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# THE ROLES OF CONSUMER'S KNOWLEDGE AND EMOTION IN ECOLOGICAL ISSUES

## An Empirical Study on Green Consumer Behavior*

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*This study examines the causal effect of existing relationship amongst green purchasing, which are attitudinal and behavioral approaches, consumer values, ecological affect, ecological knowledge, and green purchase intention. The survey result provides a reasonable support for the validity of the proposed model. Specifically, the finding from structural equation model confirms the influence of consumer values orientation, ecological affect, and ecological knowledge on their attitudes towards green purchase intention. The implication of this research is relevant to Indonesian government and green marketers to fine-tune their environmental programs.*

***Keywords:*** consumer values orientation; ecological affect; ecological knowledge; green purchase intention

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## Introduction

Various kinds of psychological constructs, such as emotion (affection), knowledge, awareness, and attitudes towards environment are pivotal determinants of consumer behavior to be responsible for the environment (Chan 2001). Besides, there have been much research on the environmental marketing with a vast array of product categories; for instances, recyclable packaging (Follow and Jobber 2000), recycled paper (Polonsky 1998), environmentally friendly detergent, products which do not experiment on animals (Schlegemilch et al. 1996; Johri and Sahasakmontri 1998), aerosol which does not wreck the ozone layer (Schlegemilch et al. 1996), certified wood product (Vlosky et al. 1999), single used diapers (Follows and Jobber 2000), and organic dairy product (Treagear 1994; Davies et al. 1995; Fotopoulos and Krystallis 2002). However, the relationship amongst behavior – value – intention – attitude in the environmentally friendly products still cannot explain the connectivity between one another (Yam and Chan 1998).

Behavioral theories in the environmental marketing research after 1990s are more focused on the structural model of three components: cognitive, affective, and conative (see Kalafatis et al. 1999; Chan 1999). These three components are the construction model from psychology underlying the forming of attitude dimensions. The relationship amongst components has been proven to be able to better explain and predict the attitudes (Ajzen 1988). Empirical studies have unveiled the existence of inconsistency between attitude and behavior towards the environment (Martin and Simintras 1995), even though they have been widely researched with a variety of research categories, setting and research design as well as research methodology (see Chan 1996; Prendergast and Thompson 1997; Ling-yee 1997; Chan 1999; Laroche et al. 1999; Straughan and Robert 1999; Vlosky et al. 1999' Follows and Jobber 2000; Chan and Lau 2000; Chan 2001; Jiuan et al. 2001; Fotopoulos and Krystallis 2002).

The inconsistent relationship amongst attitude–intention–behavior in the study of environmental marketing has become a comprehensive problem since it can render the discovery of the research lukewarm. The indication that can explain the inconsistency based on the literary approaches is the measurement of responsible attitudes towards the environment, which is usually operated by combining the reflective statements of many ecological issues. The instrumental measure of attitudes towards environment, which is normative, will tend to go directly to the desired social response. Scales in some questionnaires show the responsible attitudes towards environment, which may cause a bias directing the respondents to support environmental responsibility (see the questionnaires of Vlosky

et al. 1999; Straughan and Roberts 1999; Jiuan et al. 2001; Ling-yee 1997; Chan 1999).

The awareness towards environment is formed because of values held in certain situation and used by consumers to solve problems and find solutions (Homer and Kahle 1988). Theoretically, the values can influence behavior, mediated by attitudes. The individual values influencing the consumers are categorized into individual-oriented values and collectivism-oriented values (see Schwartz 1992; McLaughlin and Braun 1998; Sagy et al. 1999; Imbert et al. 2004; Cukur et al. 2004).

The understood and held values will affect consumer's knowledge of ecological issues. The ecological knowledge of certain individuals will positively affect their affective responses, which will lead to conative responses, the socially responsible behavior (Chan 2001). In the behavioral literature, a positive relationship is found between knowledge and behavior, but empirical evidence on green product purchasing behavior indicates that the relationship between ecological knowledge and behavior is still inconclusive (Martin and Simintras 1995, Laroche et al. 2001). The empirical discoveries about the influence of consumer's knowledge on the consumer's willingness and behavior are still in controversy. According to Maloney and Ward's finding, quoted by Laroche et al. (2001), there is no significant relationship between ecological knowledge and ecological behavior. On the other hand, Chan's research (1999) shows that ecological knowledge is the significant predictor of consumer behavior to be responsible towards environment.

