

Examining Purchase Behavior of Electric Vehicles as an Effort to Reduce Air Pollution: Theory of Planned Behavior

Amelindha Vania^{1*}, Ardiansyah Muhammad²

¹Faculty of Economics, Universitas Islam Negeri Malang, Indonesia

Email: amelindhvania@uin-malang.ac.id

²PT.Sinergi Riset Indonesia, Indonesia

Email: ardiansyah@temanrisetku.com

ABSTRACT

Central Jakarta has increasingly bad levels of air pollution, it is recorded that Jakarta is ranked third with the worst air in the world. Purchasing an electric vehicle is one way to minimize bad air. This research uses the Theory of Planned Behavior (TPB) to understand and predict what characteristics or variables influence the purchase of electric vehicles in Central Jakarta. The research sample consisted of 166 respondents who had purchased an electric vehicle. Data analysis used descriptive statistics and PLS-SEM. The perception of ease of avoiding pollution influences the lack of desire to protect oneself, and the protect intention (PI) influences purchasing behavior (PB). Subjective norms (SN) and attitudes towards electric vehicle purchasing behavior (ATB) are important elements that can increase a person's desire to defend against pollution by purchasing an electric vehicle. Perceived behavioral control (PBC) challenges subjective norms and attitudes toward electric vehicle purchasing behavior. Perceived behavioral control is proven to be a solution to preventing air pollution.

Keywords: Attitude Towards Behaviour; Subjective Norm; Perceived Behavioral Control; Behavioral Intention; Protect Intention; Purchase Behavior

INTRODUCTION

Air pollution is a significant problem in Jakarta, the capital city of Indonesia. The city has poor air quality, with high levels of pollution that exceed World Health Organization (WHO) guidelines (Zulfikri, 2023). The main contributors to air pollution in Jakarta are transportation emissions, particularly from private vehicles (Zulfikri, 2023). The use of private transportation, which is the main mode of transportation in Jakarta, has been associated with higher levels of pollution (Zulfikri, 2023). The high level of pollution in Jakarta is mostly caused using private transportation (Zulfikri, 2023). The impact of air pollution on public health in Jakarta is severe. It is estimated that there were more than 5.5 million air pollution-related disease cases in Jakarta in 2010, including 2.45 million cases of acute respiratory infection (ARI) (Lestari & Haryanto, 2022). A study conducted in Jakarta found a significant association between sulfur dioxide (SO₂) concentration and the occurrence of ARI in children under five (Lestari & Haryanto, 2022). However, another study found no significant correlation between SO₂ concentration and the occurrence of ARI in children under five in Jakarta (Lestari & Haryanto, 2022). Exposure to pollution has also been linked to poor health outcomes such as respiratory and cardiovascular diseases and mental health problems (Zulfikri, 2023).

The phenomenon of air pollution in Jakarta has led to a range of negative consequences. The high levels of pollution often come with an increase in the number of health risks and

pneumonia cases (Lestari & Haryanto, 2022). Air pollution has both chronic and acute effects on human health and contributes to increased morbidity and hospital admissions (Raeissi et al., 2018). It has been found that air pollution has a greater impact on public health expenditures in the long term than in the short term (Raeissi et al., 2018). The burden of morbidity and mortality caused by air pollution is costly, as most pollution-related deaths occur within 1-2 years of exposure (Lestari & Haryanto, 2022). TPB is a psychological theory that seeks to explain and predict human behavior based on individuals' intentions (Xu et al., 2020). According to the TPB, behavioral intentions are influenced by three main factors: attitude, subjective norm, and perceived behavioral control (Xu et al., 2020). Attitude refers to an individual's evaluation of the behavior and its outcomes, subjective norm refers to the perceived social pressure to perform or not perform the behavior, and perceived behavioral control refers to the individual's perception of their ability to perform the behavior (Xu et al., 2020).

