

EXAMINING THE YOUNG CONSUMER PURCHASE INTENTION OF ECO- FRIENDLY HOME: INSIGHT FROM INDONESIAN

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Abstract—The main target of eco-friendly homes is reducing and eliminating its negative environmental impact by improving the design and construction. Among young consumers, eco-friendly homes are the best solution to preventing continuous environmental damage. However, young consumers have many background factors that come into play when deciding to purchase an eco-friendly home that are internal and external. The empirical findings from the previous research demonstrated that the environmental knowledge and culture values affected the consumer in terms of their green purchase behavioural intention as in the extended Theory of Planned Behaviour (TPB) determinant. The objective of this study is to investigate whether the environmental knowledge and cultural values of the young buyers' affects their purchase intention when it comes to an eco-friendly home. Using a quantitative approach and survey design by distributing a questionnaire, the respondents for this study were made up of 200 prospective young buyers within the eco-friendly home development concept in Malang and Surabaya. This study found that environmental knowledge positively influenced young consumer purchase intention as well as the culture value variable. Overall, the results provide empirical evidence on the importance of environmental knowledge and the culture value for young consumers when related to their eco-friendly home purchase intention. Therefore, the stakeholders of eco-friendly home development should more aware

of and seek to improve young consumer knowledge and the culture value when focused toward the eco-friendly home concept in order to succeed at sustainable development.

Keywords—*young consumer, purchase intention, eco-friendly home, environmental knowledge, culture value*

I. INTRODUCTION

Some of the serious repercussions of environmental damage are global warming, increasing environmental pollution and declining flora and fauna (Elias et al., 2013). Various countries across the globe are beginning to realize this threat and they have started working towards minimizing the harmful impact of their business activities on the environment (Handoko et al., 2018). This realization and concern for the environment and society has led to the emergence of 'sustainable development', which emphasizes the need to promote sustainability and that advocates a form of development that minimizes the negative impact on the environment and society. Sustainable development further encourages eco-innovation and green consumption. Eco-innovation focuses on incorporating environmental sustainability practices into every stage of the creation of goods and services (Jansson, Marell, and Nordlund, 2010). Green consumption, on the other hand, is normally related to environmentally responsible consumption where consumers consider the environmental impact of purchasing, using, and disposing of various products or using various green services (Tseng et al., 2013).

The building industry is one of the industries that mostly consume energy and water resources, where the raw materials needed for the construction are derived from nature and where there is extensive land use (Ahn et al., 2013). Hence, there is the need to apply the concept of sustainable development in the building industry. This application is known as Green Building; “Green” has become the shorthand term for the concept of sustainable development as applied to the building industry. Green buildings are intended to be environmentally responsible, economically profitable and healthy places to live and work in (Elias et al., 2013).

An eco-friendly home is part of the green development and green building branch which is focused on the house’s resources that are controlled to prevent them from polluting the environment. It also stresses the energy saving features. In Indonesia, there are many residential areas and settlements that have exceeded the carrying capacity, so the eco-friendly home development has begun to be offered to the public. Having an eco-friendly home is becoming a new trend nowadays. Most of the Indonesian consumers have different perspectives when they are faced with the choice to consume products that are environmentally-friendly, also known as green products; some of them have the awareness and purpose to save the environment but they are partly affected by the culture around them, such as by those who only buy the best products, especially eco-friendly homes (Wijyaningtyas, Ahmadi and Nainggolan, 2018). Some of them follow the issue of green or sustainable practices in the media and have the motivation to change from conventional practices to more environmental practices.

The primary critical element for growing an eco-friendly home market is the consumer, even though industries (both for-profit and non-profit organizations) and governments also influence the success of any eco-friendly home developing market (Martin et al., 2007). The consumer as an individual incorporates a variety of factors that affect their behaviour, including in terms of determining their purchase and behavioural intention toward eco-friendly homes as the fulfilment of their needs. The most appropriate theory to use to determine behavioural intention is the Theory of Planned Behaviour (TPB) (Ajzen, 1991). Therefore, this paper

will describe a conceptual model of the determining factors that influence the home buyers’ behavioural intention of green residential homes in Indonesia according to a modified Theory of Planned Behaviour (TPB).