Due to the inconclusive empirical evidence in the late environmental marketing studies, this research is expected to be the base for relevant conceptual model forming, which can accommodate various consumer behavior models aware of the environment. Hence, this study is aimed at explaining the causal relationship between consumer's values, which form understanding of consumer's knowledge towards the environment, and the consumer's emotional responses towards the ecological issues. Consumer's emotion towards the environment is expected to influence the consumer's intention to care more about the environment by purchasing organic food as the eco-product in this research.

## *Consumer Orientation*

Attitude is formed by the believed values in certain specific situation and used by a consumer to solve problems and make decisions (Homer and Kahle 1988). The consumer's values are more stable but also more abstract compared to the consumer's attitudes or behavior. Attitude is a belief towards an object based on certain actions where values become the criteria harnessed to evaluate consumer behavior (Schwartz 1994). Theoretically, value can influence someone's behavior be-

cause value is the most abstract cognition, but it will affect the behavior when mediated by the attitude.

Schwartz and Bilsky (1987), quoted by Follows and Jobber (2000), explain the conceptual definition of value comprehensively. Value is the concept or belief which is expected to determine final behavior, in a specific situation, to select or evaluate certain behavior and event. Value is thought to be a part of valuable system, and this system is used by someone to direct her or his behavior.

Common consumer's value in the marketing study consists of three instruments. First, VALS/VALS2 (SRI International) is used in segmentation study, but is rarely utilized in other studies on account of its complexity. Second, List of Values (LOV) (Kahle 1983), developed to measure American values, consists of nine values used to investigate the concept of segmentation to the ownership of certain product. The study of Homer and Kahle (1988), using LOV as the value indicator, shows a significant relationship between attitudes (in nutrition) and behavior (purchasing natural food). The third value measurement is Rokeach's Value Survey in which someone is asked to place 30 values in order. The influence of consumer's values towards attitudes and behavior can be effectively interpreted using such a developed value system as Rokeah's instrument typology classification and consumer's final values.

Someone's professed values will determine his consumption. Human values and value systems determine daily behavior, such as charity contribution, mass media consumption, cigarette consumption, and even drugs addiction. In psychosocial realm, experts differentiate values from value. Values are the cognitive manifestation on human universal demands, such as biological needs, social interaction demand, and social hierarchical demand towards individual (Schwartz and Bilsky 1987). These values are about the individual's relationship with some institutions or with her or his habitat. Meanwhile, the individual values as something professed by someone create a specific situation where something is liked more than the opposite things.

As a human being, values are utilized in social culture in certain time to determine the ethics of actions, how to face others, or rational beliefs, attitudes, and behavior. The supporters of this concept believe that an individual value is likely to be more stable than life-styles or other attributes in predicting buying attitudes. According to Rokeah (1973), once the values are learn, they will be a part of system, the value system, in which each value determines its relative priority to other values.

Someone's attitude is likely based on the professed value to make decisions. These values are likely to be more stable and more abstract compared to attitudes and behavior. Conceptually, values will affect someone's behavior since the values are the abstract cognition that will indirectly in-

fluence behavior through attitudes. These individualistic values are called self-enhancement, which point out someone's motivation towards its own personal interests (Follows and Jobber 2000).

The development of segmentation predicated on individual values is supported by the view that individual values are more directly related to behavior than to personality elements. Moreover, individual values are limited in number, more centered, and more directly related to the motivation. The attitude motivation, according to Imbert et al. (2004), reflects individualistic and collectivistic dimensions that can be categorized according to: (1) openness to changes, (2) self-enhancement, (3) conservation, and (4) self-transcendence.

Individualistic values that influence consumer behavior are divided into individualist-oriented values and collectivist-oriented values (McLaughlin and Braun 1998; Sagy 1999; Imbert et al. 2004; Cukur 2004). Individualism represents how much someone is focusing and depending on himself more than on her or his group. This type of consumer is inclined to be not supporting the environmental care, whilst collectivism reflects cooperative consumers, who like to help others, and give priority to general business than to individual matters. This collectivist group supports the existence of environmental caring program.

According to McCarthy and Shrum (1994), the influence of consumer's relevant values on environmental awareness behavior is takes forms of joy and security. The joy value is positively related to the attitude of the importance of recycling. The relationship shows that joy value in life is viewed as the fulfillment of need in the interaction with the environment, whilst security value is not significantly related to the supporting attitude on recycling.

