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Environmental Commitment Management based on Environmental Attitude

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Abstract. This study is aimed for finding out the impact of environmental attitude on environmental commitment. Data were collected from 378 students at Universitas Negeri Jakarta in East Jakarta in the province of DKI Jakarta in Indonesia. Data were analyzed by implementing the structural equation model (SEM). Result of this study confirmed a positive relationship between environmental attitude and environmental commitment. Findings also stated that strong desire to remain a member of conservationist, willingness to exert high levels of efforts on behalf of the environment, and a desire belief in the goal of sustainability development has significantly positive association with student environmental commitment. Environmental cognition, environmental affection, and environmental conation predict environmental attitude. This model of environmental commitment management on the basis of environmental attitude can be applied in order to achieve environmental preservation.

INTRODUCTION

Caring for the environment is an attitude and action trying to prevent damage to the surrounding natural environment. Environmental attitude plays an important role in determining environmentally responsible behavior [1-3]. Individuals' satisfaction about amenities involving services of water, sanitation, and waste influences environmental attitudes leading to various level of environmentally responsible behavior. Individual education level combined with income level can predict environmental attitudes. Preferences for ecosystem services is stimulated by level of environmental attitude [2]. This preferences level tends to enhance simultaneously with higher level of positive environmental attitudes. There are various level of environmental attitudes belongs to individual over the time depending on different welfare level and across socio-demographic community and sites. Individuals with higher knowledge and welfare are frequently informed to exhibit higher level of environmental attitudes. Although several researches have examined about environmental attitudes, still less have investigates the impact of environmental attitudes on commitment completed with indicators and sub-indicators predicting those variables. The summary of relationships hypothesized is described in a model shown in Fig. 1.

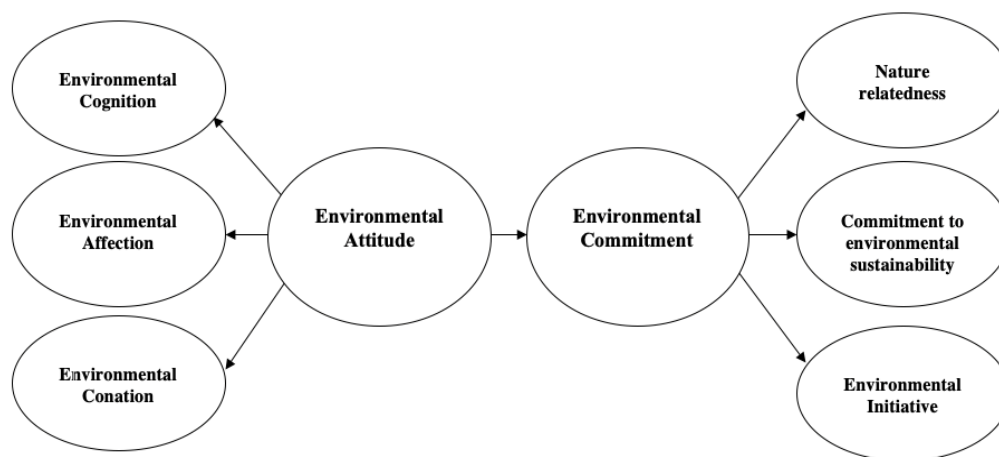


FIGURE 1. Theoretical framework of the study

METHODS

This research conducted the survey method to 378 students at Universitas Negeri Jakarta in East Jakarta in the province of DKI Jakarta in Indonesia. Data collected in this study were associated with environmental attitude and environmental commitment. Analysis of content was utilized to the literature of environmental attitude consisting of environmental cognition, environmental affection, and environmental conation, whereas environmental commitment involving Nature relatedness, commitment to environmental sustainability, and environmental initiative [1-4]. These dimensions were derived into the questionnaire distributed to 378 students at Universitas Negeri Jakarta in East Jakarta in the province of DKI Jakarta in Indonesia.

The three aspects of environmental cognition include knowledge about saving energy, knowledge about preventing harmful substance to environment, and knowledge about environmentally friendly products. The three dimensions predict environmental affections are positive affection about saving energy, positive affection about preventing harmful substance to environment, and positive affection about environmentally friendly products. The indicators of environmental conation consist of tending to save energy, tending to prevent harmful substance to environment, and tending to use environmentally friendly products.

The three indicators of nature relatedness involve always thinking about action towards the environment, environment being part of spirituality, relationship with nature being important part, and feeling connected to all living things. Effort to do environmentally friendly, reducing carbon emission, and enjoying a good quality of environment are predictors of commitment to environmental sustainability. Doing environmentally friendly activities, encouraging people to recycle materials, and continually saving energy are predictors of environmental initiative.