In the context of protecting oneself from air pollution, the TPB can be applied to understand individuals' intentions to engage in self-protective behaviors. Several studies have explored the relationship between the TPB and the intention to protect oneself from air pollution. One study conducted in Beijing aimed to understand residents' coping behaviors for reducing the health risks posed by haze pollution (Xu et al., 2020). The study found that behavioral intentions, including wearing a mask when going outside and purchasing air purifiers, were significantly affected by attitude and subjective norm (Xu et al., 2020). Individuals who had a more positive attitude towards these behaviors and perceived social pressure to engage in them were more likely to have the intention to protect themselves from air pollution (Xu et al., 2020). Another study conducted in China investigated the impact of air pollution perception on urban settlement intentions of young talent (Yao et al., 2022). The study found that air pollution perception had a significant impact on young talent's urban settlement intentions, and this impact was mediated by residential satisfaction (Yao et al., 2022). This suggests that individuals' intentions to protect themselves from air pollution can influence their decisions regarding where to live and settle.

Furthermore, the level of public perception of air pollution has been found to determine the personal protection demands of the public (Tu & Zhao, 2021). According to the protection motivation theory, individuals' perception of air pollution can influence their intentions to engage in self-protective behaviors (Tu & Zhao, 2021). If individuals perceive air pollution as a significant threat to their health, they are more likely to have the intention to protect themselves from it. It is important to note that the relationship between the TPB and the intention to protect oneself from air pollution is influenced by various factors. For example, demographic characteristics, economic development, and socio-cultural factors have been found to moderate this relationship (Yao et al., 2022). Additionally, the cost-benefit judgment and the ability to take action to protect oneself against air pollution can also influence individuals' engagement in self-protective behaviors (Delmas & Kohli, 2019).

Based on phenomena, theories and previous research, as well as the existence of interesting research gaps to examine electric vehicle purchasing behavior in order to reduce air pollution, researchers are encouraged to explain the emergence of this behavior using the TPB Model method, especially in the city of Central Jakarta, the capital of Indonesia, ranking The three regions are most exposed to air pollution and have poor quality air. The electric vehicle purchasing behavior in Jakarta is influenced by the intention to protect oneself from air pollution.

Consumers' perceived benefit of electric vehicles plays a significant role in shaping their attitude and purchase intention. Electric vehicles are perceived as having advantages over traditional combustion engine vehicles in terms of zero petroleum consumption and low pollution (Yang et al., 2020). The perceived benefits directly affect consumers' intention to buy electric vehicles (Zang et al., 2022).

Attitude towards behaviour towards electric vehicles are another important factor influencing the intention to purchase. Positive attitudes towards electric vehicles increase the likelihood of consumers considering and ultimately purchasing them (Yang et al., 2020). The consumer's perception of electric vehicles as forward-looking technology products with similar driving operation and usage costs compared to traditional vehicles also influences their attitudes (Tu & Yang, 2019). The control consumers have over the resources required to purchase electric vehicles affects their behavioral intention. Consumers' self-control ability and consultation opinions from their surroundings significantly influence their intention to purchase electric vehicles (Tu & Yang, 2019). The perceived ease of use and price value of electric vehicles also indirectly affect purchase intention (Maso & Balqiah, 2022).

METHOD

This study uses a quantitative approach. Quantitative research is described as a study that aims to quantify data via statistical analysis (Malhotra, 2007). As a result of its aims, this form of study is an explanatory model that is advantageous for examining how a variable influences other variables through hypothesis testing (Cooper and Schindler 2009; Creswell 2012). The instrument used in this research was a questionnaire with items graded on a Likert scale of 1-5. ATB was quantified using seven items derived from the questions in Mi et al. (2020) research. SN was determined using four-question items adapted from Conner, K (2020) and Adam, D (2020). Meanwhile, PBC was measured using three question items adapted from the research of Prasetya et al. (2021). This study assessed protection intention using four-question items derived from Sharifirad et al. (2021) and Prasetya et al. (2021). Finally, this research used the five-item questionnaires developed by Gao et al. (2017) to assess the purchase of electric vehicles.

Adults in Jakarta Central served as the population for this research. Hurlock defined early adulthood as the period between 18 and 40. Adulthood is split into three stages, the first of which is young adulthood, which spans 20 to 40 years. Middle adulthood is defined as the period between the ages of 40 and 65, while late adulthood is defined as the period between the ages of 65 and older (Papalia et al., 2007). Purposive sampling was utilized in this investigation. The criteria used in this study is having an electric vehicle in Central Jakarta. The research objectives were achieved through the application of data analysis tools. The data analysis methodologies utilized to assess the effect of variables affecting purchasing behavior electric vehicles strategies include descriptive statistical analysis and Partial Least Square Structural Equation Modeling (PLS-SEM). Descriptive statistics summarize data using frequency distribution, tables, or graphs that include the average value, median, standard deviation, or other statistical characteristics.

