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Interest in Buying Millennial Generation Electric Motorcycles with Theory of Planned Behaviour and Environmental Concern as Determining Factors

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Abstract

The solution of environmental problems is to use environmentally friendly products. This research uses the theory of planned behaviour, norm activation model, and moral norm as mediating variables to test consumers' interest in purchasing electric motorcycle. Data collected from 157 respondents who are the millennial generation and analyse with SmartPLS 3.0. Based on research findings, environmental concern has a significant effect on perceived behavioural control, green purchase attitude, and green purchase intention. Perceived behavioural control has a significant effect on green purchase attitude. Moral norms and green purchase attitude do not have a significant effect on green purchase intention. Then moral norms cannot mediate between subjective norms and green purchase intention. Research findings explain that environmental factors are the determining factor for someone to adopt an electric motorcycle.

Keywords: environmental concern, green purchase intention, moral norm, electric motorcycle

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1. Introduction

Environmental issues have gotten to be a current subject among society. This can be stamped by the development of different data detailing that natural conditions are getting more regrettable. At that point, climate alter gets to be a clear sign that changes in normal conditions are happening. This is at the root of the phenomenon that society is beginning to wake up to the importance of eco-friendly products (Agus Indra Purnama & Rasmen Adi, 2019). This is because consumers want to make changes in their consumption habits by using eco-friendly products (Hamzah & Tanwir, 2021).

Green products are seen as one solution in overcoming environmental problems. The good ecological impact is one of the advantages of using this product (Liu et al., 2020). By adopting green products, it is hoped that we can reduce the environmental degradation that is currently occurring. So, it will have a good impact on environmental sustainability in the future. Green products are still something new and are still being developed on the market (Choi & Johnson, 2019). This causes there to be very few variants of this product. Of the types of vehicles, the most widely available products are electric vehicle products namely electric motorcycles and electric cars. Even though this product is still relatively new, consumer interest in buying green products is known to be very high (Zaremohzzabieh et al., 2021). This can happen because environmental factors are the main reason for buying green products.

Then the most important theories used to predict purchasing interest, especially for green product are based upon previous literature studies and were theory of planned behavior and norm activation model (Shi et al., 2017). Most of the constructs in these two theories are used to predict consumer buying interest (Costa et al., 2021; Sreen et al., 2018). Although several variables in this construct were found to not be able to predict related things (Chaudhary & Bisai, 2018 ; Paul et al., 2016). Part from that, based on study Liu et al., (2020) moral norms play an important role in predicting green buying interest.

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Studies related to interest in buying green products have been carried out in various countries. Most studies were conducted in developed countries or in countries that are known to have environmental problems (B. Kumar et al., 2017; Sreen et al., 2018). However, in developing countries, especially in Indonesia, it is still rarely studied. Therefore, it is hoped that this study can provide a different perspective by examining it from the perspective of phenomena in Indonesia.

2. Literature Review

2.1. Theory of Planned Behaviour and Norm Activation Model

The theory of planned behaviour is a theory coined by (Ajzen, 1991). This theory explains how attitudes, intentions, subjective norms, and perceived behavioral control affect an individual's behavior. A person's perception of how easy or difficult it is to carry out a desired behavior is the definition of perceived behavioral control. The social pressure that someone feels to engage in a certain behavior or not is known as subjective norms. The extent to which a person has a favorable or unfavorable assessment of that behavior is the definition of attitude. A person's possibility to use or adopt a behaviour is the definition of intention.

The theory of planned behaviour is the theory most widely adopted to explain green behaviour. In several previous studies, the TPB theory was successful in predicting consumer buying interest in electric vehicles (Hamzah & Tanwir, 2021; Jain, 2020; Y. Wang et al., 2018). Then, the Norm activation model is also a theory widely used to identify green buying interest. NAM is a theory that links consumer behaviour to more pro-social behaviour and is also designed to identify pro-environmental actions (Schwartz, 1977).

Environmental concern is one part of the norm activation model. This refers Hamzah & Tanwir, (2021) which explains that environmental concern is part of NAM apart from green perception and environmental responsibility. The definition of environmental concern is the public's general consideration of the sustainability of the environment and their willingness to protect it.

Several prior empirical studies are cited in support of the idea that moral norms should be added to the TPB model to complete it (Conner & Armitage, 1998; Shi et al., 2017; Tan et al., 2017). Moral norms are seen as a complement to complete the TPB model. Moral norms are defined as individual beliefs about what is right and what is wrong (Parker et al., 1995). Moral norms are crucial to completing the theory of planned behaviour model in the context of consumer interest in eco-friendly products.

