

## **The Influence of Reference Group to Green Consumerism Mediated by Environmental Knowledge on Student of Economics Faculty Universitas Negeri Malang**

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**Abstract:** This research is aimed at analyzing what is the influence of reference group to green consumerism mediated by environmental knowledge. Green consumerism 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. This is a quantitative research and the design of this research is associative causality. We used path analysis to analyze the relationship between variables in order to determine the direct and indirect influence of the variables studied. The population of this study were students of the faculty of economics who have taken a course of resources economics and the sample is fifty students. The results showed that the reference group has a significance influence on green consumerism. Other results in this study showed that knowledge of environment have a role of moderator, so in an effort to boost green consumerism we need to pay attention to environment knowledge.

**Key words:** Green consumerism, reference group, environmental knowledge, green economics, Indonesia

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### **INTRODUCTION**

The phenomenon of climate change and global warming become an important issue in many countries, including Indonesia. Population growth continues to increase and certainly have an impact on the environment. The problems that arise in urban rivers are pollution by industrial and domestic waste. Soil conditions are increasingly polluted by chemicals from both solid waste and manure. The pollution problem is also caused by the lack of public awareness for clean and healthy life with good environmental quality. Of course, these conditions lead to concerns about imbalances environment conditions and sustainable economic development.

In a move toward to green economy, it certainly needs to be supported by some aspects starting from increased green investment, increasing the quantity and quality of jobs in the green sector, increasing the share of green sectors, decreased energy/resources used in each production unit, CO<sub>2</sub> reduction and the level of pollution per GDP generated and the decrease in consumption that generate waste (decrease in wasteful consumption). UNEP (2007) defined green economy is a system of economic activities related to the production, distribution and consumption of goods and services that result in improved human well-being over the long term while not exposing future generations to significant environmental risks and ecological scarcities. In Indonesia, the

government through regulatory context of environment ministers and forestry is law number: S.71/Men LHK-II/2015 in order for a waste reduction. Reduction of plastic waste is in line with the national medium term development planning is relevant to government national waste reduction of about 11% in 2016.

It's certainly got a good support from the manufacturer. Many manufacturers in Indonesia are now leading towards green products both of food products, beverages, household appliances, transportation, etc. Despite the fact that green products in Indonesia is still a mix green products and some imported products. Utomo (2015) explains in an effort to understand that green product can be seen from ecolabeling in these products but it can be viewed in detail on the composition of the product, method of use and handling of the product after use.

Of course not only the manufacturer, the role of consumers as users of goods and services is essential. Consumption is an economic, a physical and a social process influenced by the nature, circumstances and psychology of individuals and the geography, culture, laws, politics and infrastructure of the society in which they live (Sarigollu, 2008; Zukin and Maguire, 2004). The behavior and decisions of every consumer to consume have a substantive impact on the environment and the economy both the choice to consume in terms of food, household products and in terms of transportation. For example in the choice of transportation used will

certainly lead to gas emissions that affect the environment. So that, this condition would lead to a consumer behavior that leads to green consumerism. Goodwin *et al.* (2014) means green consumerism is making consumption decision at least partly on the basis of environmental criteria. Clearly, green consumerism is increasing, more people are recycling, using reusable shopping bags and water containers, buying hybrid cars and so on.

Carrete *et al.* (2012) explained factors that have been shown to exert influence on the ecological behavior of individuals have been generally classified as external (e.g., education, media, family or culture), internal (e.g., knowledge, attitudes, awareness or involvement) and situational (economic rewards and legislation). Kotler (2002), Setiadi and Nugroho (2008) explains some of the factors that influence consumer behavior include cultural factors, personal and psychological. Personal factors in more detail include age and stage, occupation, economic circumstances and lifestyle. Lifestyle is defined as a pattern of living in a world that is expressed by the activities of interest and opinion of someone. Caution regarding lifestyle change phenomenon is interesting where it looked at changes in lifestyle, social and of human needs. Not only that globalization makes reference to related goods and services that are increasingly diverse and makes consumption behavior of a person is no longer based on a rational decision but because of advertising, peers and another push its only desire alone. This phenomenon is supported by adolescence that tends wasteful, more concerned with prestige and self-actualization.

In addition to the lifestyle, family has an important role in a person's consumption. Through habituation, exemplary should form a good consumption behavior as well. In relation to the consumption, habituation of the family formed the behavior to consume. Further, habit has been reported as a significant obstacle to purchasing green products (Tsakiridou *et al.*, 2008).