RESULTS AND DISCUSSION

Result

1. Description of Respondents Characteristics.

The following section will describe the characteristics of respondents in this study to offer an overview of respondents by gender, age, last education, employment, and income. Table 1 contains the findings of the description of the respondents' characteristics.

Table 1. Description of Respondents Characteristics

Description		Amount	%
Gender	Man	76	45.8
	Woman	90	54.2
Age	<=25 years	12	7.2
	26-40 years old	125	75.3
	41 - 55 years old	29	17.5
Last education	Bachelor's degree	95	57.2
	Master's degree	8	4.8
	Senior High School	61	36.7
	Junior High School	2	1.2
Profession	Government employees	15	9.0
	Private employees	83	50.0
	Student/ Student	16	9.6
	Self-employed	33	19.9
	Housewife	16	9.6
	Other	3	1.8
Income	<= 2.5 million	19	11.4
	2.6 - 5 million	65	39.2
	5.1 - 7.5 million	57	34.3
	7.5 - 10 million	19	11.4
	> 10 million	6	3.6

Source: Data processed (2023)

The findings of the descriptive analysis in Table 1 indicate that the proportion of male and female respondents in this research was well balanced, with 45.8% male and 54.2% female. The majority of respondents in this survey are between the ages of 26 and 40, and the majority hold a bachelor's degree in education. The bulk of respondents in this survey are private workers, accounting for more than half of the total. Additionally, Table 1 demonstrates that most respondents in this survey earn between 2.6 to 5 million dollars.

Furthermore, in a descriptive analysis of the respondents' answers, most respondents tended to strongly agree on all SN items except for the second item, which the majority strongly agreed. The average number for each item on the SN ranges from 4.14 to 4.50, which shows that most respondents from Central Jakarta residents think that individuals and the surrounding environment are aware of the urgency of air pollution. Likewise, for the ATB question item, the average answer varies between 4.04 and 4.39, which shows that most respondents agree that they

have a careful attitude toward the dangers of air pollution in Jakarta. PBC responses revealed that favorable responses to each question item dominated them. The descriptive analysis found that most of the respondents believed that pollution could be easily prevented by having electric vehicles. In addition, Table 2 shows that most respondents strongly agree with each protective intention question item, as evidenced by the average answer of 4.34 to 4.52. This research found that the people of Central Jakarta are persistent in reducing efforts to exacerbate air pollution by replacing their vehicles with electric vehicles. Finally, this study found that positive items in the purchasing behavior variable received positive responses from respondents with an average value of 4.36 to 4.51. In contrast, negative things received a negative response; most respondents disagreed with the fourth and fifth purchasing behavior items. As a result, the people of Central Jakarta have a positive attitude towards obtaining electric vehicles.

2. Convergent Validity Evaluation

Items with an outer loading of less than 0.4 must be excluded from the measurement model. Meanwhile, items with outer loading 0.4 – 0.7 will be maintained as long as internal consistency reliability is achieved.

Table 2. Convergent Validity Test Results after Model Evaluation

Code	Question Items	Outer Loading	AVE	CR
SN.1	Everyone around me is worried about Jakarta's air quality right now	0.845		
SN.3	People around me try to keep themselves from polluting the environment	0.737	0.656	0.851
SN.4	People around me are worried about the dangers posed by the poor air quality in Jakarta	0.843		
ATB.1	I'm worried about the poor air quality in Jakarta	0.413		
ATB.2	I feel stressed by the poor air quality in Jakarta	0.634		
ATB.4	I feel worried about the impact of the poor air quality in Jakarta on my health	0.736		
ATB.5	I feel comfortable if I am in a place with minimal air pollution	0.795	0.409	0.800
ATB.6	I feel uncomfortable if I am in a place where there are lots of motorized vehicles	0.618		
ATB.7	I am worried about my family's health due to poor air quality	0.570		
PBC.2	I believe that environmental pollution around me can be reduced	0.750		
PBC.3	I am worried that I will not be able to set a good example in reducing air pollution in my environment	0.750	0.563	0.720
PI.1	I am enthusiastic about reducing air pollution by using environmentally friendly vehicles	0.736		
PI.3	I am willing to start reducing the use of motorized vehicles to reduce air pollution in Jakarta	0.719	0.545	0.782