2.2. Hypothesis Development

2.2.1. Environmental Concern and Perceived Behavioural Control

One of the factors that predicts the development of perceived behavioral control is environmental concern. This refers to study Hamzah & Tanwir, (2021) which explains that the feeling of environmental concern that exists in a person's mind will make that person willing to act based on his or her beliefs. Then, refer to study S. Wang et al., (2014) discovered a substantial correlation between perceived behavioral control and environmental concern. Furthermore, related findings were also discovered by Chaudhary & Bisai, (2018) who found that perceived behavioral control was directly influenced by environmental concern. However, in other research oleh Hamzah & Tanwir, (2021) It was discovered that interest in green purchasing and environmental concern were mediated by perceived behavioral control. The research framework shown on Figure 1. This description leads to the formulation of a hypothesis:

H1 : Environment concern has significant influence on perceived behavioral control

2.2.2. Environmental Concern and Green Purchase Attitude

Concerns about the environment will affect how consumers feel when they make purchases. In study S. Wang et al., (2020) who investigated the connection between green purchasing attitudes and environmental concern discovered that environmental concern was a key factor influencing green purchasing attitudes. Similar things were also found in study Paul et al., (2016) discovered a significant correlation between attitudes toward green purchasing and environmental concern. Apart from that, referring to other findings such as research by Chaudhary & Bisai, (2018) which examined green buying practices discovered a strong correlation between green buying attitudes and environmental concern. Based on the description, the following hypothesis can be formulated:

H2 : Environmental concern has significant influence on green purchase attitude

2.2.3. Environmental Concern and Green Purchase Intention

The foundation for developing a green purchasing intention is environmental concern. Making green purchases is primarily motivated by environmental awareness (R. Kumar et al., 2019). Then, Chaturvedi et al., (2020) discovered a significant correlation between the intention to make green purchases and environmental concern. Comparable results were also discovered in a study carried out by Saleki et al., (2019). Therefore, based on the description, the following hypothesis can be formulated:

H3 : Environmental concern has significant influence on green purchase intention

2.2.4. Perceived Behavioral Control and Green Purchase Intention

It was discovered that perceived behavioral control promotes the development of green purchase intentions. Study Hamzah & Tanwir, (2021) who investigated consumers' interest in purchasing environmentally friendly cars discovered that perceived behavioral control was one of the factors influencing green buying interest. Nevertheless, additional research indicates that one reason why consumers aren't as interested in green products is because sellers continue to charge exorbitant prices, the product in question is still hard to find, small, and customers don't know enough about it. (Varshneya et al., 2017). Based on the description, the following hypothesis can be formulated:

H4 : Perceived behavioral control has significant influence on green purchase intention.

2.2.5. Green Purchase Attitude and Green Purchase Intention

Prior research has indicated that green purchase intention can be influenced by one's attitude towards green purchase. Based on study Hamzah & Tanwir, (2021) explained that green buying interest can be formed from consumers' environmentally friendly purchasing attitudes. Then, Hamzah & Tanwir, (2021) adding that customers who have good feelings especially towards green products, they will feel that adopting green products will be beneficial for them and the environment which can then become self-satisfaction for them. Next study Paul et al., (2016) found that interest in purchasing green products can be formed from consumers' environmentally friendly purchasing attitudes. In other study Wang et al., (2020) discovered a positive correlation between interest in buying green products and attitudes toward environmentally friendly purchasing. However, in study Bong Ko & Jin, (2017) discovered that, when it comes to green clothing products, attitudes have little bearing on interest in making green purchases. Therefore, the following hypothesis can be formulated:

H5 : Green purchase attitude has significant influence on green purchase intention

2.2.6. Moral Norm and Green Purchase Intention

The formation of green buying interest is viewed as involving moral norm. Based on study Liu et al., (2020) outlined how purchasing interest in green products is significantly influenced by moral norm. Furthermore, it was discovered that the primary factor influencing pro-environmental actions was moral norm (Razali et al., 2020). Then, refer to research Chaudhary, (2018) explains that moral norm come more from intrinsic motivation than a person's extrinsic motivation in deciding their interest in buying green. Therefore, the following hypothesis can be formulated :

H6 : Moral norm has significant influence on green purchase intention.

2.2.7. Mediation Moral Norm on Subjective Norm and Green Purchase Intention

The direct correlation between subjective norm and purchase intention has been the subject of several findings. In several studies (Chaudhary & Bisai, 2018; Hamzah & Tanwir, 2021; Kumar et al., 2017; Paul et al., 2016) discovered that subjective norm variable had no discernible impact on the green purchase intention. Nonetheless, it was discovered, citing additional research, that there was a strong direct correlation between purchase intention and subjective norm (López-Mosquera et al., 2014; Patel et al., 2020; Saleki et al., 2019). These differences in findings provide a case for the relationship between these two variables. So, by referring to studies Liu et al., (2020) the moral norm variable is one of the factors that can act as a mediator between the subjective norm variable and purchase intention. From this description, the following hypothesis can be formulated:

H7 : Moral norm mediates effect of subjective norm on green purchase intention.

3. Research Method and Materials

This research applies structural equation modelling (SEM) techniques to explore quantitative research. Participants in this survey are respondents belonging to the millennial generation in Indonesia. The selection of respondents used

incidental sampling technique. The construct variable is designed on a 5-point Likert scale, from 1 to 5. This questionnaire was tested with 30 respondents prior to being given to the intended audience. The pre-test results demonstrate the validity and reliability of the research tool. These findings confirm that a large sample size can be obtained from the research instrument.

