.00, 2) Root Mean Square Error of Approximation (RMSEA) equaled to 0.000 (RMSEA < 0.05) and 3) Chi-Square value had no statistically significant at level of .01 and degree of freedom was lesser than or equaled to .05 and $\chi^2 / df \leq 5.00$.

Considering on loading weight of observed variables in model, it was revealed that observed variables had loading weight with 0.52 to 0.65 and had covariate to model of Environmental Conservation Behaviors with 54.00 to 68.00 percents.

5. Results of Effect among Variables in Model in Terms of Direct and Indirect Effect

5.1 Confirmatory factors of Environmental Education (EE) and Hospital Environmental Management (EM) had direct

effect to Inspiration of Public Consciousness (PM) with statistically significant at level of .01 with effect of 0.17 and 0.44.. Moreover, Environmental Education (EE) and Hospital Environmental Management (EM) had direct effect to Environmental Conservation Behaviors (CB) with statistically significant at level of .01 with effect of -0.13 and 0.17. In addition, confirmatory factors in aspect of Environmental Education (EE) and Hospital Environmental Management (EM) had indirect effect to Environmental Conservation Behaviors (CB) with statistically significant at level of .01 with effect of -0.09 and 0.23.

5.2 Confirmatory factors of Inspiration of Public Consciousness (PM) had direct effect to Environmental Conservation Behaviors (CB) with statistically significant at level of .01 with effect of .51.

Considering on structural model confirmatory factors of Environmental Education (EE) and Hospital Environmental Management (EM) were able to explain the variation of endogenous factors of Inspiration of Public Consciousness (PM) to caused Environmental Conservation Behaviors (CB) with 72.00 percents. As a result, the equation 1 can be written as following.

$$CB = 0.51*PM - 0.13*EE + 0.34*EM \dots\dots\dots(1)$$

$$R^2 = 0.72$$

Equation (1) factors that had the most effect to Environmental Conservation Behaviors (CB) was Inspiration of Public Consciousness (PM) and subsequences were Hospital Environmental Management (EM) and Environmental Education (EE) with negative direction, these were able to explained the variation of Environmental Conservation Behaviors (CB) with 72.00 percents

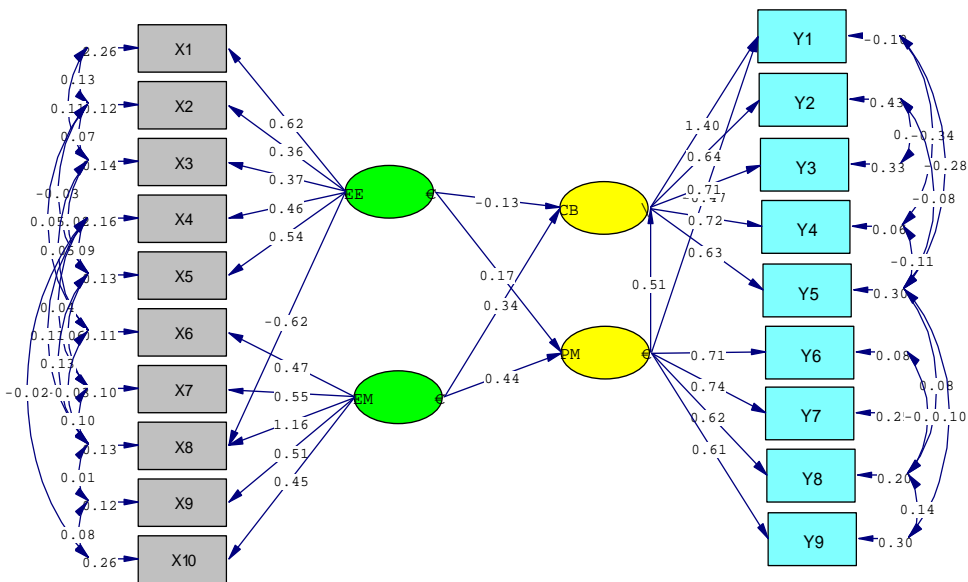
Moreover, confirmatory factors of Environmental Education (EE) and Hospital Environmental Management (EM) were able to explain the variation of confirmatory factors of Inspiration of Public Consciousness (PM) with 63.00 percents. Therefore, the equation can be written as following equation 2.

$$PM = 0.17*EE + 0.44*EM \dots\dots\dots(2)$$

$$R^2 = 0.63$$

Equation (2) factors that had the most effect to was Inspiration of Public Consciousness (PM) and subsequences were Hospital Environmental Management (EM) and Environmental Education (EE), these were able to explained the variation of Inspiration of Public Consciousness (PM) with 63.00 percents

Picture 5: Model of Direct and Indirect Effect of EE and EM through PM Influencing to CB



