

IJRBS RAHARJITO & HARTONO

by Arif Hartono

Submission date: 06-Apr-2023 02:08PM (UTC+0700)

Submission ID: 2057370571

File name: IJRBS_RAHARJITO_HARTONO-06.pdf (461.9K)

Word count: 7026

Character count: 39373



What drives consumers to purchase green innovation product? Empirical evidence from Indonesian consumers



Raharjito Rakhmad Dirgantara ^(a) Arif Hartono ^(b) *

^(a) Master of Management, Department of Management, Faculty of Business and Economics, Universitas Islam Indonesia, Yogyakarta, Indonesia

^(b) Department of Management, Faculty of Business and Economics, Universitas Islam Indonesia, Yogyakarta, Indonesia

ARTICLE INFO

Article history:

Received 12 September 2022

Received in rev. form 29 Oct. 2022

Accepted 11 November 2022

Keywords:

Green Innovation Product; Behavioral
Intention; Influencing Factors,
Indonesia

JEL Classification:
M1, M3

ABSTRACT

This study investigates the determinants of behavioral intention to purchase a green product, such as relative advantage, compatibility, ease of use, and visibility of the attitude and its effect on behavioral intentions. This study employed a quantitative research method. A purposive sampling method was used to collect the data. A total of 300 respondents were successfully managed. The proposed hypotheses are tested using structural equation modeling (SEM). The study finds that relative advantage, compatibility, ease of use, and visibility positively affect attitudes. Furthermore, the attitude has a positive influence on behavioral intentions.

© 2022 by the authors. Licensee SSBFNET, Istanbul, Turkey. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

Introduction

Consumers' environmental awareness has gained positive attention and it directly promotes green consumer behavior such as healthy living and environmental protection (Yu et al. 2018). Many consumers across the globe have demonstrated responsible behavior toward the environment through the purchase and use of green products for consumption (Akehurst et al. 2012). Green products are generally used in business to refer to things that aim to preserve or enhance the condition of the environment by utilizing less energy or resources and producing less pollution and waste (Ottman et al. 2006).

Many middle-income countries experience rapid industry development, as a result, there is growing energy use. Therefore, improving energy efficiency through the use of the most advanced technologies (in this context, the use of Light Emitting Diode (LED) bulbs) is indispensable. However, the residential LED light market in 2012 in the Asia-Pacific region (8%) is still relatively low compared to other countries and areas, such as Japan (27%), Europe (22%), the USA (20%), and China (19%) (Leelakulthanit, 2014).

Residential lighting systems have experienced considerable modifications recently, moving away from conventional lighting systems (like incandescent bulbs) and toward more energy-efficient lighting solutions (e.g., LED lights) (Hicks et al. 2015). In comparison to conventional incandescent, fluorescent, and halogen lamps, the use of LED light in everyday lighting systems can help save energy more (Hicks et al. 2015), primarily because LED light bulbs exhibit higher efficiency (the ratio of light output to electrical power consumed) than incandescent lamps and fluorescent lamps.

* Corresponding author. ORCID ID: 0000-0002-7612-0258

© 2022 by the authors. Hosting by SSBFNET. Peer review under responsibility of Center for Strategic Studies in Business and Finance.
<https://doi.org/10.20525/ijrbs.v11i8.2198>

Consumption of environmentally friendly products can be one way to reduce environmental impact (Ritter et al. 2015). The manufacturing of green products, which do not harm the environment and can be recycled or preserved using low-toxic materials, has significantly increased in recent years on a global scale (Calkins, 2008). As a result, green products have popularity among consumers globally (Paul et al. 2016).

Consumers will purchase green products, according to Ottman et al. (2006), when their need or desire for safety, quality, availability, and comfort takes precedence and when they become aware that green products can help address environmental issues. Consumers assume the value of a product using quality indicators and then combine these assessments to evaluate their purchasing intentions. In marketing, most researchers are interested in identifying the source of green product purchase intentions (Chan and Lau, 2002) because it helps to develop the right strategy and in gaining market share for the product. In addition, retaining customers, developing products, and responding to customer needs is the motive of good practice for every business (Maichum et al. 2016).

Additionally, the importance of consumer environmental knowledge demonstrates their understanding of the environment as a crucial factor in life and sustainable development (Fryxell and Lo, 2003). Consumer environmental awareness encourages environmentally friendly brand selection for influencing environmentally friendly purchasing intentions and behaviors (Yadav and Pathak, 2016; Wang et al. 2019). On the other hand, consumer behavior is described by consumer attitudes toward the environment, which stresses the sustainable environment through consumer attitudes toward green products (Ajzen, 2020). After all, attitude towards an environmental brand can promote positive buying behavior and corporate results (Han et al., 2010).

This study investigates factors that influence behavioral intentions in using Philips my care Light Emitting Diode (LED) bulbs which can be categorized as a green product innovation with attitudes as the intervening variable. Although there have been several studies that raise the theme related to factors that influence behavioral intentions to purchase green products, previous studies that use LED lights as the study object are relatively few, especially in the context of Indonesia.

LED is a green lighting product. LED has cold light source, smaller size, longer life, lower impact on the environment, low DC voltage source, direct light, better efficiency, high brightness, adjustable color temperature, adjustable dimmer, and more functions. controllable compared to traditional lamps. Therefore, LEDs can save more energy and electricity than traditional bulbs (The American Heritage Science Dictionary, 2005). Therefore, LED lights bulb can be classified as green product.

Previous studies have shown that it is possible to project customer intentions to use renewable energy with appropriate measurements (Ashinze et al, 2021). Determinants that can be evaluated include relative advantage, ease of use, perceived behavioral control, subjective norm, awareness, cost, attitude, income, and education. Therefore, in this study some of these variables will be tested.