However, young consumers have environmental knowledge that is better than that of the previous generation because they have known the knowledge from an earlier age (Promotosh and Sajedul, 2011). Many scientists have declared that young consumers are expected to be able to have a positive impact and support sustainable development (Maichum, Parichatnon and Peng, 2017; Zhang et al., 2018). On the contrary, other researchers have investigated that even though they have a positive attitude towards the environment, this may not lead them to purchasing environmentally-friendly products (Hume, 2010). Based on the previous explanation, this research will focus on young consumers since they have great potential and will become the majority of residential consumers within the eco-friendly home concept in the future. There have been limited studies focused young consumer behavioural purchase intention toward eco-friendly homes in Indonesia.

The present study analysed the available empirical literature on eco-friendly home purchasing and attempted to identify the prevailing motives and factors influencing the home buyer’s purchase intention toward eco-friendly homes and the relationship that this has with the home buyers’ environmental knowledge and culture value. The remainder of the paper is structured as follows: the next section gives a brief review of the literature on eco-friendly home purchase behavioural intention and it has reported the suggestion hypotheses focused on environmental knowledge and culture value.

II. LITERATURE REVIEW

In terms of green purchase behaviour, Promotosh and Sajedul (2011) and Do Paco et al. (2013) showed that there was an important association between consumer green purchase behaviour and environmental knowledge. Kim et al. (2011) also investigated whether individual knowledge from former experiences with organic products has a significant effect on purchase intention, even though there could be a discrepancy between organic personal care products and other green products.

There are two forms of consumer environmental knowledge. The first refers to the consumers who have educated themselves concerning their understanding of the negative impact of a product on the environment. Second, is the understanding of the consumers about environmentally-friendly products themselves (D'Souza, Taghian and Khosla, 2007). Previous studies in China, Poland, Egypt and Malaysia have reached similar conclusions that environmental knowledge has a significant relationship with green purchase behaviour (Chan and Lau, 2000; Wahid, Rahbar and Tan, 2011; Mostafa, 2007; Rokicka, 2002).

On the contrary, other works of the literature showed that there has been little contribution from environmental knowledge toward green purchase behaviour. In a qualitative study conducted by Tadjewski and Tsukamoto (2006) on green consumer behaviour, they found that even though the respondent had knowledge of the lifecycle analysis, they failed to implement them in their daily lives. A study on water conservation (Watson et al., 1992), also defined that there was no correlation between knowledge and attitude or between knowledge and intention. This study intends to test the relationship between consumer environmental knowledge and eco-friendly home purchase intention. Environmental knowledge has been conceptualized as a uni-dimensional variable which includes the general aspects of what people know about environmental issues.

Another study by Aman et al. (2012) investigated the deduction that there was a significant relationship between green purchase intention and environmental knowledge for the Sabahan people in Malaysia. The researchers suggested that a well-informed buyer pays more attention to environmental matters, thus the more possible it is that their intention is to purchase a green product. Therefore, it can be concluded that environmental knowledge can be accepted as a factor that influences the buyer's decision when it comes to green purchases. This result concurs with that of the studies by Mostafa (2007) and Chan and Lau (2000), who focused on environmental knowledge and its significance in green purchase behaviour prediction. The hypothesis that follows is H1: *Environmental knowledge positively influences eco-friendly home purchase intention.*

Culture is complicated, and it mainly consists of knowledge, belief, art, law, morals, customs and other

competencies and practices received by humans as members of the community (Hawkins et al., 2007). Culture contains a society's beliefs, values, customs, shared meanings, rules, rituals, norms, traditions and artefacts. Values help to differentiate between individuals and societies. Values are shared, timeless beliefs about life and particular behaviours (Schiffman and Kanuk, 2007). In addition, the values demonstrate the substantial targets that encourage people and the precise ways that they achieve these targets. However, the values that dominate a nation are defined as a national character.