In this study, data were analyzed using Structural Equation Modeling (SEM) with IBM SPSS Statistics 24 and SPSS AMOS 24 with 2017 Edition [5-24]. SEM was applied to predict the association of environmental attitude with environmental commitment. Data were collected from 317 students at Universitas Negeri Jakarta in East Jakarta in the province of DKI Jakarta inputted in excel using responses with “strongly agree” scored 5, “agree” scored 4, “neutral” scored 3, “disagree” scored 2, “strongly disagree” scored 1 for positive questions, and “strongly agree” scored 1, “agree” scored 2, “neutral” scored 3, “disagree” scored 4, “strongly disagree” scored 5 for negative questions.

RESULTS AND DISCUSSION

The goodness of fit statistical analysis results shows that Normed Fit Index (NFI) value attained 0.753 pointing out that the model proposed is good fit. Root Mean Square Error of Approximation (RMSEA) value reached 0.073 meaning that the model offered is good fit. The value of Comparative Fit Index (CFI) reached 0.815 showing that the model suggested is good fit. Incremental Fit Index (IFI) value reached 0.820 indicating that the model is good fit. Relative Fit Index (RFI) value gained 0.677 showing that the model is good fit. Based on SEM measurement, the model proposed in this study is a fit model.

Table 1 and 2 showing measurement model test of observed variables describe that environmental attitude is significantly positively related to environmental commitment of 0.769. Environmental cognition, environmental affection, and environmental conation have significant association with environmental attitude of 0.953, 1.039, and 0.836, respectively. Knowledge about saving energy, knowledge about preventing harmful substance to environment, and knowledge about environmentally friendly products are significantly positively connected with environmental cognition of 0.282, 0.728, and 0.794, respectively. Positive affection about saving energy, positive affection about preventing harmful substance to environment, and positive affection about environmentally friendly products are significantly positively associated with environmental affection of 0.743, 0.462, and 0.591, respectively. Tending to save energy, tending to prevent harmful substance to environment, and tending to use environmentally friendly products are significantly positively correlated with environmental conation of 0.335, 0.524, 0.453, respectively. Nature relatedness, commitment to environmental sustainability, and environmental initiative have significantly positive association with environmental commitment of 0.956, 0.528, and 0.676, respectively. Always thinking about action towards the environment, environment being part of spirituality, relationship with nature being important part, and feeling connected to all living things are correlated with nature relatedness of 0.651, 0.651, 0.490, and 0.375 respectively. Effort to do environmentally friendly, reducing carbon emission, and enjoying a good quality of environment are significantly positively related to commitment to environmental sustainability of 0.513, 0.228, and 0.582, respectively. Doing environmentally friendly activities, encouraging people to recycle materials, and continually saving energy are significantly positively associated with environmental initiative of 0.568, 0.837, and 0.476. It can be highlighted that the higher level of environmental attitude leads to the higher level of student awareness to take care the environment. These findings were also supported by the study indicating that environmental attitude explains environmental commitment [1-2]. The structural model is shown in Fig. 2.

TABLE 1. Measurement model test (Regression weights: Group number 1 – Default model)

| | | | Estimate | S.E. | C.R. | P | Label |
|------|------|------|----------|------|--------|------|-------|
| ECMT | <--- | EATD | ,880 | ,178 | 4,955 | *** | |
| EAF | <--- | EATD | 1,587 | ,249 | 6,387 | *** | |
| ECO | <--- | EATD | 1,000 | | | | |
| EVC | <--- | EATD | 1,955 | ,284 | 6,876 | *** | |
| NRT | <--- | ECMT | 1,477 | ,242 | 6,111 | *** | |
| CES | <--- | ECMT | ,760 | ,185 | 4,105 | *** | |
| EIT | <--- | ECMT | 1,000 | | | | |
| EA3 | <--- | EVC | 1,000 | | | | |
| EA2 | <--- | EVC | 1,117 | ,082 | 13,605 | *** | |
| EA1 | <--- | EVC | ,400 | ,079 | 5,077 | *** | |
| EA6 | <--- | EAF | 1,000 | | | | |
| EA5 | <--- | EAF | ,831 | ,109 | 7,624 | *** | |
| EA4 | <--- | EAF | 1,259 | ,116 | 10,834 | *** | |
| EA9 | <--- | ECO | 1,000 | | | | |
| EA8 | <--- | ECO | 1,361 | ,229 | 5,947 | *** | |
| EA7 | <--- | ECO | ,749 | ,164 | 4,557 | *** | |
| EC5 | <--- | CES | 1,000 | | | | |
| EC6 | <--- | CES | ,406 | ,138 | 2,941 | ,003 | |
| EC7 | <--- | CES | 1,063 | ,242 | 4,394 | *** | |
| EC8 | <--- | EIT | 1,000 | | | | |
| EC9 | <--- | EIT | 1,391 | ,176 | 7,885 | *** | |
| EC10 | <--- | EIT | ,791 | ,138 | 5,715 | *** | |
| EC1 | <--- | NRT | 1,000 | | | | |
| EC2 | <--- | NRT | 1,006 | ,107 | 9,436 | *** | |
| EC3 | <--- | NRT | ,812 | ,106 | 7,634 | *** | |
| EC4 | <--- | NRT | ,619 | ,102 | 6,057 | *** | |
| ECMT | <--- | EATD | ,880 | ,178 | 4,955 | *** | |
| EAF | <--- | EATD | 1,587 | ,249 | 6,387 | *** | |
| ECO | <--- | EATD | 1,000 | | | | |