Code	Question Items	Outer Loading	AVE	CR
PI.4	I intend to reduce air pollution in my environment by using environmentally friendly vehicles	0.759		
PB.1	I bought an electric vehicle to reduce air pollution in Jakarta	0.470		
PB.2	I will advise people around me to use electric vehicles to reduce air pollution	0.438		
PB.3	I think that buying an electric vehicle is a waste of money	0.574	0.381	0.745
PB.4	The use of electric vehicles is an important solution in improving air quality	0.759		
PB.5	Buying an electric vehicle for me is a futile effort to reduce air pollution in Jakarta	0.766		

Source: Data processed (2023)

Internal Consistency/ Reliability. The results of the analysis in Table 2 show that after evaluation all items have an outer loading value of more than 0.4. Composite reliability values in Table 2 show that all variables have good internal consistency reliability. Internal consistency/reliability is seen through the composite reliability value, a latent variable is said to have good internal consistency/reliability if the composite reliability value is more than 0.7. Thus, items with an outer loading of 0.4 – 0,7 are maintained in the measurement model because internal consistency/reliability has been achieved without having to delete these items.

Discriminant Validity. Discriminant validity testing is done by using the square root of AVE. The square root of the AVE is greater than the correlation of the latent variable with other latents, indicating the discriminant validity of each item on the latent variable. Table 3 shows the results of the discriminant validity test in this study.

Table 3. Discriminant Validity Test Results

	SN	ATB	PBC	PI	PB
SN	0.810	0.318	0.308	0.023	0.082
ATB	0.318	0.639	0.234	0.106	0.299
PBC	0.308	0.234	0.750	-0.272	-0.165
PI	0.023	0.106	-0.272	0.738	0.420
PB	0.082	0.299	-0.165	0.420	0.617

Source: Data processed (2023)

The results of the discriminant validity test in Table 3 show the value of the square root of AVE on the diagonal matrix while the other value next to it is the correlation coefficient of that variable with other variables in the model. The results of the discriminant validity test show that the AVE root value in each variable is greater than the correlation value with other variables in the model. Thus, Table 3 shows that all the variables in this study have items with good discriminant validity.

Adjusted R-Square Rating . The corrected coefficient of determination was used to assess the role of exogenous variables on endogenous variables in this study. The use of a corrected determination coefficient is suggested by Cohen, et.al (2003) to avoid bias in the number of predictors included in the model.

Table 4. Value of Adjusted R-Square Structural Model

Influence	Adjusted R ²
ATB, SN, PBC →PI	0.270
PI →PB	0.230
Average Adjusted R-Square (AARS)	0.239

Source: Data processed (2023)

The corrected coefficient of determination (Adjusted R²) obtained from the influence of variables and ATB, SN, and PBC on protection intention is 0.270 which means that protection intention can be explained by the variables ATB, SN, PBC by 27.0% and the remaining 23.0 % is explained by other variables outside the study. Likewise, the protection intention towards purchase behavior is described in Table 4. Table 4 show the adjusted R - square obtained from the effect of protection intention on purchase behavior is 0.230 which means that protection intention can explain the diversity of purchase behavior by 23.0% and the rest of 77.0% is explained by other variables outside the study.

Hypothesis test. Hypothesis testing in PLS-SEM is done by looking at the p-value of the path coefficient of the influence of exogenous variables on endogenous variables in this study. The exogenous variables in this study include SN, ATB, and PBC , while the endogenous variables in this study are Protection Intention and Purchase Behavior . Figure 2 describes a structural model that shows the relationship between variables in the study.