There was evidence that national value or national character influences the real estate market. For instance, American core values are independence and success, particularly among males. These values influence the ownership of single-family detached houses (Koklic and Vida, 2006). Another study by Luo and James (2010) determined that cultural value is a significant factor influencing housing purchase behaviour in China. In terms of green purchasing behaviour, Chan and Lau (2000) revealed that the cultural value of the Chinese, as the antecedent of their purchase intention-behaviour, is the man-oriented value in the context of environmental behaviour. Oreg and Katz-Gerro (2006) used a 27-country sample to predict pro-environmental behaviours and they concluded that culture was an important determinant when forming environmental behaviours, along with many socio-psychological variables. The hypothesis that follows is H2: *Culture value positively influences eco-friendly home purchase intention.*

The conceptual model of this study was derived from the Theory of Planned Behaviour (TPB) as seen in Figure 1.

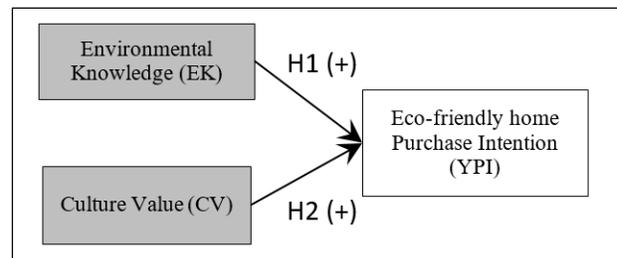


Fig 1. Conceptual model of the study

III. METHODS

This study used a quantitative approach where a questionnaire was used to collect the data. The sampling method used non-probability sampling via a

purposive sampling technique. The data collection method in this research was a cross-sectional survey. The respondents of this study were prospective home buyers who were young consumer who had come and find out information from the office that marketed for several housing developments who were attending property and real estate exhibitions in Surabaya and Malang. The selection of young consumers was based on their age (between 31-45 years old). The questionnaires were distributed from December 2018 up to February 2019 and gathered 200 respondents.

The questionnaire's design involved closed-ended questions and it was divided into two sections. Section A asked about the respondent's demographic background. Section B compiled the behavioural variables used in the study; environmental knowledge, culture value and the purchasing intention of an eco-friendly home. For measuring the three latent variables above, the study used a 5-point Likert scale, where 1 indicates strongly disagree and 5 indicates strongly agree.

The indicators used to measure the environmental knowledge were knowing more about recycling than others, knowing how to select products and packages to reduce the amount of waste, being knowledgeable about environmental issues and having an understanding of environmental symbols and phrases on the product package. The culture value was measured using two indicators; every citizen has their own right to choose their own lives and harmony prevents separation. An eco-friendly home purchase intention is the plan or purpose of prospective buyers to commit to purchasing an eco-friendly home, which is measured by the following indicators; have planned, will try and will intend to buy an eco-friendly home. The analysis data was conduct two statistical software. The calculation used to show the descriptive analysis was carried out by statistical software SPSS (Statistical Product and Service Solutions) version 21. PLS-SEM with Warp-PLS version 6.0 was used to test the measurements' reliability and validity and to perform the path analysis.

IV. RESULTS AND DISCUSSION

The survey shows that the majority of the 200 respondents were men (51.3%) who lived in Surabaya and Malang, whose age was around 31 - 45 years old, who were married (73.3%) and who were working in a

private company (67.9%). The level of education of the majority was that of undergraduate level (43.3%) and average household annual income was less than Rp. 60,000,000.00.

The purpose of the reliability test, as the first step, was to determine the internal consistency of the measuring instrument when used to measure the same object more than once. The measurement of internal consistency involved the critical testing of the performance of the composite reliability, Cronbach's Alpha and the average variance extracted (AVE) to see if it followed Bagozzi and Yi's approach. The coefficient of the internal consistency indicators has been shown in Table 1.