Literature Review

Theoretical and Conceptual Background

The main theory used in this study to predict the behavioral intentions in using the green product innovation is the Technology Acceptance Model (henceforth TAM) (Davis, 1986). TAM explains how a person might carry out an action depending on his or her attitude and how subjective norms may influence them (Fishbein and Ajzen, 1980). As they reveal what drives a person's behavioral intentions, subjective attitudes and norms are crucial components in the study of consumer behavior. While, green product innovation is a continuous process in which there are three main types of environmental focus, namely materials, energy, and pollution, where this is highlighted based on the main impact of these three things on the environment in various stages of the life cycle, from physical products, manufacturing processes, product use, and disposal (Dangelico and Pujari, 2010). With the main objective of minimizing harmful environmental effects throughout the product life cycle, green product innovation incorporates a variety of environmental factors (such as material use, energy consumption, etc.) into product design considerations for new products or modifications of existing products (Chang, 2011). The existing literature suggests that there is ongoing potential to empirically evaluate the acceptance of green innovation over time. It is crucial to remember that managers and implementers of green products, as well as green innovation in the context of households, are still gaining acceptance in the consumer market (Kapoor et al. 2014).

Behavioral Intention

In the past, research have been done to look at how users behave in various contexts when using new technologies and systems. In the existing literature, Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1980), Theory of Planned Behavior (TPB) (Ajzen, 1991), and Technology Acceptance Model (TAM) (1989) emerged as the most widely used theories for describing attitudes and actions. Behavioral intention is a person's general feeling of likes or dislikes as far as the use or not of an information system is concerned (Venkatesh et al. 2003). Behavioral intent can be thought of as behavioral feedback from the quality of service or product from individual customers to business. Customers that express positive behavioral intentions include suggesting the services they have received to others (Ladhari et al. 2008), gushing about the company to others (Boulding et al. 1993), remaining loyal to the company, and agreeing to pay more for the services they have received (Rust and Zahorik, 1993).

Attitude

The degree to which a person views a particular behavior favorably or unfavorably is referred to as their attitude (Ajzen, 1985). In general, attitudes play a big role in determining consumer behavior, including the use of internet banking (Lee, 2009), the purchase

of halal food (Alam and Sayuti, 2011), and participation in sports (Rhodes and Courneya, 2003). According to Davis (1986), attitude is a term that refers to the bodily tendencies indicated by rating a certain thing with a degree of likes or dislikes. Muslim et al. (2020) define attitudes more simply as a tendency of the mind to act in a certain way based on experience and behavior. Eagly and Chaiken (1993) developed the holistic notion and definition of attitude as a psychological propensity to assess a certain entity with some approbation and dislike. Attitude is one of the important aspects of understanding motivation and behavior (Gruen et al., 2005).

With regard to green products, previous studies show that consumers' purchasing decisions are also influenced by their attitudes (e.g., Ha and Widow 2012; Zhou et al. 2013). Hansla et al. (2008) reveal that consumers' willingness to pay for green electricity increases with positive attitudes towards green electricity. The same was found for environmentally friendly products (Barber et al. 2010). In the service context, i.e., green hotels, many studies have determined that intentions are positively influenced by attitudes (e.g., Chen and Tung, 2014; Han and Yoon 2015).

Relative Advantage

The degree to which an invention outperforms the idea it replaces is known as relative advantage (Rogers, 2003; Rogers et al. 2019). The degree to which an innovation is thought to be superior to or more widespread than the notion it replaces is considered the innovation's relative advantage. Additionally, such meaning has been used by (Holak and Lehmann, 1990). Research on the dissemination of innovation often uses the concept of relative excellence, which encompasses several important traits of innovation. Rogers believes that low initial costs, social conditions, rewards, savings in labor and time, economic profitability, and decreased discomfort are all aspects of relative benefit that should be taken into account when measuring something (Rogers, 2003).

Compatibility

The degree to which a person feels an invention aligns with their needs, values, and way of life is referred to as compatibility (Lu and Su, 2009). According to Yuen et al. (2018), compatibility must be distinguished from relative advantages in this situation. Comparing services based on their costs and advantages is part of relative advantage. Contrarily, compatibility refers to how well self-collection services adhere to a person's lifestyle, values, past experiences, and needs (Yuen et al. 2018).

Ease of Use

The degree to which a person believes that using a system can minimize physical or mental effort is known as ease of use (Moore and Benbasat, 1991). The user's subjective evaluation of how simple and free of physical and mental strain using a specific technology can be has cognitive value, which influences attitudes of consumers toward this technology's products and the adoption of intentions (Wu et al. 2005). The introduction of new technologies may only be regarded valuable if it is simple to adopt and appropriate for customer use, according to researchers, who also found that the perception of ease of use can favorably affect the perceived advantages (Wang et al. 2018).

Visibility

The degree to which the use of particular inventions is observed is known as visibility (Tomatzky and Klein, 1982). The term "visibility" refers to one's perceptions of how much other people notice a product (Fisher and Price, 1992). Users' perceptions of visibility may fluctuate significantly depending on the type of product, the context in which it is consumed, the usage circumstances, product-related conversations, and individual variations (Fisher and Price, 1992).

In relation to green innovation study, Arkesteijn and Oerlemans (2005) studied the adoption of household green energy in the Netherlands and they find that due to the characteristics of its products, green energy gained very limited visibility. Wustenhagen et al. (2007), in contrast, point out that when solar energy is used in close proximity to consumer locations, such as rooftops, backyards, or terraces, there is an increase in the visibility of these solar appliances, where solar panels for lighting and heating are visible equipment, which can positively influence consumer intentions.