Table 1.Cont.

| | | | | | | |
|------|------|------|-------|------|--------|------|
| EVC | <--- | EATD | 1,955 | ,284 | 6,876 | *** |
| NRT | <--- | ECMT | 1,477 | ,242 | 6,111 | *** |
| CES | <--- | ECMT | ,760 | ,185 | 4,105 | *** |
| EIT | <--- | ECMT | 1,000 | | | |
| EA3 | <--- | EVC | 1,000 | | | |
| EA2 | <--- | EVC | 1,117 | ,082 | 13,605 | *** |
| EA1 | <--- | EVC | ,400 | ,079 | 5,077 | *** |
| EA6 | <--- | EAF | 1,000 | | | |
| EA5 | <--- | EAF | ,831 | ,109 | 7,624 | *** |
| EA4 | <--- | EAF | 1,259 | ,116 | 10,834 | *** |
| EA9 | <--- | ECO | 1,000 | | | |
| EA8 | <--- | ECO | 1,361 | ,229 | 5,947 | *** |
| EA7 | <--- | ECO | ,749 | ,164 | 4,557 | *** |
| EC5 | <--- | CES | 1,000 | | | |
| EC6 | <--- | CES | ,406 | ,138 | 2,941 | ,003 |
| EC7 | <--- | CES | 1,063 | ,242 | 4,394 | *** |
| EC8 | <--- | EIT | 1,000 | | | |
| EC9 | <--- | EIT | 1,391 | ,176 | 7,885 | *** |
| EC10 | <--- | EIT | ,791 | ,138 | 5,715 | *** |
| EC1 | <--- | NRT | 1,000 | | | |
| EC2 | <--- | NRT | 1,006 | ,107 | 9,436 | *** |
| EC3 | <--- | NRT | ,812 | ,106 | 7,634 | *** |
| EC4 | <--- | NRT | ,619 | ,102 | 6,057 | *** |

Source: AMOS Results 2019

TABLE 2. Measurement model test (Standardized regression weights: Group number 1 – Default model)

| | | | Estimate |
|------|------|------|----------|
| ECMT | <--- | EATD | ,769 |
| EAF | <--- | EATD | 1,039 |
| ECO | <--- | EATD | ,836 |
| EVC | <--- | EATD | ,953 |
| NRT | <--- | ECMT | ,956 |
| CES | <--- | ECMT | ,528 |
| EIT | <--- | ECMT | ,676 |
| EA3 | <--- | EVC | ,794 |
| EA2 | <--- | EVC | ,728 |
| EA1 | <--- | EVC | ,282 |
| EA6 | <--- | EAF | ,591 |
| EA5 | <--- | EAF | ,462 |
| EA4 | <--- | EAF | ,743 |
| EA9 | <--- | ECO | ,453 |
| EA8 | <--- | ECO | ,524 |
| EA7 | <--- | ECO | ,335 |
| EC5 | <--- | CES | ,513 |
| EC6 | <--- | CES | ,228 |
| EC7 | <--- | CES | ,582 |
| EC8 | <--- | EIT | ,568 |
| EC9 | <--- | EIT | ,837 |
| EC10 | <--- | EIT | ,476 |
| EC1 | <--- | NRT | ,651 |
| EC2 | <--- | NRT | ,651 |
| EC3 | <--- | NRT | ,490 |
| EC4 | <--- | NRT | ,375 |

Table 2. Cont.