The primary survey was conducted by this research using email, social media, instant messaging, and in-person meetings to reach potential respondents. The study tool is offered as a hyperlink. This approach minimizes the possibility of common method variance and ensures the security of personal data by informing respondents that their responses will be treated anonymously (Podsakoff et al., 2003). As a result, respondents to this study are asked to answer the given question options as honestly as possible. 157 respondents agreed to take part in the study, and the information was interesting enough to examine further. SmartPLS 3.0 is used for data processing.

4. Results and Discussion

4.1. Respondent Characteristics

The characteristics of the respondents are shown in Table 1. As shown in table 1, men (57.3%) are more dominant than men (42.7%). In terms of age, respondents aged 24 – 27 years (61.1%) were the largest compared to other age groups which are ranked as follows: 28 – 31 years (22.9%), 32 – 35 years (12.7%). %), 36 – 39 years (2.5%), > 40 years (2.5%). Furthermore, in the education category, respondents with a bachelor's degree were the most dominant compared to other education and if sorted as follows: master of degree or higher (10.2%), diploma (5.1%), senior high school (4.5 %). Then, in the income category, respondents who earn Rp. 2,500,000 – Rp. 5,000,000 (40.8) is the largest, if sorted as follows: Rp. 10,000,000 – Rp. 15,000,000 (40.3%), > Rp. 15,000,000 (11.5%), and respondents who had no income (5.7%).

Table 1. Characteristic Respondent

Characteristic	Criteria	Frequency	%
Gender	Female	67	57.3
	Male	90	42.7
Age	24 – 27	96	61.1
	28 – 31	36	22.9
	32 – 35	20	12.7
	36 – 39	4	2.5
	> 40	1	0.6
Education	Senior hight School	7	4.5
	Diploma	8	5.1
	Bachelor Degree	126	80.3
	Master Degree or Higher	16	10.2
Income	Rp. 0	9	5.7
	Rp. 2.500.000 – Rp. 5.000.000	64	40.8
	Rp. 10.000.000 – Rp. 15.000.000	66	40.3
	> Rp. 15.000.000	18	11.5

Source: Adapted SmartPLS 3.0 Output

4.2. Assessment of the Measurement Model

Based on Manley et al., (2021), The outer model and the inner model are the two stages of assessment that this study will conduct. There will be three testing phases involved in evaluating the outer model: multicollinearity, validity, and reliability. Convergent validity and discriminant validity are the two evaluation phases that the validity test will go through. It will be evident from the convergent validity test that the AVE value and loading factor values need to be greater than 0.50 and 0.70, respectively. The loading factor value for each indicator in Table 2 is greater than 0.70, and the AVE value is greater than 0.50, demonstrating that the indicators satisfy the requirements for convergent validity. The cross loading value must be greater than 0.70, the AVE must be greater than 0.50, and the HTMT must be greater than 0.80 and less than 0.90 in order to evaluate discriminant validity. With reference to Table 2, each indicator's cross loading value is greater than 0.70, and the AVE value similarly indicates greater than 0.50. However, Table 3 displays the results of the HTMT test. It is evident that a number of the indicators do not match the test's

requirements. However, referring Manley et al., (2021) because the factor loading and AVE tests were passed, this research was able to satisfy the requirements of the submission's validity test.

A reliability assessment is then completed. Both the Rho_A and Cronbach's alpha values in this assessment have to be higher than 0.70. Table 2 shows that each variable's Cronbach's alpha and Rho_A values have satisfied the criteria, proving that the research instrument satisfies the reliability requirements. Multicollinearity evaluation comes next. Both the inner and outer VIF values, which must both be less than five, will be observed in this test. Table 4 shows that each indicator's outer VIF value is less than 5. Additionally, it is evident from Table 5 that none of the variables' inner VIF values is greater than 5. Thus, it can be said that the research instrument has no collinearity.

Table 2. Convergent Validity, Discriminant Validity and Reliability

Variable	Code	Loading Factor	t-values	Cronbach's Alpha	Rho_A	CR	AVE
Green Purchase Intention	GPI1	0.799	10.791	0.771	0.774	0.854	0.594
	GPI2	0.729	13.049				
	GPI3	0.764	12.186				
	GPI4	0.788	9.755				
Perceived Behavioral Control	PBC1	0.759	11.648	0.828	0.834	0.878	0.591
	PBC2	0.749	12.590				
	PBC3	0.768	8.806				
	PBC4	0.819	18.704				
	PBC5	0.747	13.564				
Moral Norm	MN1	0.852	27.687	0.799	0.801	0.869	0.625
	MN2	0.746	11.714				
	MN3	0.790	11.714				
	MN4	0.770	10.858				
Green Purchase Attitude	GPA1	0.839	21.670	0.838	0.839	0.885	0.607
	GPA2	0.734	12.836				
	GPA3	0.744	12.245				
	GPA4	0.777	15.288				
	GPA5	0.799	19.313				
Subjective Norm	SN1	0.829	26.687	0.824	0.837	0.876	0.587
	SN2	0.818	21.883				
	SN3	0.748	12.590				
	SN4	0.719	7.966				
	SN5	0.709	8.275				
Environmental Concern	EC1	0.749	5.614	0.786	0.797	0.862	0.611
	EC2	0.818	10.155				
	EC3	0.712	8.173				
	EC4	0.839	13.736				