Empirical Review and Hypothesis Development

Relative Advantage and Attitude

According to Ashinze et al. (2021), there is a strong direct correlation between attitude and relative excellence. In other words, the attitude toward adoption rates is higher the larger the perceived relative advantage of renewable energy. These results are also supported by several previous studies that find that relative advantages directly influence an individual's attitude to using renewable energy (Okedu et al. 2020). According to a study on new interactive technology by Jiang et al. (2021), consumers would develop a favorable attitude toward a product when they have a favorable view or confidence in its superiority. Dilotsolthe and Duh (2021) conducted a study related to environmentally friendly devices. They find that there is a positive influence of efficacy relative to consumer attitudes in adopting environmentally friendly devices. Furthermore, Lee and Chow (2020) reveal that consumer attitudes are determined by assessing their perception of relative advantages and ecological value. As a result, the following hypothesis can be made:

H1: Relative advantage has a positive effect on attitude

Relationship Between Compatibility and Attitude

Consumers will decide whether or not to employ new applications of technology within the fundamental parameters of their own life routines, behaviors, beliefs and value systems, and special needs (Agag and El-Masry, 2016). The perceived compatibility of new technology with consumers is crucial. The positive and beneficial influence of compatibility perceptions on consumer attitudes regarding the usage of new technology is supported by existing research (Agag and El-Masry, 2016; Wang et al. 2018). According to Jiang et al. (2021), there is a strong direct correlation between attitudes and perceived compatibility. This implies that the attitude toward adoption rates increases as the perceived comparability of renewable energy increases. Compatibility has a significant impact on attitudes and usage intentions, according to studies on green innovation (Muller and Rode, 2013). A positive correlation between compatibility and attitude has also been supported by several investigations (Lee and Chow, 2020; Dilotsolthe and Duh, 2021). However, attitudes toward innovation and its adoption will suffer if new technologies are perceived as being challenging and complex to utilize (Alshamaila et al. 2013). Therefore, the following hypothesis can be proposed:

H2: Compatibility has a positive effect on attitude

Relationship Between Ease of Use and Attitude

The desire to embrace renewable energy technologies is more likely to be positively influenced by those that are simple to install, user-friendly, and family-friendly and improve living conditions (Sidiras and Koukios, 2004). If a producer has a comprehensive understanding of the target market's standard of life, if they employ efficient quality control, and if they make sure that their use policies are simple to understand, they can increase ease of use (Ansolabehere and Konisky, 2009). The results of a study on the adoption of mobile payment systems by Aydin and Burnaz (2016) emphasize the significance of usability and convenience of use in forming attitudes. Jaiswal et al. (2021) conducted a study on consumers' intentions to use electric vehicles, and found that perceived ease of use directly affects consumer attitudes. Furthermore, a study conducted by Ashinze et al. (2021) investigated the challenges to the growth of renewable energy in Nigeria, which specifically analyzed the factors influencing the intention to use renewable energy in Nigeria found that ease of use had a positive and significant effect on consumer attitudes. Therefore, the following hypothesis can be formulated:

H3: Ease of use has positive effects on attitude

Relationship Between Visibility and Attitude

A study related to green innovation conducted by Arkesteijn and Oerlemans (2005) examined the adoption of household green energy shows that because of the characteristics of its products, green energy gained very limited visibility. According to a study by Wustenhagen et al. (2007), the usage of solar energy instruments improves their exposure and can have a favorable impact on consumer intents when they are utilized in close proximity to consumer places, such as rooftops, backyards, or terraces. Research conducted by Chuah et al. (2016) related to the latest technological developments in the use of smartwatches confirms that perceived usability and visibility drive consumer attitudes. Furthermore, another study conducted by Krey et al. (2016) also found a positive influence of visibility on consumer attitudes. Therefore, the following hypothesis can be formulated:

H4: Visibility has a positive effect on attitude

Relationship Between Attitude and Behavioral Intention

Previous research on green products discovered that consumers' views also influenced their purchasing decisions (e.g., Ha and Widow 2012; Zhou et al. 2013). According to Hansla et al. (2008), consumers' willingness to pay for green electricity increased when they had a favorable opinion of it. For ecologically friendly goods, the same is true (Barber et al. 2010). Regarding research on green hotels, numerous studies have found that attitudes have a favorable influence on intentions (e.g., Chen and Tung 2014; Han and Yoon 2015). Jaiswal et al. (2021) conducted a study on consumers' intentions to use electric vehicles, and found that attitudes significantly affected consumer behavior intentions. Furthermore Ashinze et al. (2021) investigated the challenges to the growth of renewable energy in Nigeria, which specifically analyzed the factors influencing the intention to use renewable energy found that attitudes had a positive effect on consumer intentions. Research conducted by Dilotsolthe and Duh (2021) shows that the intention of behaving positively and significantly is explained by attitude. Therefore, the following hypothesis can be suggested:

H5: Attitude has a positive impact on behavioral intentions

Research and Methodology

The population in this study is all the Indonesian consumers who use Philips My Care LED bulbs brand. The sampling technique used in this study is non-probability sampling with a purposive sampling approach. In this case researchers choose purposive samples subjectively. This study successfully collected data from 300 respondents who use Philips My Care LED bulbs brand from October to December 2021. The number of respondents is sufficient and exceed the required minimum number of the respondents. The questionnaire is created using google format and distributed online via social media such as face book and Instagram.

The Likert scale, which has a gradation of strongly disapproving with a score of 1, disagreeing with a score of 2, neutral with a score of 3, agreeing with a score of 4, and strongly agreeing with a score of 5, was employed as the measurement scale in this investigation. The analytical tool used in this study is descriptive analysis and Structural Equation Model (SEM) is used to test the proposed hypotheses. Statistical software AMOS 22 is used to support SEM analysis. Figure 1 shows the research model of the study.