Aside from family, peers impact one's consumption behavior. Reference group consisting of the entire group that has direct or indirect influence on a person's behavior. Some of these primary groups which in the presence of a continuous interaction such as family, neighbors and colleagues. Numerous studies have reported a positive relationship between subjective/societal norm or reference groups on green purchase behaviour (Eze and Ndubisi, 2013). Lee (2014) said that social agents in close proximity such as peers and parents may be considered idols for observational learning and also be viewed as a credible source of information regarding sustainable products. Moreover, all

knowledge certainly plays an important role in terms of green consumerism. Knowledge gained in the family, schools to universities should cultivate good knowledge in terms of consumption. The development of consumption knowledge relating to environmental are becoming a concern in several campuses today. An understanding of the environment and the economic environment contained in natural resource economics student earned. The good knowledge of the environment will form an attitude that leads to green consumerism. Eze and Ndubisi (2013), knowledge of environmental issues positively influenced consumer intention and actual purchase of green products

#### **Theoretical framework:**

**Green consumerism:** Green consumption 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 (Moisander, 2007). Goodwin *et al.* (2014) means making consumption decision at least partly on the basis of environmental criteria. Clearly, green consumerism is increasing: more people are recycling, using reusable shopping bags and water containers, buying hybrid cars and soon. Furthermore, Goodwin defined green consumerism comes in two basic (Fig. 1).

Green consumers have been shown to be willing to pay a higher price for environmentally friendly products (Laroche *et al.*, 2001; Peattie, 2001). A high price of green product is an indicator of environmental performance because less polluting products are more costly to produce (Mahenc, 2008). Agyeman (2014) describes factors that affect consumer's buying behaviors for green products; price, environmental concerns, quality, brandname, convenience, durability, packaging.

**Reference group:** Reference group consisting of the entire group that has direct or indirect influence on a person's behavior. Some of these primary groups which in the presence of a continuous interaction such as family, neighbors and colleagues. Secondary groups tend to be more formal in which the interaction occurs less sustainable (Kotler, 2002; Setiadi and Nugroho, 2008). Research by Eze and Ndubisi (2013) stated that there is a positive relationship between the reference groups on green purchase. John (1999) that social groups have a greater influence on consumption behavior. On the other hand, according to Connell (2010) there is a negative relationship between the reference groups and individual green purchase behavior. Lee (2008) describes social influence as the influence that comes from friends and not include parents as a part of social influence.

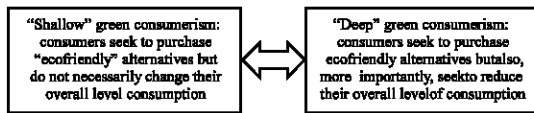


Fig. 1: Green consumerism

**Knowledge:** Blackwell *et al.* (2006) stated that knowledge is a characteristic that can have a powerful influence on almost every aspect of consumer behavior. One's knowledge about the environment, environmental economic, green economy, green product can be obtained from the family, school and university education. At universities, especially Universitas Negeri Malang, environmental knowledge can be found in the economics course of natural resources and environmental economics. Of course this will form an attitude in daily activities. Straughan and Roberts (1999) explained that education is expected to correlate positively with environmental concerns and behavior. Consumers with higher levels of education are more aware of the environmental issues; hence are more concerned about environmental quality and more motivated to participate in environmentally responsible behaviors. To have relevant knowledge of environmental issues is one of the first important stages when making a green purchasing decision (Young *et al.*, 2010).

Joshi and Rahman (2015) suggested that environmental knowledge may have a positive effect on consumer green purchase intention and behavior. Fraj and Martinez (2007) gave a possible explanation of the effect of environmental knowledge on consumer ecological behaviour and suggested that environmental knowledge moderated the relationship between ecological attitude and green behaviour. Three studies did not find any relation between environmental knowledge of the consumer and green purchase intention (Chan and Wong, 2012; Ramayah *et al.*, 2010). Other than these eighteen studies, two other studies also found that lack of information negatively affected green purchase behaviour (Connell, 2010; Padel and Foster, 2005).

