The Roles of Awareness, Interest, Evaluation, Trial on Adoption and its Impact on Purchase Decision: Study on New Product of "Wuling" Electric Car Consumers in Bandung

TETET CAHYATI[1], DADANG MUNANDAR[2]

[1]International Women University Bandung, Indonesia
Email : tetet@iwu.ac.id

ABSTRACT

The objectives of this study is to know the influence of the new product adoption on purchase decision among the consumers of the Wuling Electrical Vehicle in Bandung. The research employs a quantitative approach and survey. By using the purposive method, 96 consumers in Bandung were selected as the respondents of the study. The writer uses path analysis to analyze the data. Findings of the research are as follows: 1) Awareness, Interest, Evaluation and Trial affect significantly Adoption simultaneously; 2) Awareness affects significantly Adoption partially; 3) Interest affects significantly Adoption partially; 4) Evaluation affects significantly Adoption partially; 5) Trial affects significantly Adoption partially; and 6) Adoption affects Purchase Decision significantly. Thus, the adoption process of the new electric car positively affect the consumers purchase decisions whether or not they will buy the electrical vehicle.

Keywords: adoption, purchase decision and electric car.

ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh adopsi produk baru terhadap keputusan pembelian di kalangan konsumen kendaraan listrik Wuling di Bandung. Penelitian ini menggunakan pendekatan kuantitatif dan survei. Dengan menggunakan metode purposive, 96 konsumen di Bandung dipilih sebagai responden penelitian. Penulis menggunakan analisis jalur untuk menganalisis data. Temuan dari penelitian ini adalah sebagai berikut: 1) Kesadaran, Minat, Evaluasi dan Percobaan berpengaruh signifikan terhadap Adopsi secara simultan; 2) Kesadaran berpengaruh signifikan terhadap Adopsi secara parsial; 3) Minat berpengaruh signifikan terhadap Adopsi secara parsial; 4) Evaluasi berpengaruh signifikan terhadap Adopsi secara parsial; 5) Percobaan berpengaruh signifikan terhadap Adopsi secara parsial; dan 6) Adopsi berpengaruh signifikan terhadap Keputusan Pembelian. Dengan demikian, proses adopsi mobil listrik baru secara positif mempengaruhi keputusan pembelian konsumen apakah mereka akan membeli kendaraan listrik atau tidak.

Kata kunci: *adopsi, keputusan pembelian, dan mobil listrik*

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I. INTRODUCTION

Wuling Air is an electric micro car made by SAIC-GM-Wuling (SGMW) since 2022. This is a new product that has been launched in Indonesia. In Indonesia, most of the cars are imported from Japan. For many years the car market has been dominated by Japan. The most popular car from is named as Honda. Another famous car from Japan is called Toyota which is commonly used as well by Indonesian people. Besides those two famous car trademarks, there is also a famous car from Japan in Indonesia, namely Suzuki. The next commonly used cars in Indonesia are made in South Korea, such as Kia. Within the country Indonesia also produced cars, namely Kijang. Most of the cars mentioned before are all cars based on oil.

Sales of electric cars in Indonesia in October 2022 reached 2,803 units. This is a slight increase compared to September sales (2,801 units). Based on data from GAIKINDO_association of car industry in Indonesia, the electric cars' sales reached 2,157 units in October 2022. Wuling achieved the largest sales of 76 percent with the Air ev model. Wuling achieved sales of the Air ev model of 1,629 units. Compared to the previous month, Wuling sales in October fell 13.5 percent (The Association of Indonesia Automotive Industries, 2022)

Currently, people in Indonesia, especially in Bandung, more and more people use electric car, especially Wuling. In this research, the writer tries to study how is the process of consumers use the new product of the electric car, namely, Wuling. In this research, the thesis statement are as follows: From those backgrounds, the writer raise the following research statements: First, Do Awareness, Interest, Evaluation and Trial affect significantly Adoption simultaneously? Second, Does Awareness affect significantly Adoption partially? Third, Does Interest affect significantly Adoption partially? Fourth, Does Evaluation affect significantly Adoption partially? Fifth, Does Trial affect significantly Adoption partially? Sixth, Does Adoption affect significantly Purchase Decision?