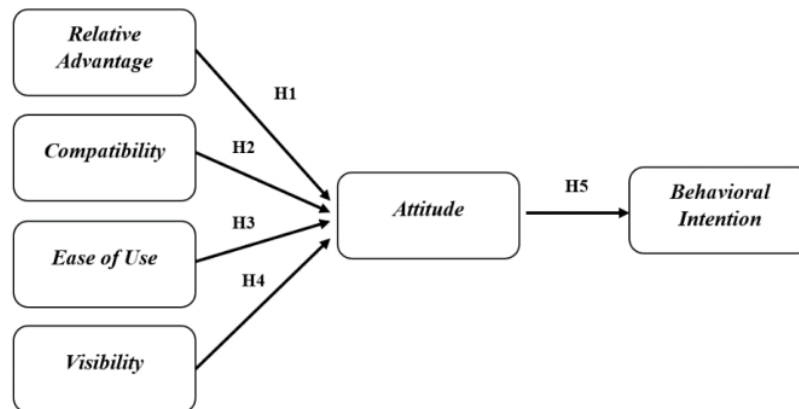


Figure 1: Research Model

Results

Descriptive Analysis

Table 1 displays output of descriptive statistics that represent demographic profiles of the respondents. It can be seen that the respondent is dominated by male respondent (67%). In terms of age, more than half of the respondent is young respondents with age range 26-30 (64.3%). Only three types of occupation are equal or greater that 20%, i.e., student, other occupation, and private that are accounted for 23.7%, 20% and 21.70% respectively. Lastly, the majority of the respondent have low level of monthly income (i.e., less than IDR 5 million) that is accounted for 64%.

Table 1: Demographic of the Respondents

Variables	Description	Total	Proportion
Gender	Male	201	67.0
	Female	99	33.0
Age (year)	< 20	58	19.3
	>50	4	1.3
	21-25	193	64.3
	26-30	35	11.7
	31-35	6	2.0
	40-45	3	1.0
	46-50	1	0.3
Occupation	Student	71	23.7
	Civil Servant	58	19.3
	Entrepreneur	13	4.3
	Housewives	10	3.3
	Private	60	20
	Military	23	7.7
Monthly Income (IDR)	Other	65	21.7
	< 5 million	192	64.0
	> 20 million	7	2.3
	11-15 million	7	2.3
	16-20 million	3	1.0
	5-10 million	91	30.3

Reliability and Validity Assessment

Table 2 shows reliability and validity of the studied variables and its items. An indicator can be judged valid if the loading factor is 0.5 or ideally 0.7. A variable is declared reliable if it has Composite Reliability > 0.50. According to Table 2, it can be seen that all variables and indicators can be declared valid and reliable.

Table 2: Reliability and validity of the variables and items

Variables	Item	Loading		$\Sigma (\lambda)$	$\Sigma (\epsilon)$	Construct Reliability (CR)	Status
		Factor	Error (ϵ)				
		(λ)					
Relative Advantage (RA)	RA1	0.687	0.550	2.153	1.445	0.762	Reliable
	RA2	0.741	0.431				Valid
	RA3	0.725	0.464				Valid
Compatibility (CPT)	CPT1	0.634	0.250	1.434	0.699	0.746	Reliable
	CPT2	0.800	0.449				Valid
Ease Of Use (EOU)	EOU1	0.675	0.390	2.159	0.963	0.829	Reliable
	EOU2	0.801	0.220				Valid
	EOU3	0.683	0.353				Valid
Visibility (VST)	VST1	0.709	0.306	2.197	0.957	0.835	Reliable
	VST2	0.809	0.260				Valid
	VST3	0.679	0.391				Valid
Attitude (ATD)	ATD1	0.708	0.200	1.587	0.571	0.815	Reliable
	ATD2	0.879	0.371				Valid
Behavioral Intention (BHI)	BHI1	0.696	0.300	1.344	0.600	0.751	Reliable
	BHI2	0.648	0.300				Valid

Hypotheses Testing**Table 3:** Hypotheses Testing: Direct Effect

The effect of each variable	Standard Estimate	S.E.	C.R.	P	Status
H1: ATD <--- RA	0.209	0.075	2.557	0.011	Accepted
H2: ATD <--- CPT	0.268	0.099	2.781	0.005	Accepted
H3: ATD <--- EOU	0.217	0.099	2.479	0.013	Accepted
H4: ATD <--- VST	0.377	0.129	3.406	0.000	Accepted
H5: BHI <--- ATD	0.391	0.075	3.522	0.000	Accepted

Figure 2 shows estimation model that predicts the influence of relative advantage, compatibility, ease of use, and visibility on attitude toward a green innovation product (i.e., Phillip LED bulbs).