## MATERIALS AND METHODS

This study is a quantitative research. The design of this research is associative causality. It categorized as associative since the study wants to know whether there is any relationship between the variables studied. It categorized as causality as this study aims to determine whether the variables were observed to have a causal relationship of certain suspected theoretically. We used path analysis to analyze the relationship between

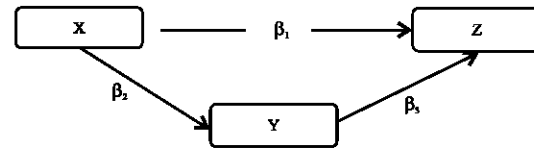


Fig. 2: Research framework: X = Reference group; Y = Environmental knowledge; Z = Green consumerism;  $\beta_1$  = Path analysis X to Z;  $\beta_2$  = Path analysis X to Y;  $\beta_3$  = Path analysis Y to Z

variables in order to determine the direct and indirect influence of the variables studied. The population in this study were all students who have to take a course of resources economic and the sample is fifty students. Sampling is based on Slovin formula. The picture of the relationship between these variables is shown in Fig. 2.

## RESULTS AND DISCUSSION

Green consumerism variable is indicated on the identification of products with ecolabelling, the benefits of ecolabelling on environment and product with ecolabelling selection consideration are associated to price. Based on research, green consumerism data is categorized into four categories of poor, average, good, excellent (Fig. 3).

From the Fig. 4, we can see that the majority of the students of universitas negeri malang included in the category of "average". The 26% of students are categorized as good and excellent. Environmental knowledge variable are measured by the instrument that has been used by O'Brien in 2007 by adapting it with the context in Indonesia. This are the result of environmental knowledge of the students.

Based on the Fig. 5, it can be explained that the majority of students has a "good" environmental knowledge, although other results of 43% categorized as "average". Students categorized as "good" means a minimum score of 80. A description of Reference group variable views of how the role of the reference group and its influence on green consumerism. In detail the role and relevance of the reference group is described in the following Fig. 5. From the Fig. 5, the majority of the category (54%) of the respondents are on "average" This indicates that the role of reference group in green consumerism is low. Other results show a 25% categorized as "good" and others of 21% are very low (Table 1).

**The influence of reference group to green consumerism:** Reference group is an individual or a group of people that significantly affect a person's behavior. Reference group

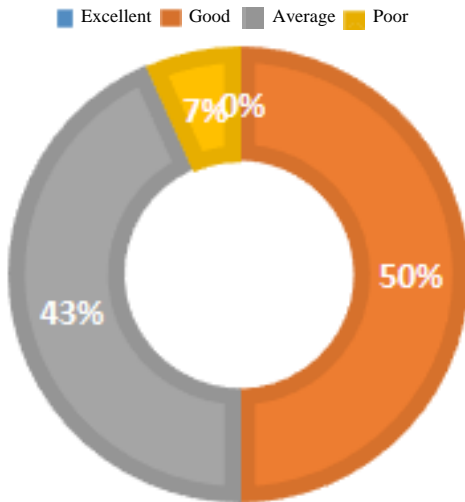


Fig. 3: Green consumerism

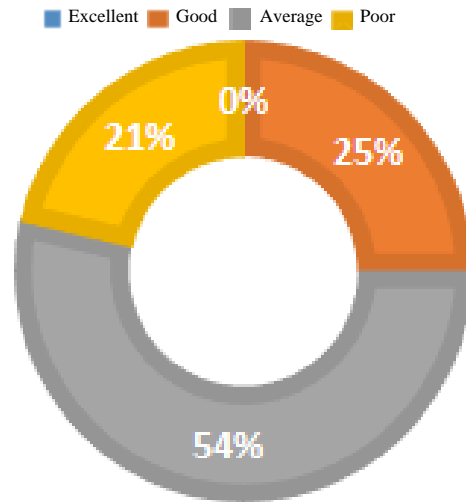


Fig. 5: Reference group

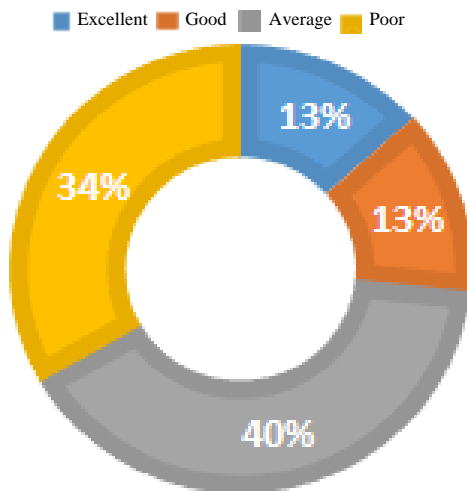


Fig. 4: Environmental knowledge

Relationship between variables	Direct influence	Indirect influence	Total influence	T significance
X→Z	0.419	0.234	0.653	0.019
X→Y	0.608	-	0.608	0.002
Y→Z	0.386	-	0.386	0.030