A study by Ling-yee (1997) specifically explains that natural-food buyers who want to control their own life possess internal-oriented values, such as self-fulfillment, joy, comfort, prestige, and self-respect. Another study by McCarthy and Shrum (1994) finds a significant relationship between collectivistic orientation and consumer's attitude towards the recycling process.

## *Ecological Knowledge and Ecological Affect*

Knowledge in consumer research is one of the characteristics influencing the whole decision-making process. Specifically, knowledge is the relevant and significant construct that can influence how consumers collect and organize acquired information (Alba and Hutchinson 1987), how information is used in decision-making (Brucks 1985), and how consumers evaluate products and services to be consumed (Martin and Simintras 1995).

Ecological knowledge according to Chan (1999) can be defined as how much someone knows about the ecological issue, whilst consumer's affect towards the environment is the

individual's emotional level towards ecological issues. Chan and Lau (2000) conceptacles some ecological knowledge, ecological affect, ecological intention, and ecological behavior towards the ecological issues. The influence of ecological knowledge on consumer behavior in relation to environmental care has been investigated by previous empirical studies, but show contradictive results. Maloney and Ward (1973), as quoted by Laroche et al. (1999), report that there is no significant relationship between ecological knowledge and behavior to be responsible for the environment. However, according to Chan (1999), the knowledge of ecological issues is the predictor of socially responsible consumer behavior. Previous studies consistently prove that a positive relationship prevails between ecological affect and behavior. This indicates that a person lacking in ecological knowledge mostly show high emotion. People are mostly emotional towards their environment, rather than using their knowledge to perceive the environment (Chan and Lau 2000).

### *Relationship between Consumer's Value Orientation, Ecological Affect, and Ecological Knowledge*

Consumer's value orientation with respect to Indonesian culture has yet to be much explored. Theoretical reviews show that cultural values from a certain society will influence buying behavior, which will give the impact towards socio-ecology (Chan and Lau 2000; Fotoupoulos and Krystallis 2000). Consumers who decide to purchase certain products are influenced by various complex factors. In general, a consumption event is viewed as economical process, but in fact consumption is also a socio-cultural process which is indicated through symbols (Peattie 1995).

Chan and Lau (2000) using Chinese setting classify cultural values into five dimensions: (1) human natural orientation, (2) human self-orientation, (3) relationship orientation, (4) past orientation, and (5) activity orientation. This study is focused more on the human natural orientation, showing the relationship between humanity and environment naturally. In fact, human always demands naturally harmonic life.

Ling-yee (1997) specifically explains that buyers of natural food who want to control their lives basically have internally-oriented values, such as self-fulfillment, joy, comfortable life, demand for achievements, and self-respect. Meanwhile, McCarthy and Shrum (1994) find significant influence of collectivistic orientation on consumer's attitude towards recycling. This collectivistic orientation is the level of cooperation, the intention to help, and group focus more than individual consideration.

In so doing, even though ecological affect and knowledge serve as the indicators of consumer's care towards the environment, both are different

independent variables (Martin and Simintras 1995). However, the study of McCarthy and Shrum (1994) finds that there is a significant relationship between consumer's value orientation and the consumer's attitude in using recycled products. Someone who cares about recycled products is expected to have strong values; accordingly, we can understand the environmentally-friendly behavior by considering the influence. Meanwhile, according to Chan and Lau (2000), human natural value orientation will direct consumers towards positive influence of ecological affect, ecological knowledge, and commitment to buying environmentally-friendly products.

From the research, it can be inferred that consumer's value orientation will influence consumer's ecological knowledge. Hence, we formulate the following hypothesis.

$H_1$: *Consumer's value orientation influences ecological knowledge*

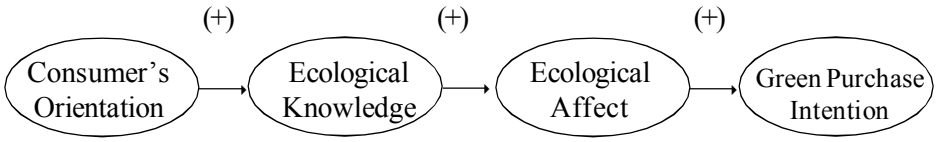
The research of McCarthy and Shrum (1994) discovers that joy value has positive influence on the attitude to understand the importance of recycling and the tendency to do so. This relation shows that if a consumer has the joy value and convenience in life, she or he will tend to try to fulfil them through interaction benefits with the environment. In other words, it can be explained that consumers who have the orientation of life convenience will tend to increase their consciousness on environmental protection, and intend to purchase environmentally-friendly products.