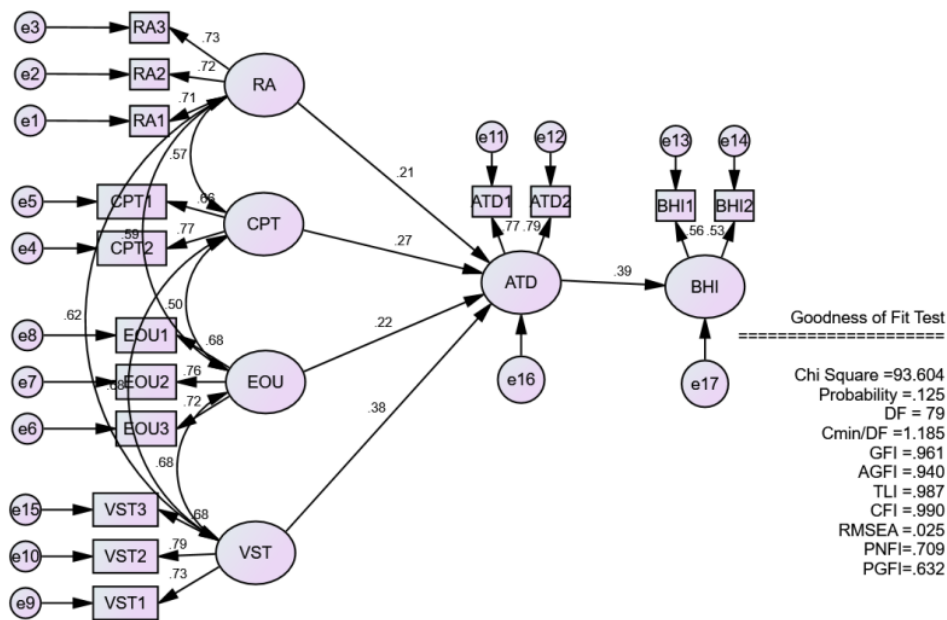


Figure 2: Estimation Model

Discussion

The table 3 shows results of hypotheses testing for hypothesis 1 to 5. Regarding H1, the standard regression coefficient was 0.209 with a p-value of 0.011 (less than 0.05). The association between relative advantage and attitude in H1 is supported. This indicates that customers have a more positive view about Philip LED light bulbs the bigger the relative advantage they perceive. Such finding is in line with previous studies, for instances Lee and Chow (2020) and Okedu et al. (2020). The finding also supports the current study conducted by Ashinze et al. (2021) that also suggests a significant and positive relationship between the two variables. Therefore, we conclude that H1 is supported.

In terms of H2, this study finds a positive relationship between compatibility and attitude which is also in line with previous studies conducted by Lee and Chow (2020) and Dilotsolthe and Duh (2021). The standard regression coefficient was 0.268 with a p-value of 0.005 (less than 0.05). This implies that the higher compatibility of Philip LED bulb perceived by the consumers, the greater attitude of the consumers toward the Philip LED light bulb. Therefore, we conclude that H2 is supported.

In regards with H3, this study finds that ease of use has a positive influence on the consumer attitudes. The standard regression coefficient was 0.217 with a p-value of 0.013 (less than 0.05). That is, if the higher the ease of use of products felt by consumers, the greater attitude of the consumers toward the Philip LED light bulb. The finding supports the previous studies conducted by Ashinze et al. (2021), Aydin and Burnaz (2016) and Jaiswal et al. (2021).

A hypothesis related to direct relationship between visibility and attitude toward Phillip LED light bulb also show positive impact (H4). The standard regression coefficient was 0.377 with a p-value of 0.000 (less than 0.05). This means that higher the visibility perceived by the consumer, the greater attitude of the consumers toward the Philip LED light bulb. The result supports previous studies for instances, Krey et al. (2016) and Chuah et al., (2016).

H5 tests the direct effect relationship between attitude on behavioral intention. This study finds that attitude has a positive influence on behavioral intention. the standard regression coefficient was 0.391 with a p-value of 0.000 (less than 0.05). That is, if the higher the attitude of consumers, the greater level of behavioral intentions in using the Philip LED light bulb. This is in line with previous research such as Ashinze et al. (2021) and Jaiswal et al. (2021). Therefore, attitude is considered very important factor to understanding and predicting consumer behavior in the future.

Conclusion

This study aims to examine the influence of relative advantage, compatibility, ease of use, and visibility on attitude. In the context of Indonesia, the majority of studies on green consumer behavior tend to assess a green cosmetic brand such as The Body Shop. By contrast, very few studies use eco-friendly or green light bulbs as the study's object to predict the behavioral intention. The findings show that relative advantage, compatibility, ease of use, and visibility have a positive effect on attitude. Subsequently, attitude also has positive impact on behavioral intention to use Phillip LED light bulbs.

Finally, limitation of the study needs to be acknowledged which can be used as future research direction. This study only focused Phillip LED light bulb as the green product innovation. The future study may use and compare different types of green product innovation. It is expected that the future study provides different consumers respond due to different nature of the green product innovation used in the study.

Acknowledgments

All authors have read and agreed to the published version of the manuscript.

Author Contributions: Conceptualization, K & H.; methodology, K.; validation, K.; formal analysis, K.; investigation, K.; resources, K.; writing—original draft preparation, K & H.; writing—review and editing, K., & H.

Funding: This research was funded by Indonesian Ministry of Education, Culture, Research, and Technology (Proposal ID: 792f7b25-b07e-4503-90b8-2b059229d1a4).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to restrictions.

Conflicts of Interest: The authors declare no conflict of interest.