Source: Adapted SmartPLS 3.0 Output

Table 3. HTMT

	EC	GPA	GPI	MN	PBC	SN
EC						
GPA	0.795					
GPI	0.916	0.928				
MN	0.782	1.000	0.872			
PBC	0.836	0.976	0.968	0.888		
SN	0.779	0.903	0.813	0.946	0.891	

Source: Adapted SmartPLS 3.0 Output

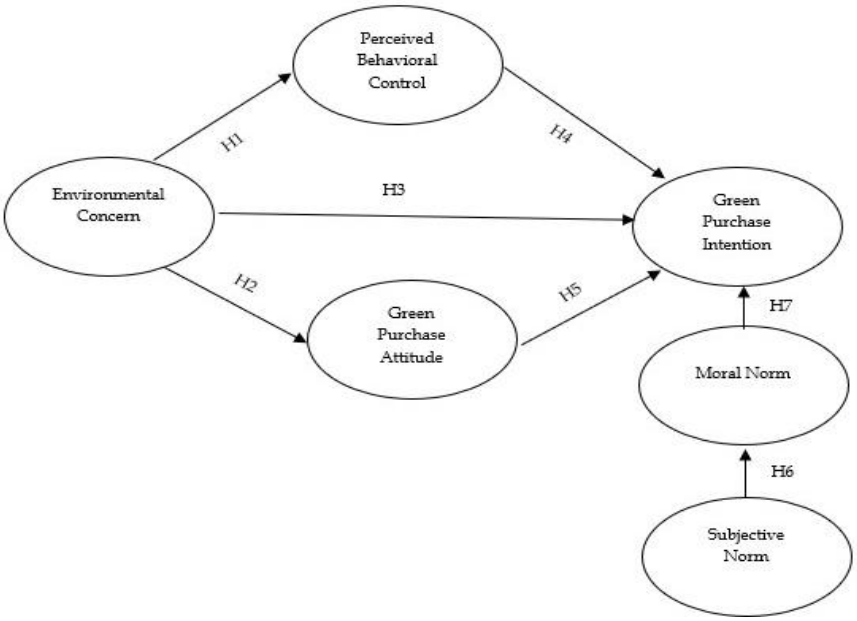

Figure 1. Research Framework

Table 4. Multicollinearities

Indicator Code	VIF
EC1	1.503
EC2	1.744
EC3	1.358
EC4	1.818
GPA1	2.216
GPA2	1.607
GPA3	1.544
GPA4	1.790
GPA5	1.936
GPI1	1.707
GPI2	1.441
GPI3	1.497
GPI4	1.691
MN1	1.978
MN2	1.429
MN3	1.667
MN4	1.582
PBC1	1.808
PBC2	1.569
PBC3	1.639
PBC4	2.119
PBC5	1.795
SN1	1.954

Indicator Code	VIF
SN2	1.942
SN3	1.610
SN4	1.636
SN5	1.588

Source: Adapted SmartPLS 3.0 Output

Table 5. VIF

Inner VIF Values					
EC	GPA	GPI	MN	PBC	SN
EC	1.000	2.045		1.000	
GPA		4.440			
GPI					
MN		3.227			
PBC		3.550			
SN			1.000		

Source: Adapted SmartPLS 3.0 Output

Examine the inner model first, then the outer model. A goodness of fit test and a path analysis will be performed as part of this evaluation. The r^2, f^2, q^2, and model fit analyses will be performed in order to perform the goodness of fit test. Each mediating variable has a moderate relationship with the dependent variable (r2, which is smaller than 0.70) according to the r^2 test in Table 6. Then, if you look at the f^2 value in Table 7, you can see that the influence between variables in the research construct has a strong relationship because the f^2 value is greater than 0.70. Additionally, table 6 q^2 test yields a q^2 value of 0.96, suggesting that the observed values have been well-reconstructed. Examining the SRMR and NFI values as part of a model fit analysis is the last stage. Table 9 illustrates that the SRMR value is less than 0.08. This shows that although the research model in this study has been carefully prepared, the testing criteria are not met by the NFI value. Still, the model works well already. Both direct and indirect influences between variables will be observed in path analysis.