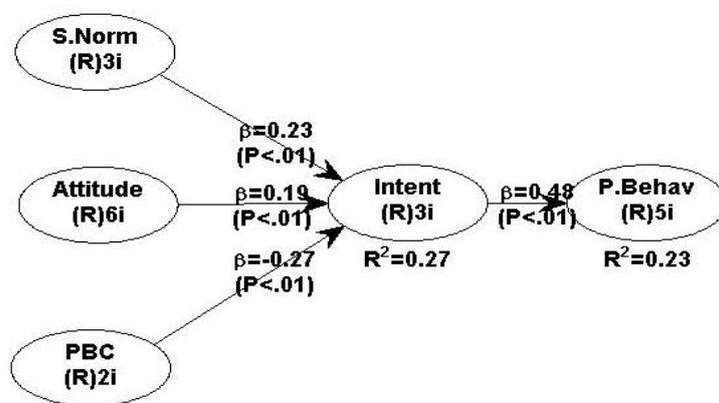


Figure 1
Results of Relationship Testing on the Structural Model

Source: Data processed (2023)

The coefficient represented by the arrow between the variables in Figure 1 shows the magnitude of the effect given by the exogenous variable on the endogenous variable, while the p value in Figure 1 shows the significance of the effect of the exogenous variable (p-value). The results of hypothesis testing in detail are described in Table 5.

Table 5. Research Hypothesis Testing

	Hypothesis	Path Coefficient	Standard Error	P-Value
H1	SN Affects PI	0.235	0.074	<0.001
H2	ATB Affects PI	0.192	0.075	0.006
H3	PBC Affects PI	-0.267	0.073	<0.001
H4	PI Affects PB	0.478	0.072	<0.001

Source: Data processed (2023)

The results of the path coefficient test in Table 5 show that the path coefficient of the influence of SN on protection intentions is positive at 0.235 with a p-value <0.001. The coefficient is positive and the p-value is less than 5% indicating that SN has a positive effect on protection intention. So, it can be seen that the higher a person's belief in the implementation of air pollution prevention in Central Jakarta by the people around him, the intention to protect himself from pollution will increase. Similar results were also found in the path coefficient of the influence of ATB on protection intentions which also had a positive value of 0.192 with a p-value below 5%. The results of testing the path coefficient for the influence of ATB on protection intentions show that someone who has a good attitude towards air pollution prevention behavior will have a stronger intention to protect themselves from air pollution compared to those who have a bad attitude towards air pollution prevention behavior.

In contrast to SN and ATB, PBC in this study was found to have a negative effect on protection intentions. This finding can be seen from the negative path coefficient value of -0.267 with a p-value <0.001. The path coefficient value is negative and the p-value is lower than 0.05, meaning that a person's self-confidence is higher in being able to prevent themselves from being exposed to air pollution or bad air, thus making the person less motivated to protect themselves from air pollution. The last hypothesis tested in this study is the influence of self-protection intentions from pollution on the buying behavior of electric vehicles. The test results in Table 5 show that the path coefficient p-value is lower than 0.001. P-value lower than (5%) proves that intention is protective of buying behavior. A positive path coefficient of 0.335 indicates the positive influence that protective intentions have on purchasing behavior. Positive influence means that the stronger a person's intention to protect themselves from exposure to air pollution, the person will be interested in buying an electric vehicle to protect themselves from bad air and minimize air pollution.

Identification of Indirect Effects. The indirect effect on PLS-SEM shows the effect of the variables SN, ATB and PBC on purchase behavior through protection intention . The direct effect coefficient is obtained by multiplying the direct effect of SN, ATB and PBC on protection intention with the direct effect of protection intention on purchase behavior. Sobel test is used to

test the indirect effect. P-value less than (5%) indicates a significant indirect effect between variables.

Table 6. Indirect Effects Identification

Indirect Influence	Path Coefficient	Standard Error	P-Value
SN Against Purchase Behavior Through Protection Intention	0.112	0.054	0.019
ATB Against Purchase Behavior Through Protection Intention	0.092	0.054	0.045
PBC Against Purchase Behavior Through Protection Intention	-0.128	0.053	0.009

Source: Data processed (2023)

Table 6 shows the path coefficient of the indirect effect and the p-value of each indirect effect. The indirect effect of SN on buying behavior through protective intention is significant at = 5%. The SN path coefficient on buying behavior through protective intention is 0.112 with a p-value of $0.019 < 5\%$ proving that SN is proven to be able to increase the buying behavior of electric vehicles with the presence of protective intentions in Central Jakarta residents. ATB was also found to have an effect on buying behavior through protective intention as indicated by a p-value of $0.045 < 5\%$. The coefficient of the indirect influence of ATB on purchasing behavior through protection intentions is positive at 0.092, which indicates that the better a person's self-protection attitude towards air pollution, the purchase behavior of electric vehicles will also increase.

