Antecedents of willingness to pay for green products

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Abstract. The main purpose of this paper is to examine whether there is a positive influence of pro-environmental behavior and environmental locus of control toward the willingness to pay for green products. The data obtained by distributing online and offline questionnaires, reaching 419 respondents of 18 to ≥55 years old that have the knowledge and already bought a green product. The purposive sampling was used as the sampling technique, and the data were tested by Statistical Equation Modeling (SEM). The results show that environmental locus of control does not positively affect pro-environmental behavior. However, the environmental locus of control and pro-environmental behavior do have a positive influence on the willingness to pay. Based on the findings, it is essential for green product companies to improve customers’ pro-environmental behavior and environmental locus of control. To do so, the marketer of green products should increase consumers’ concern, awareness, and behavior of conserving nature through activities such as campaigns and demonstrations.

Keywords: environmental locus, green products, pro-environmental behavior, willingness to pay

1. Introduction
Natural resources increasingly scarce and future generations may not be able to relish it [1]. Environmental destruction induces many disadvantages to lots of organisms such as animals (especially the endangered ones) and humans getting tortured, directly or indirectly [2]. Due to those reasons, nowadays people make efforts to live a healthy lifestyle and conserve the environment.

A lot of organizations or individuals who support the healthy lifestyle and green products consumption has begun to produce organic foods as well as recycled (eco-friendly) products including car and other vehicles [3]. Recycled, environmentally friendly products and organic foods are also renowned in Asia due to the environmental destruction and heavy global warming especially in Indonesia, Middle East, India, and China which ruins the temperature, climate, and seasonal changes. Consequently, people appreciate natural resources more and want to move toward a better life [4].

Despite the increasing awareness of environmental issues, green products are more expensive compared to normal products [5]. Indonesia is one of the countries where environmental awareness is increasing but not mainstream yet [6]. Therefore the products manufactured in Indonesia mostly need imported machinery or tools for the production process [7], triggering the higher cost of green products compared to normal ones, and customers will consequently refuse to buy green products unless they have the willingness to pay more for it.

It is crucial for companies to understand why customers want to pay more for green products. The willingness to pay means the maximum price that consumers agree to pay for specific goods or services that satisfy them [8]. Regarding green products, the willingness to pay is affected by pro-environmental behavior (PEB) and environmental locus of control (ELOC) [9].
Pro-environmental behavior (PEB) is the way people do things to minimize the negative impact of their actions on the environment, such as using recycled products, diminishing energy consumption, and reducing waste production [10], [11]. A study showed that pro-environmental consumers would easily practice pro-environmental behavior compared with consumers without pro-environmental commitment [11]. In their study [11], they found that consumer with high degree of cognitive attitude, affective attitude, social norm and personal norm of environmental concerns showed the strong intention of recycling in their daily lives.

Locus of control is divided into two types, i.e., the internal and external categories [12]. The internal environmental locus of control explains the extent to which people believe that they can affect [pro-environmental] outcome through their actions [13]. The external environmental locus of control expresses people’s belief that environmental destruction or things that happened to the environment is the outcome of fate, or caused by other human beings and not because of themselves [12]. However, the environmental locus of control (ELOC) represents people’s beliefs whether the nature-related situation they are facing is caused by themselves (internally) or others (external) [13]. In their study, environmental locus of control divided on four dimensions, namely biospheric altruism, corporate skepticism, economic motivation and individual recycling efforts [13].

Customers’ willingness to pay (WTP) for green products is essential for the companies. Previous studies have already tried to examine factors that make customers agree to pay more for their products [8], but only a few have investigated the influence of environmental locus of control as an affecting factor toward customers’ willingness to pay [9]. Thus, this study aims to analyze the relationships between ELOC and WTP, ELOC and PEB, as well PEB and WTP for environmentally friendly products.