TABLE 1. THE RELIABILITY COEFFICIENTS

	CR	Cronbach Alpha	AVE
EK	0.864	0.793	0.616
CV	0.897	0.772	0.814
YPI	0.927	0.882	0.809

The standard of the composite reliability (CR) coefficients were greater than 0.7 and the Cronbach's Alpha of the reliability values was 0.70 or higher; this is sufficient. From Table 1, it could be stated that the measurements' yield is highly reliable. The validity measurement aimed to test whether the measurements were valid and if they were capable of measuring the phenomena investigated. Assessing both of measurements' convergent validity and divergent validity was a powerful way to measure the construct's validity. Convergent validity assesses the score of the items that are expected to measure the same construct variable. The assumptions of convergent validity were based on the final results; these were similar between the measured indicators. From Table 2, it can be concluded that the loaded construct item yield, overall, had a good level of convergent validity.

TABLE 2. COMBINE LOADINGS AND CROSS LOADINGS

	EK	CV	YPI
EK1	0.660	-0.005	-0.106
EK2	0.767	0.025	0.002
EK3	0.840	0.002	-0.043
EK4	0.856	-0.019	0.093
CV1	0.043	0.889	-0.028
CV2	-0.038	0.915	0.025
YPI1	0.033	0.055	0.903
YPI2	-0.044	-0.004	0.891
YPI3	0.005	-0.058	0.904

The divergent validity coefficient has been shown in Table 3. From the table, it can be concluded that measurements have good divergent validity as the square roots of AVE are greater than any of the other bivariate correlations. The results of the measurement model in general, based on the SEM-PLS analysis as stated in Table 5, show that the model has a good fit with a P-value < 0.001. There was no problem of multicollinearity between the indicators and variables, nor was there a problem of causality in the model.

TABLE 3. LATENT VARIABLE CORRELATIONS WITH SQUARE ROOTS OF AVE ON THE DIAGONAL

	EK	CV	YPI
EK	0.785	0.101	0.403
CV	0.101	0.902	0.161
YPI	0.403	0.161	0.899

TABLE 4. MODEL FIT INDICATORS

APC = 0.256, P<0.001	GoF = 0.363, large >=0.36
ARS = 0.177, P<0.001	SPR = 1.000
AARS = 0.172, P<0.001	RSCR = 1.000
AVIF = 1.010, ideally <=3.3	SSR = 1.000
AFVIF = 1.146, ideally <=3.3	NLBCDR = 1.000

Based on the results of the analysis of the structural models as shown in Figure 2, it shows that environmental knowledge (EK) has a direct and significant effect on the eco-friendly home purchase intention (YPI) with a P-value < 0.001 and a path coefficient value of 0.391. The Culture Value (CV) also had a significant effect on the young consumer's eco-friendly home purchase intention (YPI) with a path value of 0.121 and a P-value < 0.001.

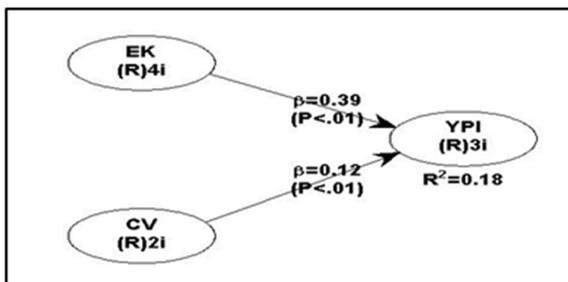


Figure 2. Structural Model

The R-square value for the eco-friendly home purchase intention variable was 0.18, which means that the influence of the environmental knowledge variable and culture value is only able to explain the young consumer's purchase intentions of eco-friendly homes by 18%. The remainder is influenced by other variables outside of the research model. As has been

found by other studies, the purchase intention of environmentally-friendly products in young consumer is influenced by many factors such as culture, behaviour control, family and their identity. The results of this study indicate that environmental knowledge and the culture value can directly influence young consumers in Indonesia in terms of whether they intend to purchase eco-friendly homes. This finding supports the research studies conducted in several other developing countries such as Malaysia and Egypt (Wahid et al., 2011; Mostafa, 2007). Moreover, synergy between the government and housing developers is needed to provide knowledge and information about the appropriate environmentally-friendly houses according to the applicable regulations (Wijayaningtyas et al., 2016). In addition, the knowledge of eco-friendly homes provided should be able to be targeted according to the findings of the young consumer demographics in this study, namely the head of the household who works for private companies with a minimum level of education.