References

- Ajzen, I. (1985). From intention to action: a theory of planned behavior", in Kuhl, J. and Beckmann, J. (Eds), *Action Control: From Cognition to Behavior*, Springer-Verlag, New York, NY, pp. 11-40.
- Ajzen, I. (2020). The theory of planned behavior: Frequently asked question. *Human Behavior and Emerging Technologies*, 2(4), 314-324. <https://doi.org/10.1002/hbe2.195>
- Agag, G., & El-Masry, A. A. (2016). Understanding consumer intention to participate in online travel community and effects on consumer intention to purchase travel online and WOM: An integration of innovation diffusion theory and TAM with trust. *Computers in Human Behavior*, 60, 97-111. <https://doi.org/10.1016/j.chb.2016.02.038>
- Alam, S. S., Hashim, N. H. N., Rashid, M., Omar, N. A., Ahsan, N., & Ismail, M. D. (2014). Small-scale household's renewable energy usage intention: Theoretical development and empirical settings. *Renewable Energy*, 68(C), 255-263. <https://doi.org/10.1016/j.renene.2014.02.010>
- Alam, S. S., & Sayuti, N. M. (2011). Applying the Theory of Planned Behavior (TPB) in halal food purchasing. *International Journal of Commerce and Management*, 21(1), 8-20. <https://doi.org/10.1108/10569211111111676>
- Alshamaila, Y., Papagiannidis, S. & Li, F. (2013). Cloud computing adoption by SMEs in the north east of England: A multi-perspective framework. *Journal of Enterprise Information Management*, 26(3), 250-275. <https://doi.org/10.1108/17410391311325225>
- Akehurst, G., Afonso, C., & Gonçalves, H. M. (2012). Re-examining green purchase behaviour and the green consumer profile: new evidences. *Management Decision*, 50(5), 972-988. <https://doi.org/10.1108/00251741211227726>
- Arkesteijn, K., & Oerlemans, L. (2005). The early adoption of green power by Dutch households: An empirical exploration of factors influencing the early adoption of green electricity for domestic purposes. *Energy Policy*, 33(2), 183-196. [https://doi.org/10.1016/S0301-4215\(03\)00209-X](https://doi.org/10.1016/S0301-4215(03)00209-X)
- Ashinze, P. C., Tian, J., Ashinze, P. C., Nazir, M., & Shaheen, I. (2021). A Multidimensional Model of Sustainable Renewable Energy Linking Purchase Intentions, Attitude and User Behavior in Nigeria. *Sustainability*, 13(19), 10576. <https://doi.org/10.3390/su131910576>
- Ansolabehere & Konisky (2009). Public Attitudes Toward Construction of New Power Plants. *Public Opinion Quarterly*, 73(3), 566-577. <https://doi.org/10.1093/poq/nfp041>
- Aydin, G., & Burnaz, S. (2016). Adoption of mobile payment systems: A study on mobile wallets. *Journal of Business Economics and Finance*, 5(1), 73-92. <https://doi.org/10.17261/Pressacademia.2016116555>
- Barber, N. Taylor, D.C., & Deale, C.S. (2010). Wine tourism, environmental concerns, and purchase intention. *Journal of Travel and Tourism Marketing*, 27(2), 146-165. <https://doi.org/10.1080/10548400903579746>
- Boulding, W., Kalra, A., Staelin, R., & Zeithaml, V. A. (1993). A dynamic process model of service quality: From expectations to behavioral intentions. *Journal of Marketing Research*, 30(1), 7-27. <https://doi.org/10.1177/002224379303000102>
- Calkins, M. (2008). *Materials for sustainable sites: a complete guide to the evaluation, selection, and use of sustainable construction materials*. John Wiley & Sons.