Data collected

used by a person as a basis for comparison or a reference in shaping affective, cognitive and behavioral response. The research results described in Table 1 summarized the relationship between variables showed significant influence between the reference group and green consumerism. As described above the majority of the category (54%) are on the average level. Average category means the student with regard to the formation of opinion, purchasing decisions are not solely influenced

by a friend. It is quite possible that information to someone buying decisions are influenced by other factors, for example lifestyle, an understanding of the environment, family and soon. This indicates that the reference group roles in green consumerism is low. Other results show a 25% categorized as “good” and others of 21% had very low category.

The results are consistent with the classification of the reference group included in the secondary group in which these groups tend to be more formal in which the interaction occurs less sustainable (Kotler, 2002; Setiadi and Nugroho, 2008). Research has been done by Eze and Ndubisi (2013) showed that there is a positive relationship between the reference groups on green purchase. John (1999) stated that social groups have a greater influence on consumption behavior. On the other hand, Connell (2010) suggested that there is a negative relationship between the reference groups and individual green purchase behavior. Lee (2008) described social influence as the influence that comes from friends and not include parents as a part of social influence.

**The influence of environmental knowledge to green consumerism:** Other factors that influence in determining attitudes and purchase depends on knowledge. Individual knowledge relating to the environment should affect someone in the act, especially to consume. Environmental knowledge is the amount of information individuals have concerning environmental issues and their ability to understand and evaluate its impact on society and the environment. As explained by Straughan and Roberts (1999), education is expected to correlate positively with environmental concerns and behavior. Explanation of environmental knowledge possessed the majority of

students fall into the category of “average” this means that the level of student’s understanding of the environment is still in the category of low-medium. Based on these results the environment knowledge significantly affect green consumerism. This influence is indicated by standardized beta value of 0.386 and a significance level of 0.030. The values of regression coefficients showed that knowledge of environment value (Y) of 0.485 which means if the environmental knowledge has increased by a unit scale, green consumerism (Z) will increase by 48.5%. This shows that the environmental knowledge can increase green consumerism and vice versa.

The results of this study is supporting Joshi and Rahman (2015) The above findings suggest that environmental knowledge may have a positive effect on green consumer purchase intention and behavior. Fraj and Martinez (2007) gave a possible explanation of the effect of environmental knowledge on consumer ecological behavior and suggested that environmental knowledge moderated the relationship between ecological attitude and green behavior

**The influence of reference group to green consumerism mediated by environment knowledge:** As described above, the reference group is an individual or a group of people that significantly affect a person’s behavior. Reference group used by a person as a basis for comparison or a reference in shaping the response of affective and cognitive and behavioral. In relation to the behavior of green consumerism, the student’s knowledge of the environment will shape the behavior of students towards green consumerism.

In this research note that the reference group affects green consumerism through the environmental knowledge with the indirect influence of 0.234 and the effect of a total of 0.653. These findings indicate that in order to achieve the behavior of green consumerism required reference group’s role in shaping a pattern of behavior and action and also a good family. Thus, in this study environmental knowledge has a role as the moderator variable effect and strengthens the influence of the reference group towards green consumerism. Efforts should be made to enhance the environmental knowledge by adding insight related to green economics, consumerism in a variety of sources in the context of higher education can design learning related to green economics and green consumerism so that it will form the knowledge of the students.

## CONCLUSION

Reference group has an influence on green consumerism. Knowledge is formed through interaction experienced by students so that they will form a green

consumerism. The results showed that the knowledge of environment influenced green consumerism. Individual knowledge relating to the environment affect someone in the act, especially to consume in this case green consumerism. Other results of this study concluded that reference group has an influence on green consumerism through environmental knowledge. Thus, in this study resulted that environmental knowledge is a moderator variable that strengthens the influence of the reference group towards green consumerism. Various measures can be proposed in order to improve the understanding of the environment among the insertion of material related to green economics that is not limited to natural resource economics courses.