## *Ecological Affect, Ecological Knowledge, and Environmental Consciousness*

Knowledge, based on consumer research on environment, is the characteristic that will influence all stages in decision-making process (Laroche et al. 2001). Knowledge is the significant construct that influences how consumers gather and organize information (Alba and Hutchinson 1987), how the information is used in decision-making (Brucks 1995), and how consumers evaluate products and services (Martin and Simintras 1995).

In the literature of behavioral study, it is believed that there is a positive relationship between knowledge and behavior, but empirical evidence in green-product buying behavior indicates that the relationship between ecological knowledge and behavior is still inconclusive (Martin and Simintras 1995; Laroche et al. 2001). The empirical discoveries about the influence of consumer's knowledge on the consumer's intention and behavior are still in controversy. According to Maloney and Ward's finding (1973), as quoted by Laroche et al. (2001), there is no significant relationship between ecological knowledge and ecological behavior. However, Chan (1999) states that ecological knowledge is the significant predictor of the consumer's behavior to be responsible for the environment. Furthermore, Vlosky et al.

Figure 1. **The Proposed Model**




(1999) find that highly knowledgeable consumers of ecological issues voluntarily pay more for environmentally-friendly products.

The emotional bond of consumers towards the environment, or often called ecological affect in literature review shows a consistency that supports the positive relationship between ecological affect and the intention to buy environmentally-friendly products (Chan 1999; Chan and Lau 2000). Ling-yee's finding indicates that consumers lacking in ecological knowledge still have strong emotion towards the intention of buying environmentally-friendly products. Therefore, it can be concluded that a society is more emotional towards the social impacts of environment rather than of ecological knowledge.

*$H_2$: Consumer's ecological knowledge influences the consumer's ecological affect responses.*

*H3: The more emotional the consumers towards the environment, the higher their commitment to buying environmentally-friendly products.*

## Research Model

Chan (2001) hypothesizes the relationship between four ecological variable constructs, developed based on the cognitive-affective-conative framework, and the theory of reasoned actions (see Ajzen and Fishbein 1980). The model explains that ecological knowledge will influence the affect responses positively, leading to the conative responses, the socially responsible behavior. The intention to behave can be elaborated on by verbal commitment whilst behavior is explained through actual commitment. Based on the explanation for the concept of consumer's value orientation, ecological knowledge, and the green-product buying commitment, then the model is formulated as Figure 1.

## Research Method

### *Sampling and Data Collection Method*

Sampling method used in this research is non-probability sampling (Sekaran 1992; Cooper and Emory

1995). The technique of determining the non-probability sampling is purposive sampling. In this research, 200 questionnaires were distributed, and the response rate was 76.5 percent. The number of eligible questionnaires to be analyzed was is 147.

The subjects of this research are mature (17 years and over) women who make decisions on selecting and buying daily food. This study is mainly concentrating on female consumers as Fotopoulos and Krystallis (2000) and Davies, Titterington, and Cochrane

Table 1. **Characteristics of Respondents**

| Category | | Respondents | Percentage |
|---|---|---|---|
| Age | < 20 years | 2 | 1.54 |
| | 21-30 years | 77 | 52.4 |
| | 31-40 years | 33 | 22.4 |
| | 41-50 years | 15 | 10.2 |
| | > 50 years | 20 | 13.6 |
| Education | High School | 87 | 59.2 |
| | Diploma (D1,D2,D3) | 15 | 10.2 |
| | Undergraduate | 34 | 23.1 |
| | Graduate | 11 | 7.5 |
| Income | <Rp1.000.000,- | 63 | 24.5 |
| | Rp1.000.000,- to Rp2.000.000,- | 46 | 31.3 |
| | Rp2.000.000,- to Rp3.000.000,- | 26 | 17.7 |
| | Rp3.000.000,- to Rp4.000.000,- | 13 | 8.8 |
| | Rp4.000.000,- | 21 | 14.3 |
| | Missing data | 5 | 3.4 |
| Occupation | Lecturer | 27 | 18.4 |
| | Undergraduate Student | 9 | 33.3 |
| | Graduate Student | 46 | 4.1 |
| | Housewife | 24 | 16.3 |
| | Civil Servant | 14 | 9.5 |
| | Private employee | 23 | 15.6 |
| | Entrepreneur | 4 | 2.7 |
| Status | Married | 76 | 51.7 |
| | Single | 65 | 44.2 |
| | Widow | 6 | 4.1 |

(1995) find that women who often buy food products, have children at home, are educated, and earn relatively high income usually consume organic food since they emphasize product quality rather than price. The respondents' profiles are presented in Table 1.