- Chan, R. Y., dan Lau, L. B. (2002). Explaining green purchasing behavior: A cross-cultural study on American and Chinese consumers. *Journal of International Consumer Marketing*, 14(2-3), 9-40. https://doi.org/10.1300/J046v14n02_02
- Chang, C. H. (2011). The influence of corporate environmental ethics on competitive advantage: The mediation role of green innovation. *Journal of Business Ethics*, 104(3), 361-370. <https://doi.org/10.1007/s10551-011-0914-x>
- Chen, M. F. & Tung, P. J. (2014). Developing an extended theory of planned behaviour model to predict consumers' intention to visit green hotels. *International Journal of Hospitality Management*, 36(1), 221-230. <https://doi.org/10.1016/j.ijhm.2013.09.006>
- Chuah, S. H. W., Rauschnabel, P. A., Krey, N., Nguyen, B., Ramayah, T., & Lade, S. (2016). Wearable technologies: The role of usefulness and visibility in smartwatch adoption. *Computers in Human Behavior*, 65, 276-284. <https://doi.org/10.1016/j.chb.2016.07.047>
- Chou, C. J., Chen, K. S. & Wang, Y. Y. (2012). Green practices in the restaurant industry from an innovation adoption perspective: Evidence from Taiwan. *International Journal of Hospitality Management*, 31(3), 703-11. <https://doi.org/10.1016/j.ijhm.2011.09.006>
- Dangelico, R. M., & Pujari, D. (2010). Mainstreaming green product innovation: Why and how companies integrate environmental sustainability. *Journal of Business Ethics*, 95(3), 471-486. <https://doi.org/10.1007/s10551-010-0434-0>
- Davis, F. D. (1986). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319-340. <https://doi.org/10.2307/249008>
- Dilotsotlhe, N., & Duh, H. I. (2021). Drivers of Middle-Class Consumers' Green Appliance Attitude and Purchase Behavior: A Multi-Theory Application. *Social Marketing Quarterly*, 27(2), 150-171. <https://doi.org/10.1177/15245004211013737>
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Harcourt Brace Jovanovich College.
- El-Zohiry, A. & Abd-Ebaq, K. (2019). The moderating effect of intrinsic motivation on the relationship between psychological capital and organizational citizenship behaviors. *Management Review: An International Journal*, 14(2), 4-32.
- Fisher, R. J., & Price, L. L. (1992). An investigation into the social context of early adoption behavior. *Journal of Consumer Research*, 477-486. <https://doi.org/10.1086/209317>
- Fishbein, M. & Ajzen, I. (1980). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*, Addison-Wesley, Reading, MA.
- Fryxell, G. E., & Lo, C. W. (2003). The influence of environmental knowledge and values on managerial behaviors on behalf of the environment: An empirical examination of managers in China. *Journal of Business Ethics*, 46(1), 45-69. <https://doi.org/10.1023/A:1024773012398>
- Gruen, T. W., Osmonbekov, T., & Czaplewski, A. J. (2005). How e-communities extend the concept of exchange in marketing: An application of the motivation, opportunity, ability (MOA) theory. *Marketing Theory*, 5(1), 33-49. <https://doi.org/10.1177/1470593105049600>
- Ha, H. Y. & Janda, S. (2012). Predicting consumer intentions to purchase energy-efficient products. *Journal of Consumer Marketing*, 29(7), 461-469. <https://doi.org/10.1108/07363761211274974>
- Hicks, A. L., Theis, T. L., & Zellner, M. L. (2015). Emergent effects of residential lighting choices: prospects for energy savings. *Journal of Industrial Ecology*, 19(2), 285-295. <https://doi.org/10.1111/jiec.12281>
- Han, H., Hsu, L.T., Jane & Sheu, C. (2010). Application of the Theory of Planned Behavior to green hotel choice: testing the effect of environmental friendly activities. *Tourism Management*, 31(3), 325-334. <https://doi.org/10.1016/j.tourman.2009.03.013>
- Han, H. & Yoon, H.J. (2015). Hotel customers' environmentally responsible behavioral intention: Impact of key constructs on decision in green consumerism. *International Journal of Hospitality Management*, 45(2), 22-33. <https://doi.org/10.1016/j.ijhm.2014.11.004>
- Hansla, A., Gamble, A., Juliusson, A., & Gärling, T. (2008). Psychological determinants of attitude towards and willingness to pay for green electricity. *Energy Policy*, 36(2), 768-774. <https://doi.org/10.1016/j.enpol.2007.10.027>
- Holak, S. L., & Lehmann, D. R. (1990). Purchase intentions and the dimensions of innovation: An exploratory model. *Journal of Product Innovation Management*, 7(1), 59-73. <https://doi.org/10.1111/1540-5885.710059>
- Hsu, C.H. & Huang, S.S. (2012). An extension of the theory of planned behavior model for tourist. *Journal of Hospitality Management*, 36(3), 390-417. <https://doi.org/10.1177/1096348010390817>
- Jaiswal, D., Kaushal, V., Kant, R., & Singh, P. K. (2021). Consumer adoption intention for electric vehicles: Insights and evidence from Indian sustainable transportation. *Technological Forecasting and Social Change*, 173, 121089. <https://doi.org/10.1016/j.techfore.2021.121089>
- Jiang, Y., Wang, X., & Yuen, K. F. (2021). Augmented reality shopping application usage: The influence of attitude, value, and characteristics of innovation. *Journal of Retailing and Consumer Services*, 63, 102720. <https://doi.org/10.1016/j.jretconser.2021.102720>
- Kapoor, K. K., Dwivedi, Y. K., & Williams, M. D. (2014). Examining consumer acceptance of green innovations using innovation characteristics: A conceptual approach. *International Journal of Technology Management & Sustainable Development*, 13(2), 135-160. https://doi.org/10.1386/tmsd.13.2.135_1
- Krey, N., Rauschnabel, P., Chuah, S., Nguyen, B., Hein, D., Rossmann, A., & Lade, S. (2016). Smartwatches: accessory or tool? The driving force of visibility and usefulness. *Mensch und Computer 2016-Tagungsband*.