Table 6. The r Square

	r Square	r Square Adjusted
GPA(Y3)	0.419	0.415
GPI (Y1)	0.698	0.690
MN(Y4)	0.609	0.607
PBC(Y2)	0.478	0.474

Source: Adapted SmartPLS 3.0 Output

Table 7. The f Square

EC	GPA	GPI	MN	PBC	SN
EC (X1)	0.722	0.144		0.914	
GPA(Y3)		0.029			
GPI (Y1)					
MN (Y4)		0.005			
PBC (Y2)		0.123			
SN (X2)			1.559		

Source: Adapted SmartPLS 3.0 Output

Table 8. The q Square

	q Square	q Square Adjusted
GPA(Y3)	0.419	0.415
GPI (Y1)	0.698	0.690
MN(Y4)	0.609	0.607
PBC(Y2)	0.478	0.474

Source: Adapted SmartPLS 3.0 Output

$q^2 = 1- \{(1-R_1^2)(1-R_2^2)(1-R_3^2)(1-R_4^2)\}$
$q^2 = 1- \{(1-0,698)(1-0,478)(1-0,419)(1-0,609)\}$
$q^2 = 1 - \{(0,302)(0,522)(0,581)(0,391)\}$
$q^2 = 1- 0,0358$
$q^2 = 0,96$

Table 9. Model Fit

	Saturated Model	**Estimated Model**
SRMR	0.075	0.154
d_ULS	2.107	8.952
d_G	0.920	1.287
Chi-Square	759.180	916.237
NFI	0.719	0.660

Source: Adapted SmartPLS 3.0 Output

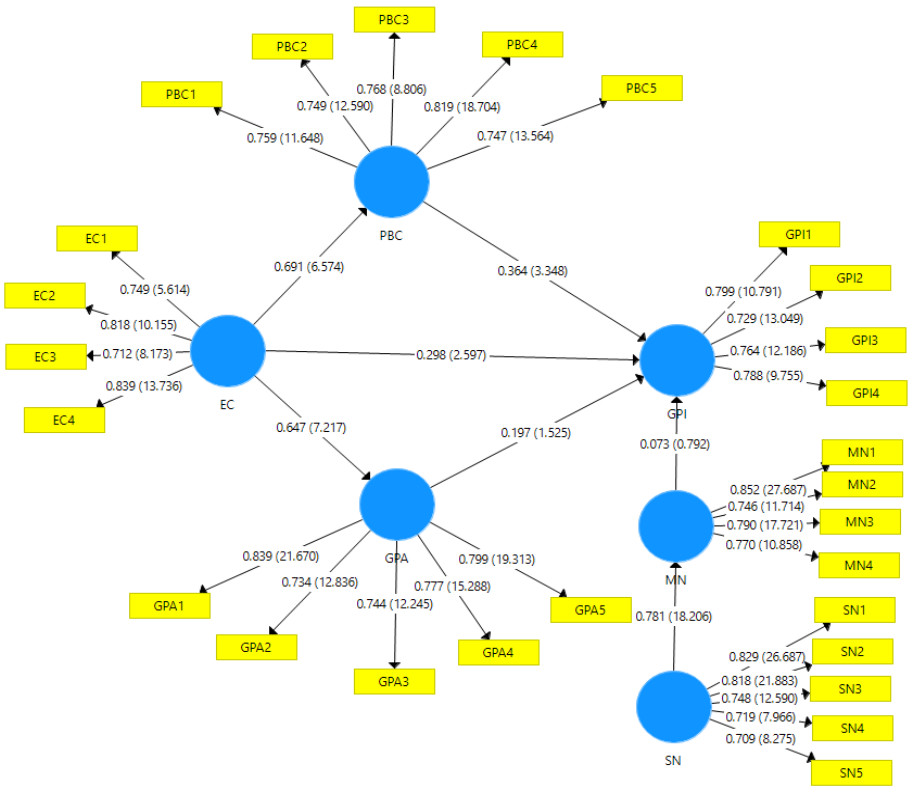

Figure 2. The Result of the Structural Model Assessment

Tables 10, 11, and figure 2 present the findings of the structural assessment. Four out of the seven hypotheses are supported, as can be seen. Perceived behavioral control is significantly impacted by environmental concern (p-value = 0.000 < 0.05). Green purchase intention is significantly influenced by environmental concern (p-value = 0.000 < 0.05). Green purchase intention is significantly influenced by environmental concern (p-value = 0.009 < 0.05). Green purchase intention is significantly influenced by perceived behavioral control (p-value = 0.001 < 0.005). Green purchase attitude does not significantly impact the green purchase intention (p-value = 0.127 > 0.05). Moral norm not significantly affect green purchase intention (p-value = 0.429 > 0.05). Then, with a p-value of 0.432 > 0.05, moral norm unable to mediate subjective norms and green purchase intention.