## REFERENCES

- Agyeman, C.M., 2014. Consumers’ buying behavior towards green products: An exploratory study. *Intl. J. Manage. Res. Bus. Strategy*, 3: 188-197.
- Blackwell, R.D., P.W. Miniard and J.F. Engel, 2006. *Consumer Behavior*. 10th Edn., Thomson South-Western, Mason, OH.
- Carrete, L., R. Castano, R. Felix, E. Centeno and E. Gonzalez, 2012. Green consumer behavior in an emerging economy: Confusion, credibility and compatibility. *J. Consum. Market.*, 29: 470-481.
- Chan, T.Y. and C.W. Wong, 2012. The consumption side of sustainable fashion supply chain: Understanding fashion consumer eco-fashion consumption decision. *J. Fashion Marketing Manage. Intl. J.*, 16: 193-215.
- Connell, K.Y.H., 2010. Internal and external barriers to eco-conscious apparel acquisition. *Intl. J. Consum. Stud.*, 34: 279-286.
- Eze, U.C. and N.O. Ndubisi, 2013. Green buyer behavior: Evidence from Asia consumers. *J. Asian Afr. Stud.*, 48: 413-426.
- Fraj, A.E. and S.E. Martinez, 2007. Impact of environmental knowledge on ecological consumer behaviour: An empirical analysis. *J. Intl. Consum. Marketing*, 19: 73-102.
- Goodwin, N., J. Harris, J. Nelson, B. Roach and M. Torras, 2014. *Principles of Economics in Context*. M.E. Sharpe Inc, Armonk, New York, USA., Pages: 496.
- John, D.R., 1999. Consumer socialization of children: A retrospective look at twenty-five years of research. *J. Consumer Res.*, 26: 183-213.
- Joshi, Y. and Z. Rahman, 2015. Factors affecting green purchase behaviour and future research directions. *Intl. Strategic Manage. Rev.*, 3: 128-143.
- Kotler, P., 2002. *Marketing Management Millennium Edition*. Prenhallindo Publisher, Jakarta, Indonesia.

- Laroche, M., J. Bergeron and G. Barbaro-Forleo, 2001. Targeting consumers who are willing to pay more for environmentally friendly products. *J. Consum. Market.*, 18: 503-520.
- Lee, K., 2008. Opportunities for green marketing: Young consumers. *Market. Intell. Plann.*, 26: 573-586.
- Lee, K., 2014. Predictors of sustainable consumption among young educated consumers in Hong Kong. *J. Intl. Consum. Marketing*, 26: 217-238.
- Mahenc, P., 2008. Signaling the environmental performance of polluting products to green consumers. *Intl. J. Ind. Organiz.*, 26: 59-68.
- Moisander, J., 2007. Motivational complexity of green consumerism. *Int. J. Consum. Stud.*, 31: 404-409.
- Padel, S. and C. Foster, 2005. Exploring the gap between attitudes and behaviour: Understanding why consumers buy or do not buy organic food. *Br. Food J.*, 107: 606-625.
- Peattie, K., 2001. Golden goose or wild goose: The hunt for the green consumer. *Bus. Strategy Environ.*, 10: 187-199.
- Ramayah, T., J.W.C. Lee and O. Mohamad, 2010. Green product purchase intention: Some insights from a developing country. *Resour. Conserv. Recycl.*, 54: 1419-1427.
- Sarigollu, E., 2008. A cross-country exploration of environmental attitudes. *Environ. Behav.*, 41: 365-386.
- Setiadi, J. and Nugroho, 2008. *Consumer Behavior: Contemporary Perspectives on Motive, Interest, Desire and Consumers*. Kencana Prenada Media Group, Jakarta, Indonesia.
- Straughan, R.D. and J.A. Roberts, 1999. Environmental segmentation alternatives: A look at green consumer behavior in the new millennium. *J. Consum. Market.*, 16: 558-575.
- Tsakiridou, E., C. Boutsouki, Y. Zotos and K. Mattas, 2008. Attitudes and behaviour towards organic products: An exploratory study. *Int. J. Retail Distrib. Manage.*, 36: 158-175.
- UNEP., 2007. Green economy initiative: Linkages to sustainable consumption and production. United Nations Environment Programme, Nairobi, Kenya. <http://www.unep.fr/scp/marrakech/pdf/SCP-E%20Workshop%20presentation%20Steven%20Stone.pdf>.
- Utomo, T.H., 2015. *Indonesia green product*. Media Visual Komputindo, Tangerang, Indonesia. <http://www.indonesiagreenproduct.com/%20produk-hijau-indonesia/>.
- Young, W., K. Hwang, S. McDonald and C.J. Oates, 2010. Sustainable consumption: Green consumer behaviour when purchasing products. *Sustainable Dev.*, 18: 20-31.
- Zukin, S. and J.S. Maguire, 2004. Consumers and consumption. *Annu. Rev. Sociol.*, 30: 173-197.