### *Operational Definition of Variables*

***1. Consumer's values orientation.*** According to Schwartz (1994), as quoted by Laroche et al. (2001), consumer's value is defined as the value for achieving expected goals, something that will give direction in someone's life. Meanwhile, McCarthy and Shrum (1994) believe that someone's value will influence her or his behavior at work and in social life. Someone considering recycling products is expected to possess strong values; accordingly, environmentally-friendly behavior can be understood and comprehended by considering the effects. Human natural orientation according to Chan and Lau (2000) can be defined by pointing out the relationship between humanity and the nature. Basically, human beings are inclined to undergo harmonic life by nature. The questionnaire on the consumer's values is in the form of statement about alternative expected values in life, which are Very Important to Very Unimportant with five-point Likert Scale.

***2. Ecological Knowledge.*** Ecological knowledge, so-called ecoliteration, is the ability of consumers to identify or define a group of symbols, concepts, and behavior intertwined with the ecological problems (Laroche et al. 1999). The definition of ecological knowledge according to Chan (1999) is how much someone knows about ecological issues in developing an objective scale to measure and comprehend the environmental care. The operationalization of ecological knowledge in this study is aimed at measuring how much the respondents know about the environmental issues related to organic food. The questions of these ecological knowledge constructs are modified using a five-point measurement.

***3. Ecological Affect.*** Consumer's affect towards the environment is someone's emotional level towards environmental issues (Chan 1999). Empirical proofs supporting a positive relationship between ecological affect and behavior indicate that people lacking in ecological knowledge mostly show emotional responses towards the environment. It means that people are mainly emotional towards the environment rather than towards the ecological knowledge (Chan and Lau 2000). The questionnaire statement about the ecological affect consists of several items with five-point Likert Scale measurement.

***4. Intention to Purchase Green Products.*** In the research of reasoned action theory, intention is the most relevant predictor of behavior. The intention of purchasing green products in this study is the intention or the expression of intention to commit to the environmentally-friendly activities (Chan 1999). The measurement of constructs

and the indicators of statement items are developed based on Chan and Lau (2000) with five-point Likert Scale.

## Measurement Model

### *Factor Analysis*

Analyzed factors in this study are utilized to determine the pattern of variables relationship, as well as to determine whether information is collected for some smaller factors (Hair et al. 1995). The test result shows that Bartlett's Test of Sphericity coefficient is 650.700, the degree of freedom is 105, the significance level is 0.000, and the whole correlation between-variable means is at the level of 0.01. Kaiser-Meyer-Olkin's Measure of Sampling Adequacy results in a score of 0.726, indicating the adequacy of sample employed as the acceptable MSA is 0.50 (Hair et al. 1995).

### *Summated Scale Indicators*

The factor weight is processed using AMOS 3.6 for analysis confirmatory factors so as to find the measurement of indicator composite from the latent construct. The composite reliability for each latent construct ($\alpha$) aims to measure the internal consistency from the construct indicator that will indicate the construct of common

Table 2. **Construct Reliability, Lambda, Error Terms, and Standard Deviation from Indicators**

| Construct | Construct Indicator | $\alpha$ | $\lambda$ | $\varepsilon$ | $\sigma$ |
|---|---|---|---|---|---|
| Consumer's Orientation | NILAI | 0.8221 | 0.0762 | 0.0071 | 0.0013 |
| Ecological Affect | AFEK | 0.7028 | 0.4758 | 0.3220 | 0.0957 |
| Ecological Knowledge | PENGET | 0.7400 | 0.3401 | 0.1563 | 0.0406 |
| Green Purchase Intention | NIAT | 0.7375 | 0.2517 | 0.0859 | 0.0226 |

**Table 3. Reliability Coefficients of the Constructs (N = 147)**

| Construct | Number of items in the questionnaire | Number of items retained | Cronbach's Alpha ($\alpha$) |
|---|---|---|---|
| Consumer's Orientation | 16 items | 16 items | 0.8441 |
| Ecological Affect | 4 items | 3 items | 0.7493 |
| Ecological Knowledge | 7 items | 6 items | 0.7060 |
| Green Purchase Intention | 4 items | 4 items | 0.7274 |
| Total Items | 31 items | 29 items | |

latent (unobservable). Higher reliability measurement affects the belief that individual indicator is consistently measuring the same measurement. The following table shows the reliability constructs.