Table 10. Path Coefficients of Directs Effects

Hypothesis	Relationship	Path Coefficient	t-value	P-value	Conclusion
H1	Environmental Concern → Perceived Behavioural Control	0.691	6.574	0.000	Supported
H2	Environmental Concern → Green Purchase Attitude	0.647	7.217	0.000	Supported
H3	Environmental Concern → Green Purchase Intention	0.298	2.597	0.009	Supported
H4	Perceived Behavioural Control → Green Purchase Intention	0.364	3.348	0.001	Supported
H5	Green Purchase Attitude → Green Purchase Intention	0.197	1.525	0.127	Not Supported
H6	Moral Norm → Green Purchase Intention	0.073	0.0792	0.429	Not Supported

Source : Adapted SmartPLS 3.0 Output

Table 11. Path Coefficients of Indirect Effects

Hypothesis	Indirect Effects	P-Values	Conclusion
H7	SN → MN → GPI	0.432	Not Supported

Source: Adapted SmartPLS 3.0 Output

5. Conclusion

Environmental issues prompted this research to conduct an empirical study regarding consumer purchasing interest in electric motorbikes. For your information, electric motorbikes themselves are a relatively new product on the automotive market in Indonesia. This study found that four hypotheses were found to be successfully proven and three other hypotheses could not be proven in predicting green purchase intention.

Environmental concerns significantly influence green purchase intention. These findings indicate that environmental concern is directly correlated with consumer interest in purchasing electric motorcycle. Similar findings were also found by (Ha & Kwon, 2016; Hartmann & Apaolaza-Ibáñez, 2012; R. Kumar et al., 2019) which explains that environmental concern is one of the main reasons for making green purchases. A study related to interest in purchasing hybrid vehicles conducted in Malaysia found that environmental concerns were the main factor in adopting green vehicles (Hamzah & Tanwir, 2021).

It was discovered that perceived behavioral control was significantly impacted by environmental concern. This result is in line with (Chaudhary & Bisai, 2018; Hamzah & Tanwir, 2021; Paul et al., 2016; S. Wang et al., 2014). These findings indicate that consumers' awareness of the environment will be manifested in the form of purchase intentions

only when they have the confidence and ability to own the vehicle in question. So, consumer confidence and ability are important besides environmental awareness.

Environmental concerns significantly influence green purchase attitude. This result is in line with (Basha et al., 2015; Chaudhary & Bisai, 2018; Hamzah & Tanwir, 2021; Zaremohzzabieh et al., 2021). This shows that theoretically environmental concern among consumers will influence consumer attitudes in purchasing electric motorcycle. Customers in this situation will believe that purchasing the product is a good deed showing their concern for the environment.

Perceived behavioral control was found to have a significant influence on green purchase intention. These results are strengthened by the findings (Adnan et al., 2018; Hamzah & Tanwir, 2020; Sreen et al., 2018). Based on the findings, it can be explained that theoretically consumer buying interest in electric motorcycle can come from controlling consumer behavior. The most important part of controlling consumer behavior is managing consumer perceptions of looking at something. In this case, consumers have the intention to buy the product in question because they view buying the product as something important and useful for themselves or the environment. (Shin & Hancer, 2016).

It was discovered that green purchase intention was not significantly impacted by green purchase attitude. This result contradicts a number of earlier findings, including (Bong Ko & Jin, 2017; Costa et al., 2021; B. Kumar et al., 2017; S. Wang et al., 2014). However, similar findings were discovered by (Hamzah & Tanwir, 2021). In this instance, customers' favorable attitudes toward the idea of owning an electric motorcycle haven't been able to dampen their desire to purchase one. To put it another way, not many people are able to convert their environmentally conscious behavior into the purchase of green products.

Moral norm was found unable to mediate between subjective norms and green purchase intention. This finding is inconsistent with the findings (Arvola et al., 2008; Shin & Hancer, 2016; Tan et al., 2017). This is not yet able to answer the role of moral norms as a mediating variable as stated by Liu et al., (2020). In that study, it is explained that moral norms can be a mediating variable to overcome inconsistent findings regarding the relationship between subjective norms and purchase intention (Chaudhary & Bisai, 2018; Hamzah & Tanwir, 2021; Kumar et al., 2017; Paul et al., 2016 ; Choi & Johnson, 2019). Therefore, further studies need to be carried out to confirm the role of moral norms as a mediating variable.

Green purchase intention was found to be unaffected significantly by moral norm. This finding is inconsistent with the findings (Chaudhary, 2018; He & Zhan, 2018; Saleki et al., 2019; Shin & Hancer, 2016). These findings indicate that although consumers have awareness regarding moral responsibility for their purchasing behavior, this does not mean that they will choose to adopt electric motorcycle. This finding is different from Liu et al., (2020), which explains that consumer buying interest in green products originates more from the consumer's own internal perspective.

Further research on this topic still needs to be done. Considering that this research found several different findings that have been described previously. Future research could expand the research by further varying data sources from a broader and more diverse sample of participants. One of them, researchers in the future can conduct research across different generations in different geographical areas, which is expected to produce more diverse data. In addition, future research can examine what barriers to electric vehicle adoption are, as a complement to this research or previous research.

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References

Adnan, N., Md Nordin, S., Hadi Amini, M., & Langove, N. (2018). What make consumer sign up to PHEVs? Predicting Malaysian consumer behavior in adoption of PHEVs. *Transportation Research Part A: Policy and Practice*, *113*(March), 259–278. https://doi.org/10.1016/j.tra.2018.04.007

Agus Indra Purnama, P., & Rasmen Adi, N. (2019). Green Marketing dan Quality Brand Sebagai Prediktor Perilaku

Konsumen dan Dampaknya Terhadap Keputusan Pembelian Produk. *Jurnal Manajemen Bisnis*, *16*(1), 185. https://doi.org/10.38043/jmb.v16i1.2027

Ajzen, I. (1991). Theory of Planned Behavior. *ORGANIZATIONAL BEHAVIOR AND HUMAN DECISION PROCESSES*, *50*(1), 179–221.