Based on the conceptual framework above, three hypotheses were developed in this research:

Environmental locus of control (ELOC) makes individuals aware that the environment destruction is caused either by them or others. Therefore, they will try to conserve environment more than before in which makes them as the green products consumer and adapting healthy lifestyle [9] that will cause their Willingness to Pay (WTP) to increase. It can hypothesized that:

H1: Environmental Locus of Control (ELOC) is positively related to Willingness to Pay (WTP) for environmentally friendly products.

Pro-environmental behaviour is affected by internal locus of control because individual’s motivation to intervene or do something related to environmentally responsible is on behalf of the environment [17]. With the increasing of consumers’ environment locus of control, their pro-environmental concern which lead to pro-environmental behavior will also increase in order to reduce

Figure 1. Conceptual framework.
their guilt for the environmental destruction that caused by either themselves or others by conserving environment and try to make the environment to its former state [9]. It is hypothesized as:

**H2**: Environmental Locus of Control (ELOC) is positively related to Pro-Environmental Behavior (PEB) for environmentally friendly products.

Environmental concerns in which affect pro-environmental behaviour can also affecting willingness to pay for green products. [13] It is likely, that consumers who exhibit high levels of environmental consciousness make more green purchasing decisions than those exhibiting low levels [9]. Therefore as the level of PEB increases, the willingness to pay for green products will also increase. It is hypothesized as:

**H3**: Pro-Environmental Behavior (PEB) is positively related to Willingness to Pay (WTP) for environmentally friendly products.

### 2. Research Method

All of the instruments and variables are adapted from previous research [9]. This study employs hypotheses testing and cross-sectional (one-shot) time horizon where data are gathered just once [16]. The unit used in the analysis is individuals. The sampling method is non-probability with the purposive sampling technique (PST) [15] which in this case, the respondents (samples) were taken with criteria of both knowing and have the experience of buying green products. Both online- and offline-distributed survey questionnaires were translated into Bahasa Indonesia to prevent any misunderstanding arises from language barriers.

The respondent characteristics of this study show that the male respondents exceed females only by 7 responses, aged between 18–25 years (75.2%), of which are mostly students with a high school diploma having a monthly income ranging from IDR 1,500,001–5,000,000. As many as 419 out of 450 respondents (93.11%) have known and purchased green products, ergo can be used for further analysis.

CFA was conducted to check the validity of the measurement used in this study. One item of pro-environmental behavior and five items of environmental locus of control were removed from the final scale due to their large standardized residuals. The reliability of the measurement was analyzed by Cronbach Alpha, and it resulted in a good validity with each construct reliability value of above 0.7 [17]. According to RMR (0.075) and RMSEA (0.754) on the goodness-of-fit statistics, it indicates a good model fit [16].

Central tendency (mean and standard deviation) was used as the descriptive statistics to analyze each variable in this study. It has been found that (1) pro-environmental behavior has an average value of 3.933, implying that the respondents have practiced pro-environmental means of conserving nature; (2) the willingness to pay has an average value of 3.765, expressing that the respondents are willing to purchase green products; and (3) the environmental locus of control has an average value of 3.912, meaning that the respondents are concerned about environmental destruction.

### 3. Results and Discussion

The hypotheses testing results can be seen in Table 1.

| Hypotheses | Estimates | p-values | Decisions |
|------------|-----------|----------|-----------|
| H1 ELOC → WTP | 0.160 | 0.007 | Supported |
| H2 ELOC → PEB | -0.104 | 0.113 | Not Supported |
| H3 PEB → WTP | 0.677 | 0.000 | Supported |
H1: Environmental Locus of Control positively affects Willingness to Pay

The result indicates that the higher consumers’ environmental locus of control gets, the higher their willingness to pay. It means that along with the increment of consumers’ concerns about environmental destruction such as air, water, and land pollution, their willingness to purchase green products increases as well. This study also shows that although Indonesia is renowned for its forest and other abundant natural resources, the respondents think that recycling means are still needed nonetheless.