This research is limited to the young consumers who live in Surabaya and Malang. The method used was a quantitative method using close-ended questions based on the 3 variables of environmental knowledge, culture-value and the intention to purchase eco-friendly homes. Future research should include more variables focused on purchase intention since the government has campaigned for energy-efficient homes throughout Indonesia. In addition, the research method could be conducted through qualitative analysis in order to learn of the real phenomenon that occurs in the Indonesian consumers.

V. CONCLUSION

The results showed that the young consumer's environmental knowledge had a significant and positive effect on the intention to buy environmentally-friendly homes. This means that the higher the young consumer's knowledge of the environment and the more that they understand the importance of maintaining and preserving the environment, the higher their intention to buy eco-friendly homes and vice versa. This research proves that the young consumer's culture value also positively influences the eco-friendly homes purchase intention. This indicates that young consumers have optimism regarding their decision to live in and purchase the eco-friendly

homes. Moreover, as an Indonesian national value, they believed that life in harmony could prevent separation. This finding also indicates that young consumers still uphold the national values which then affect their intention to buy an eco-friendly home. Stakeholders thus should focus more on targeting young consumers in order to succeed at the sustainable development goals of and within Indonesia, since they are the potential consumer.

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REFERENCES

- [1] Elias, E., Bakar, A. A., & Bahaudin, A. Y. (2013). Green Residential Buildings: The Perspective of Potential Buyers. 3rd Global Accounting, Finance and Economics Conference 5 - 7 May, 2013, Rydges Melbourne, Australia, 1–12.
- [2] Handoko, F., Nursanti, E., Tjahjadi, M. E., Hutabarat, J., & Mulyadi, L. (2018). Green Industrial System in Indonesia. 164. Retrieved from <https://doi.org/10.1051/mateconf/20186401010>
- [3] Jansson, J., Marell, A., & Nordlund, A. (2010). Green consumer behavior: determinants of curtailment and eco-innovation adoption. *Journal of Consumer Marketing*, 27(4), 358–370. <https://doi.org/10.1108/07363761011052396>
- [4] Tseng, M. L., Chiu, A. S. F., Tan, R. R., & Siriban-Manalang, A. B. (2013). Sustainable consumption and production for Asia: Sustainability through green design and practice. *Journal of Cleaner Production*, 40, 1–5. <https://doi.org/10.1016/j.jclepro.2012.07.015>
- [5] Ahn, Y. H., Pearce, A. R., Wang, Y., & Wang, G. (2013). Drivers and barriers of sustainable design and construction: The perception of green building experience. *International Journal of Sustainable Building Technology and Urban Development*, 4(1), 35–45. <https://doi.org/10.1080/2093761X.2012.759887>
- [6] Wijayaningtyas, M., Ahmadi, F., & Nainggolan, T. H. (2018). Millennials “ Perception toward the Residence with Green Building Concept. 2(10), 40–44.
- [7] Martin, J., Swett, B., and Wein, D. (2007). Residential Green Building Report: A Market Engagement Framework for Developers and Builders. Retrieved on November 21, 2013 from <http://www.erb.umich.edu/Research/Student-Research/ResidentialGreenBuildReport.pdf>
- [8] Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, 50, 179-211.
- [9] Promotosh, B., & Sajedul, I. M. (2011). Young Consumers ’ Purchase Intentions of Buying Green Products. *Analysis*, 68.
- [10] Maichum, K., Parichatnon, S., & Peng, K.-C. (2017). The Influence of Environmental Concern and Environmental Attitude on Purchase Intention towards Green Products: A Case Study of Young Consumers in Thailand. *International Journal of Business Marketing and Management Www.Ijbm.Com International Journal of Business Marketing and Management*, 2(03), 1–8. <https://doi.org/10.18178/ijssh.2017.7.5.844>
- [11] Zhang, L., Chen, L., Wu, Z., Zhang, S., & Song, H. (2018). Investigating young consumers’ purchasing intention of green housing in China. *Sustainability (Switzerland)*, 10(4), 1–15. <https://doi.org/10.3390/su10041044>
- [12] Hume, M. (2010). Compassion without action: Examining the young consumers consumption and attitude to sustainable consumption. *Journal of World Business*, 45(4), 385–394. <https://doi.org/10.1016/j.jwb.2009.08.007>
- [13] Do Paço, A., Alves, H., Shiel, C., & Filho, W. L. (2013). Development of a green consumer behaviour model. *International Journal of Consumer Studies*, 37(4), 414–421. <https://doi.org/10.1111/ijcs.12009>
- [14] Kim, H., Chang, H., Lee, J.-W., & Huh, C. (2011). Exploring Gender Differences on Generation Y’s Attitudes towards Green Practices in a Hotel. Graduate Student Research Conference in Hospitality and Tourism.
- [15] D’Souza, C., Taghian, M., & Khosla, R. (2007). Examination of environmental beliefs and its impact on the influence of price, quality and demographic characteristics with respect to green purchase intention. *Journal of Targeting, Measurement and Analysis for Marketing*, 15(2), 69–78. <https://doi.org/10.1057/palgrave.jt.5750039>