Arvola, A., Vassallo, M., Dean, M., Lampila, P., Saba, A., Lähteenmäki, L., & Shepherd, R. (2008). Predicting intentions to purchase organic food: The role of affective and moral attitudes in the Theory of Planned Behaviour. *Appetite*, *50*(2–3), 443–454. https://doi.org/10.1016/j.appet.2007.09.010

Basha, M. B., Mason, C., Shamsudin, M. F., Hussain, H. I., & Salem, M. A. (2015). Consumers Attitude Towards Organic Food. *Procedia Economics and Finance*, *31*(15), 444–452. https://doi.org/10.1016/s2212-5671(15)01219-8

Bong Ko, S., & Jin, B. (2017). Predictors of purchase intention toward green apparel products: A cross-cultural investigation in the USA and China. *Journal of Fashion Marketing and Management*, *21*(1), 70–87. https://doi.org/10.1108/JFMM-07-2014-0057

Chaturvedi, P., Kulshreshtha, K., & Tripathi, V. (2020). Investigating the determinants of behavioral intentions of generation Z for recycled clothing: an evidence from a developing economy. *Young Consumers*, *21*(4), 403–417. https://doi.org/10.1108/YC-03-2020-1110

Chaudhary, R. (2018). Green buying behavior in India: an empirical analysis. *Journal of Global Responsibility*, *9*(2), 179–192. https://doi.org/10.1108/JGR-12-2017-0058

Chaudhary, R., & Bisai, S. (2018). Factors influencing green purchase behavior of millennials in India. *Management of Environmental Quality: An International Journal*, *29*(5), 798–812. https://doi.org/10.1108/MEQ-02-2018-0023

Choi, D., & Johnson, K. K. P. (2019). Influences of environmental and hedonic motivations on intention to purchase green products: An extension of the theory of planned behavior. *Sustainable Production and Consumption*, *18*(xxxx), 145–155. https://doi.org/10.1016/j.spc.2019.02.001

Conner, M., & Armitage, C. J. (1998). Extending the theory of planned behavior: A review and avenues for further research. *Journal of Applied Social Psychology*, *28*(15), 1429–1464. https://doi.org/10.1111/j.1559-1816.1998.tb01685.x

Costa, C. S. R., Costa, M. F. da, Maciel, R. G., Aguiar, E. C., & Wanderley, L. O. (2021). Consumer antecedents towards green product purchase intentions. *Journal of Cleaner Production*, *313*(August 2020). https://doi.org/10.1016/j.jclepro.2021.127964

Ha, S., & Kwon, S. Y. (2016). Spillover from past recycling to green apparel shopping behavior: the role of environmental concern and anticipated guilt. *Fashion and Textiles*, *3*(1). https://doi.org/10.1186/s40691-016-0068-7

Hamzah, M. I., & Tanwir, N. S. (2021). Do pro-environmental factors lead to purchase intention of hybrid vehicles? The moderating effects of environmental knowledge. *Journal of Cleaner Production*, *279*, 123643. https://doi.org/10.1016/j.jclepro.2020.123643

Hartmann, P., & Apaolaza-Ibáñez, V. (2012). Consumer attitude and purchase intention toward green energy brands: The roles of psychological benefits and environmental concern. *Journal of Business Research*, *65*(9), 1254–1263. https://doi.org/10.1016/j.jbusres.2011.11.001

He, X., & Zhan, W. (2018). How to activate moral norm to adopt electric vehicles in China? An empirical study based on extended norm activation theory. *Journal of Cleaner Production*, *172*, 3546–3556. https://doi.org/10.1016/j.jclepro.2017.05.088

Jain, S. (2020). Assessing the moderating effect of subjective norm on luxury purchase intention: a study of Gen Y consumers in India. *International Journal of Retail and Distribution Management*, *48*(5), 517–536. https://doi.org/10.1108/IJRDM-02-2019-0042

Kumar, B., Manrai, A. K., & Manrai, L. A. (2017). Purchasing behaviour for environmentally sustainable products: A

conceptual framework and empirical study. *Journal of Retailing and Consumer Services*, *34*(September 2016), 1–9. https://doi.org/10.1016/j.jretconser.2016.09.004

Kumar, R., Saha, R., P.C, S., & Dahiya, R. (2019). Examining the role of external factors in influencing green behaviour among young Indian consumers. *Young Consumers*, *20*(4), 380–398. https://doi.org/10.1108/YC-12-2018-0921

Liu, M. T., Liu, Y., & Mo, Z. (2020). Moral norm is the key: An extension of the theory of planned behaviour (TPB) on Chinese consumers' green purchase intention. *Asia Pacific Journal of Marketing and Logistics*, *32*(8), 1823–1841. https://doi.org/10.1108/APJML-05-2019-0285