The composite reliability is the internal consistency of construct indicator measure that illustrates the degree of common latent construct indicator that is not visible. The score of reliability indicator should be more than 0.5. The results of this research's composite reliability are shown by á, confirming the suitable model for all constructs.

### *Validity and Reliability of Research Instrument*

In the first stage of this research, validity and reliability tests on research instrument are required. The validity test can determine whether or not the research instrument is reliable. The result shows that the coefficient score $\alpha$ is nearly 0.7.

## Results and Discussion

The results of correlation show that all variables are significantly associated. The correlation coefficients indicate the significances. The findings of formulated correlation are detailed in Table 4.

### *Results of Structural Equation Model*

The results show that the goodness-of-fit (GFI) that fulfils the model appropriateness is 0.982, the chi-square is 5.262, and the degree of freedom is 3. The consumer's values orientation in the model shows the existence of a positive and significant influence (a=0.375) of the ecological knowledge. It is also found that the consumer's knowledge towards the environment exerts a significant and positive influence (a=0.614) on her or his emotional responses towards the environmental issues. These findings substantiate Chan (1999), documenting that the

Table 4. **Constructs Correlation (N=147)**

| | Mean | Standard Deviation | 1 | 2 | 3 |
|---|---|---|---|---|---|
| Consumer's Orientation | 0.7918 | 0.0084 | 1.000 | | |
| Ecological Affect | 2.9163 | 0.5675 | 0.279 ** | 1.000 | |
| Ecological Knowledge | 2.8934 | 0.3954 | 0.268 ** | 0.420 ** | 1.000 |
| Green Purchase Intention | 1.9572 | 0.2930 | 0.017 | 0.187 * | 0.207 * |

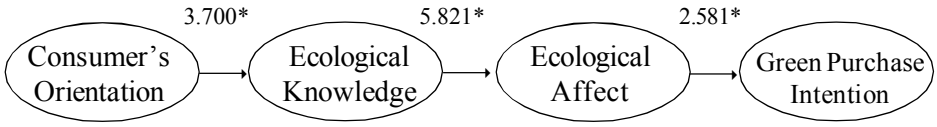
Sig * $p \leq 0.05$ ** $p \leq 0.01$

Table 5. **Results of Alternative Structural Equation Model**

| Structural Relationship | C.R. |
|---|---|
| Ecological Knowledge ← Consumer Orientation | 3.700* |
| Ecological Affect ← Ecological Knowledge | 5.821* |
| Green Purchase Intention ← Ecological Affect | 2.581* |

Sig * $p \leq 0.05$

Figure 2. **Results of The Proposed Model**




***Note:*** Chi-square of 5.262 with d.f. of 3
Goodness-of-fit index (GFI) of 0.982
Root mean square residual (RMR) of 0.004
Sig * $p \leq 0.05$

knowledge of environment is the significant predictor of consumer behavior to do environmentally-friendly actions.

Someone's emotional responses towards the environment in fact positively and significantly influence her or his commitment to purchasing organic food as the environmentally-friendly product ($\alpha$=0.228). It means that high emotional level towards the environmental issues will increase consumer's intention to choose and commit actions supporting the protection of environment. This evidence is very interesting to be further analyzed, especially the factors that actually arouse the consumer's commitment to participating in the environmental care.

The findings of the influence of consumer's value orientation using structural equation model, emotional responses, and consumer's ecological knowledge on the commitment to purchasing green products can be seen in the Table 5.

Table 5 depicts the causal relationships amongst variables. It shows significant relationships of all variables, meaning that environmentally-friendly consumer behavior model can predict the ecologically-aware consumer behavior in their actions which support the environmental care.

The tests result in the chi-square of 5.262 with the degree of freedom of 3 and the probability level of 0.001. Chi-square is the basic measurement from all structural model measurement. The value of lower chi-square, where the significance level is higher than 0.05, indicates that this study's result

and the predicted covariance matrix inputs are of no difference from the statistics.