- [16] Chan, R. Y. K. and Lau, L. B. Y. (2000). Antecedents of green purchases: A survey in china. *Journal of Consumer Marketing* (17), 338-357.
- [17] Wahid, N.A., Rahbar, E. and Tan, S.S. (2011). Factors influencing the green purchase behavior of Penang environmental volunteers. *Internal Business Management*, 5, 38-49.
- [18] Mostafa, M. M. (2007). Gender differences in Egyptian consumers' green purchase behaviour: The effects of environmental knowledge, concern and attitude. *International Journal of Consumer Studies*, 31, 220-229.
- [19] Rokicka, E. (2002). Attitudes towards natural environment. *International Journal of Sociology*, 32 (2), 78-90.
- [20] Tadajewski, M., and Tsukamoto, S. W. (2006). Anthropology and consumer research: Qualitative insights into green consumer behavior. *Qualitative Market Research International Journal*, 9, 8-25.
- [21] Watson, R., Murphy, M., & Moore, S. (1992). Developmental and social contextual variables in water usage behavior. Brussels: XXV International Congress of Psychology.
- [22] Aman, A. H. L., Harun, A., Hussein, Z., & Author, C. (2012). The Influence of Environmental Knowledge and Concern on Green Purchase Intention the Role of Attitude as a Mediating Variable. *British Journal of Arts and Social Sciences*, 7(II), 2046–9578. Retrieved from <http://www.bjournal.co.uk/BJASS.aspx>
- [23] Hawkins, D.I., Mothersbaugh, D.L., and Best, R.J. (2007). *Consumer behaviour: Mulding marketing strategy* (10th edition). USA: Mcgraw-Hill.
- [24] Schiffman, L.G. and Kanuk, L.L. (2007). *Consumer Behavior, Eight Edition*. India: Prentice Hall. Sugandhi, R., & Hakim, R. (2007). *Prinsip Dasar Kebijakan Pembangunan Berkelanjutan Berwawasan Lingkungan*. Jakarta: Bina Aksara.
- [25] Koklic, M. K., & Vida, I. (2006). An examination of a strategic household purchase: Consumer home buying behavior. *Advances in Consumer Research*, 33, 288–289. <https://doi.org/10.1111/j.1470-6431.2010.00953.x>
- [26] Luo, Q. and James, P.T.J. (2011). Influences on the buying behavior of purchasing commercial housing in Nanning city of Guangxi province, China. *Journal of Management and Marketing Research*.
- [27] Oreg, S. and Katz-Gerro, T. (2006). Predicting pro-environmental behavior cross-nationally: Values, the theory of planned behavior, and value-belief-norm theory. *Environment and Behavior*, 38, 462–483.
- [28] M Wijayaningtyas, Ibrahim Sipan, C. W. (2016). Effect of environmental knowledge and concern toward attitude of green home buyers' intention in Surabaya. *Knowledge, Service, Tourism & Hospitality: Proceedings of the Annual International Conference on Management and Technology in Knowledge, Service, Tourism & Hospitality 2015 (SERVE 2015)*, Bandung, Indonesia, 1-2 August 2015, 167. Bandung: CRC Press.