López-Mosquera, N., García, T., & Barrena, R. (2014). An extension of the Theory of Planned Behavior to predict willingness to pay for the conservation of an urban park. *Journal of Environmental Management*, *135*, 91–99. https://doi.org/10.1016/j.jenvman.2014.01.019

Manley, S. C., Hair, J. F., Williams, R. I., & McDowell, W. C. (2021). Essential new PLS-SEM analysis methods for your entrepreneurship analytical toolbox. *International Entrepreneurship and Management Journal*, *17*(4), 1805–1825. https://doi.org/10.1007/s11365-020-00687-6

Parker, D., Manstead, A. S. R., & Stradling, S. G. (1995). Extending the theory of planned behaviour: The role of personal norm. *British Journal of Social Psychology*, *34*(2), 127–138. https://doi.org/10.1111/j.2044-8309.1995.tb01053.x

Patel, J. D., Trivedi, R. H., & Yagnik, A. (2020). Self-identity and internal environmental locus of control: Comparing their influences on green purchase intentions in high-context versus low-context cultures. *Journal of Retailing and Consumer Services*, *53*(July 2019), 102003. https://doi.org/10.1016/j.jretconser.2019.102003

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

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Razali, F., Daud, D., Weng-Wai, C., & Anthony Jiram, W. R. (2020). Waste separation at source behaviour among Malaysian households: The Theory of Planned Behaviour with moral norm. *Journal of Cleaner Production*, *271*, 122025. https://doi.org/10.1016/j.jclepro.2020.122025

Saleki, R., Quoquab, F., & Mohammad, J. (2019). What drives Malaysian consumers' organic food purchase intention? The role of moral norm, self-identity, environmental concern and price consciousness. *Journal of Agribusiness in Developing and Emerging Economies*, *9*(5), 584–603. https://doi.org/10.1108/JADEE-02-2019-0018

Schwartz, S. H. (1977). Normative influences on altruism. *Advances in Experimental Social Psychology*, *10*(C), 221–279. https://doi.org/10.1016/S0065-2601(08)60358-5

Shi, H., Fan, J., & Zhao, D. (2017). Predicting household PM2.5-reduction behavior in Chinese urban areas: An integrative model of Theory of Planned Behavior and Norm Activation Theory. *Journal of Cleaner Production*, *145*, 64–73. https://doi.org/10.1016/j.jclepro.2016.12.169

Shin, Y. H., & Hancer, M. (2016). The role of attitude, subjective norm, perceived behavioral control, and moral norm in the intention to purchase local food products. *Journal of Foodservice Business Research*, *19*(4), 338–351. https://doi.org/10.1080/15378020.2016.1181506

Sreen, N., Purbey, S., & Sadarangani, P. (2018). Impact of culture, behavior and gender on green purchase intention. *Journal of Retailing and Consumer Services*, *41*(July 2017), 177–189. https://doi.org/10.1016/j.jretconser.2017.12.002

Tan, C. S., Ooi, H. Y., & Goh, Y. N. (2017). A moral extension of the theory of planned behavior to predict consumers' purchase intention for energy-efficient household appliances in Malaysia. *Energy Policy*, *107*(May), 459–471. https://doi.org/10.1016/j.enpol.2017.05.027

Varshneya, G., Pandey, S. K., & Das, G. (2017). Impact of Social Influence and Green Consumption Values on

Purchase Intention of Organic Clothing: A Study on Collectivist Developing Economy. *Global Business Review*, *18*(2), 478–492. https://doi.org/10.1177/0972150916668620

Wang, L., Wong, P. P. W., & Narayanan, E. A. (2020). The demographic impact of consumer green purchase intention toward Green Hotel Selection in China. *Tourism and Hospitality Research*, *20*(2), 210–222. https://doi.org/10.1177/1467358419848129

Wang, S., Fan, J., Zhao, D., & Yang, S. (2014). *Predicting consumers ' intention to adopt hybrid electric vehicles : using an extended version of the theory of planned behavior model*. https://doi.org/10.1007/s11116-014-9567-9

Wang, S., Wang, J., Yang, F., Li, J., & Song, J. (2020). Determinants of consumers' remanufactured products purchase intentions: Evidence from China. *International Journal of Production Research*, *58*(8), 2368–2383. https://doi.org/10.1080/00207543.2019.1630767

Wang, Y., Huscroft, J. R., Hazen, B. T., & Zhang, M. (2018). Green information, green certification and consumer perceptions of remanufctured automobile parts. *Resources, Conservation and Recycling*, *128*, 187–196. https://doi.org/10.1016/j.resconrec.2016.07.015

Zaremohzzabieh, Z., Ismail, N., Ahrari, S., & Abu Samah, A. (2021). The effects of consumer attitude on green purchase intention: A meta-analytic path analysis. *Journal of Business Research*, *132*(June), 732–743. https://doi.org/10.1016/j.jbusres.2020.10.053