Fortunately, even if the price of recycled products is usually higher, the result points out that consumers are willing to pay 10% more for products that are manufactured, processed, and packaged in an environmentally friendly way. Based on the research [13], they found that economic motivation as one of ELOC dimension has strong influence on consumer willingness to pay for environmental products. They [13] found that consumer agree to accept bigger financial responsibility in order to prevent the ecological impact of their consumption. It is supported by previous research [14], [9] who found that people with a high environmental locus of control are expected to buy green products on a daily basis.

H2: Environmental Locus of Control has no positive influence on Pro-Environmental Behavior

In this study, the second hypothesis is not supported, which means that people’s environmental locus of control cannot determine their behavior toward nature. According to a study in 2005 [13], PEB is a situational-specific variable which has a complex reaction, denoting that consumers’ decision regarding pro-environmental behavior might change in any occasion despite their concerns for the environment.

Based on the research [13], they found that corporate skepticism as one dimension of ELOC, has the least influence on pro-environmental behavior. Consumers tend to think that most of the companies actually are not environmentally concerned and responsible. Additionally, the locus of control is originated from a few types of characteristics namely self-esteem, belonging, and personal control [17]. Out of those three, only personal control directly has a positive relationship with pro-environmental behavior without any intercession [17].

H3: Pro-Environmental Behavior positively affects Willingness to Pay

The third hypothesis is supported by this study, implying that the increasing number of behavioral things people have done and about to do will also raise their willingness to purchase green products because they have the behavior of conserving nature by consuming green products. Consumers in Indonesia tend to do necessary procedures to minimize the damage to the environment caused by air and waste pollution. For example, most of the respondents prefer walking to using vehicles to go to nearby stores, buy products with recycled packages, and keep their vehicles well-tuned to reduce the emission.

This outcome is supported by previous studies, such as the result of one research on 2013 in Turkey [14] that consumer who have high level of environmental concerns showed stronger intention to become e-invoice subscriber that more environmentally responsible. Another study in India [9] found consumer with high degree of pro-environmental behavior such as using public transport, turn off electronic equipment when they did not use it and others pro-environmental behaviors have the willingness to buy more expensive bulb that more energy saving [9]. Based on those studies, the higher the customers’ pro-environmental behavior (PEB), the greater the possibility of respondents buying green products.

4. Conclusion
The research found that Indonesian consumers’ willingness to pay for green products is positively influenced by pro-environmental behavior and environmental locus of control. The managerial implications for companies manufacturing green products are that firstly, they have to target the
customers with a high environmental locus of control (ELOC) and high pro-environmental behavior (PEB). Secondly, they have to increase consumers’ environmental locus of control and pro-environmental behavior by devising a major, active campaign about the importance of the environment. Some examples of the messages that the companies can convey are (1) to turn the vehicle off during the red light to increase awareness that even a small act from consumers can save the environment by minimizing the emission; and (2) to promote the benefits of recycled empty product packaging.

4.1. Managerial Implications

The result of this study may give some critical consideration for green products’ managers. The critical considerations are first based on the research testing result, Environmental Locus of Control (ELOC) is positively affect Willingness to Pay (WTP). Therefore in order to increase willingness to pay, managers can increase consumers’ environmental locus of control first. For example, managers should make campaign to turn vehicle off during red light at traffic point to increase awareness that small act of consumers can save the environment by minimizing the emissions produced.

Second, based on the research testing result, Pro-Environmental Behavior (PEB) is positively affect Willingness to Pay (WTP). Therefore managers can increase pro-environmental behavior first in order to increase consumers’ willingness to pay. For example, managers should show consumers that recycling is easy. Directly by showing them how to get it done, indirectly put it in the package, or by promotion where they will get benefits if consumers recycled empty product packaging.

Third, based on the research testing result, consumers’ willingness to pay is high therefore marketers should promote the benefits to spend an extra Rp. 20.000,- per week to buy less environmentally harmful products such as, cleaner environment will make a healthier surroundings for citizens. Fourth, based on the research testing result, marketers should let the consumers know that the wrappers are made from recycled materials and therefore it shows that this product is better than the others by trying to conserve nature.

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