Different results were found in PBC. The path coefficient for the indirect influence of PBC on purchasing behavior is negative at -0.128 with a p-value of 0.009. Negative coefficient and p-value $< 5\%$ means that the stronger a person's perception of self-protection against air pollution, the lower his buying behavior will be. The low purchase behavior of electric vehicles is caused by the low intention to protect oneself from pollution and the high level of perceived behavioral control.

Goodness of Fit Inner Model. The goodness of fit assessment of the goodness of fit model of the PLS-SEM assessment model is carried out to explain how the model can describe empirical phenomena. The goodness of fit model in PLS-SEM is not a global goodness of fit like in CB-SEM but tends to describe the structural fit of the research model (Kock, 2014).

Table 7. Goodness of Fit Inner Model

No	Criteria	Mark	Cut-off	Information
1	ARS	< 0.001	<i>p-value</i> 0.05	Well
2	AARS	< 0.001		Well
3	AVIF	1.217	Acceptable if 5.0, ideally 3.30	Ideal
4	AFVIF	1,279		Ideal
5	TGoF	0.356 _	small ≥ 0.1 , medium ≥ 0.25 , large ≥ 0.36	Medium
6	SPR	1,000	Acceptable if 7.0, ideally = 1	Ideal
7	SSR	1,000		Ideal

Table 7 shows the results of the goodness of fit assessment on the structural model. Based on Table 7, it can be seen that the assessment of each goodness of fit criterion has met the cut-off so that based on the seven existing criteria it is stated that the model used in this study is fit and can be used in further studies.

Discussion

This study found that SN was able to increase the intention to protect Central Jakarta residents against air pollution or bad air. A person's subjective view of how the people around him respond to the threat of air pollution to health apparently has an impact on the individual's intention to protect himself from being exposed to excessive air pollution. This study found that SN was able to increase the intention to protect Central Jakarta residents against air pollution or bad air. A person's subjective view of how the people around him respond to the threat of air pollution to health apparently has an impact on the individual's intention to protect himself from being exposed to excessive air pollution. The results of this study support the results of research by Lim & Sooyoung (2021) and Xia, et al. (2020). The environment and people closest to them are proven to have a relationship with individual respondents regarding an event as stated by Xia, et al. (2020) that individuals who are in an environment that helps maintain better air conditions to maintain health will encourage these individuals to also protect the environment. In line with the opinion of Lim & Sooyoung (2021), this research proves that protective behavior against increasingly severe air pollution carried out by family and friends will make individuals intend to carry out the same protection.

The results of this study contradict the results of research by Gholamrezai, S, et al. (2021) and Chu & Liu (2021). Chu & Liu (2021) stated that SN cannot affect intention if strong personal beliefs are found in behavior. In Chu & Liu's research (2021), it was found that the intention of Americans to reduce the use of fossil fuels, especially those containing smoke and other pollutant gases, was not influenced by their perception of the behavior of the surrounding environment. The existence of differences in personal beliefs about certain behaviors turns out to have an impact on a person's intention to take self-protection measures.

ATB is considered to play an important role in forming the intention of Central Jakarta residents to protect themselves from air pollution. This finding is in accordance with the research of Giampietri, et al. (2017). A person's attitude towards a certain behavior will strengthen the person's intention to carry out that behavior (Giampietri, et al., 2017). This study found that residents of Central Jakarta have good ATB towards air pollution prevention and a strong intention to protect themselves. The vigilante attitude to always keep their distance is the main concern of Central Jakarta residents in this research. The alert attitude of the people of Central Jakarta regarding pollution also arises from the anxiety experienced by the residents of Central Jakarta regarding the dangers that can be caused by air pollution. This alert and anxious attitude towards the dangers of air pollution has an impact on a strong intention to protect oneself from pollution.