Chi-Square=208.53, df=118, P-value=0.00000, RMSEA=0.043

6. Discussion

The findings indicated that EE had direct influencing to inspiration of public consciousness and environmental conservation behaviors with highly statistically significant at level of .01 with effect of -0.13 and 0.17. Moreover, when considering on prediction of correlation of observed variables of Knowledge and Understanding (X1), Environmental Awareness (X3), Environmental Attitude (X2), Environmental Public Mind (X5), and Environmental Responsibility (X4), can predict the EE rather high with 0.79, 0.46, 0.44, 0.40, and 0.39 respectively. These were congruent to different studies of Thiengkamol and her colleagues (Thiengkamol, 2004, Thiengkamol, 2005a, Thiengkamol, 2011a, Thiengkamol, 2011g, Thiengkamol, 2011i, Thiengkamol, 2012a, Thiengkamol, 2012b, Thiengkamol, 2012c, Jumreansan, & Thiengkamol, 2012, Dornkornchum, et al, 2012a, Gonggool, et al, 2012b, Ngarmsang, et al, 2012b, Pimdee, et al, 2012a, Ruboon, et al, 2012a, and Waewthaisong, et al, 2012a) that the results illustrated that inspiration of public consciousness would inspire workers of Roi-ed Thonburi Hospital to perform better environmental conservation behaviors whether Waste Management Behavior (Y1),

Water Conservation Behavior (Y2), Recycling Behavior (Y3), Energy Conservation (Y4) Behavior, and Traveling Behavior (Y5), if they had real practice through environmental conservation with inspiration of public consciousness. Moreover, hospital environmental management activity such as energy and water conservation through daily life practice for electrical and pipe water conservation, waste management based on waste recycling concept in hospital also lead to good practice of environmental conservation behavior for sustainable development.

Consequently, EM had direct influencing to inspiration of public consciousness and environmental conservation behaviors with highly statistically significant at level of .01 with effect of 0.34 and 0.44. Additionally, when considering on prediction of correlation of observed variables of Energy Conservation (X6), Waste Water Management (X7), Waste Management (X8), Arrangement of Green Area (X9), and Safety Management (X10) can predict the EM rather high with 0.45, 0.53, 0.55, 0.53, and 0.47 respectively. These were congruent to different studies of Thiengkamol and her colleagues (Thiengkamol, 2004, Thiengkamol, 2005a, Thiengkamol, 2011b, Thiengkamol, 2011g, Thiengkamol, 2011i, , Thiengkamol, 2011j, Thiengkamol, 2012c, Thiengkamol, 2012d, Gonggool, et al, 2012b, Ngarmsang, et al, 2012b, and Pimdee, et al, 2012a).

Moreover, Inspiration of Public Consciousness (PM) had direct effect to Environmental Conservation Behaviors (CB) with statistically significant at level of .01 with effect of .51. Particularly, when considering on prediction of correlation of observed variables of Person as Role Model (Y5), impressive Event (Y6), Impressive Environment (Y7), and Media Receiving (Y8), can predict the PM rather high with 0.72, 0.80, 0.61, and 0.66 respectively, these results are pertinent to numerous studies of Thiengkamol, and her colleagues (Thiengkamol, 2011i, Thiengkamol, 2011j, Thiengkamol, 2012c, Thiengkamol, 2012d, , Dornkornchum, and Thiengkamol, 2012, Dornkornchum, et al, 2012a, Gonggool, et al, 2012b, Ngarmsang, et al, 2012b, Ruboon, et al, 2012a, Pimdee, et al, 2012, and Waewthaisong, et al, 2012a).

However, it might be concluded that EE observed from observed variables of Environmental Attitude (X1), Knowledge and Understanding (X2), Environmental Awareness (X3), Environmental Responsibility (X4) and Environmental Public Mind (X5), and EM observed from observed variables of Energy Conservation (X6), Waste Water Management (X7), Waste Management (X8), Arrangement of Green Area (X9), and Safety Management (X10) can influence through Inspiration of Public Consciousness (PM) composing of Person as Role Model (Y5), impressive Event (Y6), Impressive Environment (Y7), and Media Receiving (Y8), to Environmental Conservation Behavior (CB) that included Waste Management Behavior (Y1), Water Conservation Behavior (Y2), Recycling Behavior (Y3), Energy Conservation (Y4) Behavior, and Traveling Behavior (Y5). Therefore, the model of EE and EM influencing through PM to CB was verified the proposed model was fitted with all observed variables according to criteria of Chi-Square value differs from zero with no statistical significant at .01 level or Chi-Square/df value with lesser or equal to 2, P-value with no statistical significant at .01 level and RMSEA (Root Mean Square Error Approximation) value with lesser than 0.05 including index level of model congruent value, GFI (Goodness of Fit Index) and index level of model congruent value, AGFI (Adjust Goodness of Fit Index) between 0.90-1.00.

Lastly, Environmental Conservation Behavior (CB) comprised 6 observed variables Waste Management Behavior (Y1), Water Conservation Behavior (Y2), Recycling Behavior (Y3), Energy Conservation (Y4) Behavior, and Traveling Behavior (Y5) in this study were modified from Environment Management System (EMS) concepts and environmental education principles to investigate the factors that will affect through inspiration of public consciousness of Thiengkamol concept that is in the with her and her colleagues studies (Wattanasaroch, & Thiengkamol, 2012, and Thiengkamol, 2009a, Thiengkamol, 2009b, & Thiengkamol, 2011h). Therefore, to understand these factors are able to use for hospital environmental management though integration of environmental education and Environment Management System (EMS) for every hospital in Thailand.

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