*Goodness-of-fit Index* (GFI) shows all of the degree of freedom square residuals from the prediction compared to those from the final results. This research's GFI is 0.943 and the *Adjusted Goodness-of-fit Index* (AGFI) is 0.939. The recommended acceptable index level is higher than or equal to 0.90 (Sharma 1996). Therefore, this research results in a fit structural model.

*Root Mean Square Residual* (RMSR) is beneficial to the whole data in the equal scale. In fact, there is no determining threshold; it is just known that the smaller the RMSR, the better it is since RMSR of 0 indicates a perfect result. This research's RMSR is 0.016, which is close to 0.

The result of *Root Mean Square Error of Approximation* (RMSEA) tries to correct the chi-square statistics' tendency towards rejecting the determined model with adequate sample. The RMSEA value of this research is 0.072 whilst the threshold value considered good by Purwanto (2001) is in the range of 0.05-0.08. The complete results of this structural model are shown in Table 6.

Hair et al. (1998) utter that some criteria commonly used to analyze or examine the data fit are chi-square

Table 6. **Results of the Goodness-of-fit**

| Goodness-of-fit | Result |
|---|---|
| ***Absolute Fit Measure*** | |
| Chi-square ($x^2$)5.262 | |
| Degree of freedom | 3 |
| Non-centrality parameter (NCP) | 2.262 |
| Goodness-of-fit index (GFI) | 0.982 |
| Root mean square residual (RMSR) | 0.016 |
| Root mean square error or approximation (RMSEA) | 0.072 |
| Expected cross-validation index (ECVI) | 0.132 |
| ***Incremental Fit Measure*** | |
| Adjusted goodness-of-fit (AGFI) | 0.939 |
| Tucker-Lewis index (TLI) | 0.905 |
| Normed fit index (NFI) | 0.902 |
| ***Parsimonious Fit Measure*** | |
| Parsimonious normed fit index (PNFI) | 0.451 |
| Parsimonious goodness-of-fit index (PGFI) | 0.294 |
| Akaike information criterion (AIC) | 19.262 |

value, *Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Root Mean Square (RMS),* and the Parsimonious Fit Measure. The higher the fit index value, the fitter the data and the model. The fit values of this research's model are relatively high.

According to Mueller (1996), basic measurement that can illustrate the fitness of model and data is the statistic value of chi-square. The fitness evaluation of model using the chi-square can be conducted by dividing the value of the model's chi square by its degree of freedom. The model fits the expected model where the ratio of chi-square to the degree of freedom of this model is (5.262/3 = 1.754). The ratio between chi-square value and degree of freedom indicates that this research's model has good data fit as the ratio is below 5.

## Conclusions and Limitations

Conclusively, we can remark that an alternative model has been harnessed to represent a reliably predictive model of the intention to do green purchase behavior. The research findings from the alternative model provide us with an illustration that a consumer's value orientation significantly affects her or his ecological knowledge. Consumer's value, according to Schwartz (1994) in Laroche et al. (2001), is interpreted as the value to achieve expected goals and to lead someone's life, especially in influencing someone's behavior towards comprehending the environmentally-friendly actions. This is mainly caused by human natural orientation to determining the relationship between humanity and nature (Chan and Lau 2000).

Subsequently, consumer's knowledge of the environment influences the emotional level towards the environment. Hence, green-product consumers who have the understanding towards the environmental problems will be sensitive to environmental issues that contribute to environmental degradation. The consumer's intention to get higher quality life as the ecological consequence affects her or his emotional feeling to the environment. Thus, the ecological consequence will lead someone to show high emotion towards the environment rather than towards the ecological knowledge (Chan and Lau 2000).

Although the findings presented here provide a new insight into the determinants of behavioral intention towards green products, the results may be confounding which merit further investigation. The scope of this research is still around Yogyakarta, which represents Indonesian consumers, and which is targeted to 17-year-old or more women consuming natural food products in daily family life. To broaden the research scope, it is suggested that in subsequent research, respondents are more specified to housewives with children under 12 years old since Fotopoulos and Krystallis (2002) find that those respondents are more sensitive to organic food. The cities chosen to be research objects are big cities and metropolitan areas, such

as Jakarta, Surabaya, Medan, and Semarang, where pollution prevails and lives are far from healthy circumstances. Consumers in those cities can be compared to consumers in other cities, especially those with societal diversities, such as Yogyakarta and Denpasar.

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