An interesting finding in this research is that PBC has a negative effect on protection intentions. This finding contradicts several other studies such as research by Carfora, et al. (2019), Xia, et al. (2020). PBC should be an important factor in forming intentions to perform certain behaviors, but Aitken et al. (2020) stated that under certain conditions PBC does not have an impact on the emergence of intentions. Aitken, et al. (2020) added that a lack of belief in the positive impact of benefits from certain behaviors will have an impact on a person's PBC. The path coefficient on perceived behavior is greater than other TPB variables, namely SN and ATB. With a large coefficient of influence of perceived behavior compared to SN and ATB, it shows a

greater role in influencing one's intention to protect oneself from air pollution. Confidence that is too high will avoid the adverse effects of air pollution which will get worse and will even reduce motivation to protect yourself even though the people around you and yourself have a good attitude towards air pollution prevention behavior. This finding is in line with the research results of Prasetyo, et al (2020). Prasetyo, et al (2020) revealed that in the Philippines which is also a country in Southeast Asia, people lack confidence in being able to protect themselves from air pollution. Prasetyo, et al (2020) added that weak confidence in self-protection can be caused by a lack of public knowledge about the impacts, symptoms, and effective ways to protect themselves from exposure to air pollution.

Research Carfora et al. (2019) and Prasetyo et al. (2019) is supported by these findings (2020). It is well known that protective motivation drives behavior, especially behavior in response to danger. Fear of the dangerous impact of air pollution on health and the environment encourages people to take preventive action. Motivated to protect themselves from bad air pollution, consumers tend to take precautions while driving, one of which is buying electric vehicles. People's views on air pollution cannot be separated from the determination of these protective reasons. The main component that can encourage Central Jakarta residents to buy electric vehicles is intention, which is the main domain in influencing behavior. Most Central Jakarta residents say they are ready to make significant sacrifices, including time and money, to get the opportunity to drive electric vehicles to make a positive impact on the environment, especially in reducing air pollution.

This research finally reveals that the TPB model can be applied well to explain electric vehicle purchasing behavior in order to reduce air pollution. The goodness of the model and the good level of prediction accuracy strengthen that SN, ATB, and PBC can be factors that can shape the emergence of behavior, especially consumer behavior with the desire to protect themselves. This research further reveals that a threat, especially a health threat in the form of lung, respiratory and other organ diseases can change people's economic behavior. Xia, et al (2020) added that individual motivation to live healthily and avoid certain diseases can also have an impact on individual behavior, especially in trying to maintain health and avoid disease. Poor air quality in this study was proven to be able to trigger changes in people's behavior to always be alert to the threat of disease, which is manifested by their willingness to spend time and spend money to buy electric vehicles.

CONCLUSION

This research applies the Protection Motivation Theory (PMT) to evaluate the factors that influence the buying behavior of electric vehicles with the aim of minimizing air pollution, which is getting worse in Indonesia, to be precise in Central Jakarta City. This study shows that SN and ATB are important factors that can increase individual intentions to protect against air pollution. PBC in research has the opposite role to SN and ATB. Perceived behavior was found to be an inhibiting factor in individuals' intentions to carry out self-protection. The perception that it is easy to avoid exposure to air pollution has an impact on the low intention to protect oneself. The final finding in this research is that there is a direct influence of protection intentions on purchasing behavior, which means that the higher a person's intention to protect themselves from air pollution, the better their behavior in preventing air pollution by buying an electric vehicle.

The research authors recommend that the government take steps to ensure that there is no disparity in market prices for electric vehicles at a time when the air pollution phenomenon in Jakarta is getting worse based on research findings and people's purchasing power. Residents of Central Jakarta in particular need to be vigilant because some people may feel helpless so they don't take air pollution prevention measures. The study found that people are more likely to take preventative action against air pollution if they can do so with relative ease, so that both government and private industry can meet society's needs in this regard. This includes innovation in electric vehicles as a solution. Because behavior is highly contextual, this research cannot be extrapolated to explain consumer preference for electric vehicles in other countries. The emergence of a habit can also be influenced by regional sociocultural influences. Therefore, further research that considers extraneous variables could complement the findings of this study. In addition, this model can be combined with other behavioral theories, such as Protection Motivation Theory (PMT), Technology Acceptance Model (TAM), etc. In the future, combining these models will help explain customer actions and changes in attitudes. Arises, especially those related to hazards, especially hazards to health.

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