- Ladhari, R., Brun, I., & Morales, M. (2008). Determinants of dining satisfaction and post-dining behavioral intentions. *International Journal of Hospitality Management*, 27(4), 563-573. <https://doi.org/10.1016/j.ijhm.2007.07.025>
- LED. The American Heritage Science Dictionary, Houghton Mifflin Company, 2005.
- Lee, K. (2009). Gender differences in Hong Kong adolescent consumers' green purchasing behavior. *Journal of Consumer Marketing*, 26(2), 87-96. <https://doi.org/10.1108/07363760910940456>
- Lee, S. H., & Chow, P. S. (2020). Investigating consumer attitudes and intentions toward online fashion renting retailing. *Journal of Retailing and Consumer Services*, 52, 101892. <https://doi.org/10.1016/j.jretconser.2019.101892>
- Leelakulhanit, O. (2014). The factors affecting the adoption of LED lamps. *International Business & Economics Research Journal (IBER)*, 13(4), 757-768. <https://doi.org/10.19030/iber.v13i4.8684>
- Lu, H. P., & Su, P. Y. J. (2009). Factors affecting purchase intention on mobile shopping web sites. *Internet Research*, 19(4), 442-458. <https://doi.org/10.1108/10662240910981399>
- Maichum, K., Parichatnon, S., & Peng, K. C. (2016). Application of the extended theory of planned behavior model to investigate purchase intention of green products among Thai consumers. *Sustainability*, 8(10), 1077. <https://doi.org/10.3390/su8101077>
- Moore, G. C. & Benbasat, I. (1991). Development of an instrument to measure the perceptions of adopting an information technology innovation. *Information Systems Research*, 2(3), 192-222. <https://doi.org/10.1287/isre.2.3.192>
- Muller, S., & Rode, J. (2013). The adoption of photovoltaic systems in Wiesbaden, Germany. *Economics of Innovation and New Technology*, 22(5), 519-535. <https://doi.org/10.1080/10438599.2013.804333>
- Muslim, A., Harun, A., Ismael, D., & Othman, B. (2020). Social media experience, attitude and behavioral intention towards umrah package among generation X and Y. *Management Science Letters*, 10(1), 1-12. <http://dx.doi.org/10.5267/j.msl.2019.8.020>
- Ottman, J.A., Stafford, E.R. & Hartman, C.L. (2006). Avoiding green marketing myopia: ways to improve consumer appeal for environmentally preferable products. *Environment: Science and Policy for Sustainable Development*, 48(5), 22-36. <https://doi.org/10.3200/ENVT.48.5.22-36>
- Okeku, K. E., Uhumwangho, R., & Odje, M. (2020). Harnessing the potential of small hydro power in Cross River state of Southern Nigeria. *Sustainable Energy Technologies and Assessments*, 37, 100617. <https://doi.org/10.1016/j.seta.2019.100617>
- Ozaki, R. (2011). Adopting sustainable innovation: What makes consumers sign up to green electricity? *Business Strategy and the Environment*, 20(1), 1-17. <https://doi.org/10.1002/bse.650>
- Paul, J., Modi, A., & Patel, J. (2016). Predicting green product consumption using theory of planned behavior and reasoned action. *Journal of Retailing and Consumer Services*, 29, 123-134. <https://doi.org/10.1016/j.jretconser.2015.11.006>
- Ritter, Á. M., Borchardt, M., Vaccaro, G. L., Pereira, G. M., & Almeida, F. (2015). Motivations for promoting the consumption of green products in an emerging country: exploring attitudes of Brazilian consumers. *Journal of Cleaner Production*, 106, 507-520. <https://doi.org/10.1016/j.jclepro.2014.11.066>
- Rhodes, R. E., & Courmeya, K. S. (2003). Investigating multiple components of attitude, subjective norm, and perceived control: An examination of the theory of planned behaviour in the exercise domain. *British Journal of Social Psychology*, 42(1), 129-146. <https://doi.org/10.1348/014466603763276162>
- Rogers, E.M., (2003). Diffusion of Innovations. Free Press, New York.
- Rogers Everett, M., Arvind Singhal, & Margaret M. Quinlan. 2019. Diffusion of innovations. In *An Integrated Approach to Communication Theory and Research*, 3rd ed. Oxford shire: Routledge, pp. 415-33
- Rust, R. T., & Zahorik, A. J. (1993). Customer satisfaction, customer retention, and market share. *Journal of Retailing*, 69(2), 193-215. [https://doi.org/10.1016/0022-4359\(93\)90003-2](https://doi.org/10.1016/0022-4359(93)90003-2)
- Sidiras, D. K., Koukios, E.G. (2004). Solar systems diffusion in local markets. *Energy Policy*, 32, 2007-2018. [https://doi.org/10.1016/S0301-4215\(03\)00173-3](https://doi.org/10.1016/S0301-4215(03)00173-3)
- Tornatzky, L. G., & Klein, K. J. (1982). Innovation characteristics and innovation adoption-implementation: A meta-analysis of findings. *IEEE Transactions on engineering management*, (1), 28-45. <https://doi.org/10.1109/TEM.1982.6447463>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 425-478. <https://doi.org/10.2307/30036540>
- Wang, H., Ma, B., & Bai, R. (2019). How does green product knowledge effectively promote green purchase intention? *Sustainability*, 11(4), 1193. <https://doi.org/10.3390/su11041193>
- Wang, X., Yuen, K.F., Wong, Y.D., Teo, C.C., (2018). An innovation diffusion perspective of e-consumers' initial adoption of self-collection service via automated parcel station. *International Journal of Logistic Management*, 29 (1), 237-260. <https://doi.org/10.1108/IJLM-12-2016-0302>
- Wu, J. H., & Wang, S. C. (2005). What drives mobile commerce? An empirical evaluation of the revised technology acceptance model. *Information & Management*, 42(5), 719-729. <https://doi.org/10.1016/j.im.2004.07.001>
- Wustenhagen, R., Wolsink, M. & Burer, M. J. (2007). Social acceptance of renewable energy innovation: An introduction to the concept, *Energy Policy*, 35(5), 2683-691. <https://doi.org/10.1016/j.enpol.2006.12.001>
- Yadav, R. & Pathak, G.S. (2016). Young consumers' intention towards buying green products in a developing nation: extending the theory of planned behavior. *Journal of Cleaner Production*, 135, 732-739. <https://doi.org/10.1016/j.jclepro.2016.06.120>
- Yu, Y.S., Luo, M. & Zhu, D.H. (2018). The effect of quality attributes on visiting consumers' patronage intentions of green restaurants. *Sustainability*, 10(4), 1187. <https://doi.org/10.3390/su10041187>

- Yuen, K. F., Wang, X., Ng, L. T. W., & Wong, Y. D. (2018). An investigation of customers' intention to use self-collection services for last-mile delivery. *Transport Policy*, 66, 1-8. <https://doi.org/10.1016/j.tranpol.2018.03.001>
- Zhou, Y., Thøgersen, J., Ruan, Y., & Huang, G. (2013). The moderating role of human values in planned behavior: The case of Chinese consumers' intention to buy organic food. *Journal of Consumer Marketing*, 30(4), 335-344. <https://doi.org/10.1108/JCM-02-2013-0482>

Publisher's Note: SSBFNET stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



© 2022 by the authors. Licensee SSBFNET, Istanbul, Turkey. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

International Journal of Research in Business and Social Science (2147-4478) by SSBFNET is licensed under a Creative Commons Attribution 4.0 International License.

IJRBS RAHARJITO & HARTONO

ORIGINALITY REPORT

16%

SIMILARITY INDEX

9%

INTERNET SOURCES

8%

PUBLICATIONS

9%

STUDENT PAPERS

MATCH ALL SOURCES (ONLY SELECTED SOURCE PRINTED)

2%

★ Submitted to UIN Sunan Kalijaga Yogyakarta

Student Paper

Exclude quotes On

Exclude matches < 1%

Exclude bibliography On