| | | | |
|------|------|------|-------|
| ECMT | <--- | EATD | ,769 |
| EAF | <--- | EATD | 1,039 |
| ECO | <--- | EATD | ,836 |
| EVC | <--- | EATD | ,953 |
| NRT | <--- | ECMT | ,956 |
| CES | <--- | ECMT | ,528 |
| EIT | <--- | ECMT | ,676 |
| EA3 | <--- | EVC | ,794 |
| EA2 | <--- | EVC | ,728 |
| EA1 | <--- | EVC | ,282 |
| EA6 | <--- | EAF | ,591 |
| EA5 | <--- | EAF | ,462 |
| EA4 | <--- | EAF | ,743 |
| EA9 | <--- | ECO | ,453 |
| EA8 | <--- | ECO | ,524 |
| EA7 | <--- | ECO | ,335 |
| EC5 | <--- | CES | ,513 |
| EC6 | <--- | CES | ,228 |
| EC7 | <--- | CES | ,582 |
| EC8 | <--- | EIT | ,568 |
| EC9 | <--- | EIT | ,837 |
| EC10 | <--- | EIT | ,476 |
| EC1 | <--- | NRT | ,651 |
| EC2 | <--- | NRT | ,651 |
| EC3 | <--- | NRT | ,490 |
| EC4 | <--- | NRT | ,375 |

Source: AMOS Results 2019

Notes:

- EATD = Environmental attitude
 ECMT = Environmental commitment
 EVC = Environmental cognition
 EAF = Environmental affection
 ECO = Environmental conation
 NRT = Nature relatedness
 CES = Commitment to environmental sustainability
 EIT = Environmental initiative
 EA1 = Knowledge about saving energy
 EA2 = Knowledge about preventing harmful substance to environment
 EA3 = Knowledge about environmentally friendly products
 EA4 = Positive affection about saving energy
 EA5 = Positive affection about preventing harmful substance to environment
 EA6 = Positive affection about environmentally friendly products
 EA7 = Tending to save energy
 EA8 = Tending to prevent harmful substance to environment
 EA9 = Tending to use environmentally friendly products
 EC1 = Always thinking about action towards the environment
 EC2 = Environment being part of spirituality
 EC3 = Relationship with nature being important part
 EC4 = Feeling connected to all living things
 EC5 = Effort to do environmentally friendly
 EC6 = Reducing carbon emission
 EC7 = Enjoying a good quality of environment
 EC8 = Doing environmentally friendly activities
 EC9 = Encouraging people to recycle materials

EC10 = Continually saving energy

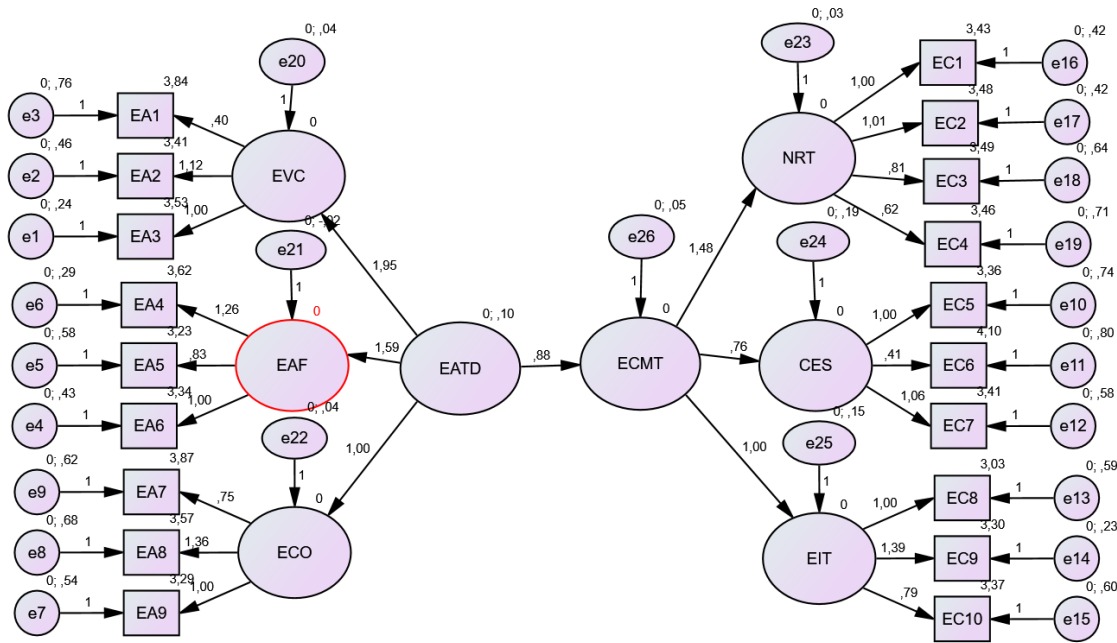


FIGURE 2. The structural model

CONCLUSION

Environmental commitment model on the basis of environmental attitude is proposed by this study. Environmental cognition, environmental affection, and environmental conation predict environmental attitude. Nature relatedness, commitment to environmental sustainability, and environmental initiative influence environmental commitment. The limitation of this study is that this study only covers the students at Universitas Negeri Jakarta. It is recommended that further research can cover all college students located in Jakarta.

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