II. RESEARCH METHOD

In this research, quantitative and descriptive research with survey method are used by the writer. By using a purposive method, 96 respondents have been selected. Because the number of Wuling users in Bandung is not known accurately, so the Cochran sampling formula is used as follows:

$$n = \left[\frac{Z_{\alpha/2} \cdot \sigma}{E} \right]^2$$

Where :

n = sample

$Z_{\alpha/2}$ = 1.96

E = 0.1

$\alpha = 0.5$

n = $|1{,}96 \text{x} 0{,}5|^2$

$$0,1$$

$$= 9.8^2$$

$$n = 96.04$$

$$n = 96$$

The writer gather the data by using the questionnaire. Path analysis formula is employed in the data analysis. Path analysis has been known as a statistical analysis technique used to make calculation for the variable relationship possessing both direct and indirect effect (Narimawati, U & Sarwono, J, 2022).
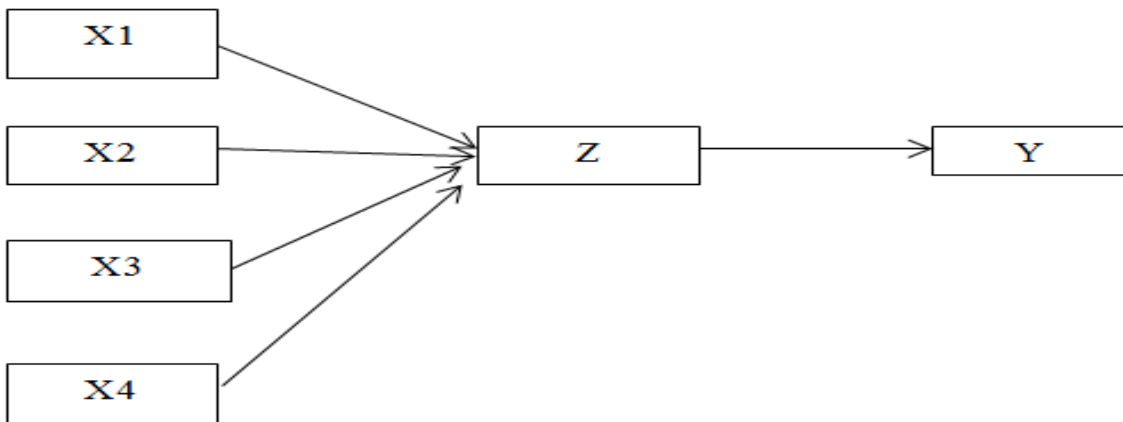
The research model is as follows:

FIGURE 1 RESEARCH MODEL

Where:

X1: Awareness; X2: Interest; X3: Evaluation; and X4: Trial

Z: Adoption

Y: Purchase Decision

III. RESEARCH RESULT AND DISCUSSION

3.1 Research Results

Sub Structure I Results: Relationship of Awareness, Interest, Evaluation, Trial and Adoption variables

The Value of R square

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.998[a]	.996	.995	.309	2.171

a. Predictors: (Constant), Trial, Interest, Evaluation, Awareness

b. Dependent Variable: Adoption

Figure 2 the Value of R Square

The first R^2 value in Figure 4.1 above is 0.996 meaning that the effect of Awareness, Interest, Evaluation and Trial variables on Adoption variable is 0.996 (99.6%) and rest influence is due to other variables outside this study.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	399.567	4	99.892	1045.382	.000[b]
	Residual	1.433	15	.096		
	Total	401.000	19			

a. Dependent Variable: Adoption

b. Predictors: (Constant), Trial, Interest, Evaluation, Awareness

Figure 3 Significance Value of ANOVA

Simultaneous Hypothesis Testing

H0: Awareness, Interest, Evaluation and Trial do not affect significantly Adoption simultaneously

H1: Awareness, Interest, Evaluation and Trial affect significantly Adoption simultaneously

The criteria of hypothesis testing are:

 H0 is rejected if the significance level (Sig) value is less than 0.05;

H0 is accepted if the significance level (Sig) value is more than 0.05

As it has been obtained from the calculation, the significance level (Sig) value within the Sig column in Figure 4.2 is 0.000 < 0.05; thus H0 is rejected and H1 is accepted meaning that Awareness, Interest, Evaluation and Trial affect simultaneously Adoption significantly.

Testing the Hypothesis Partially

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.074	.306		-.242	.812		
	Awareness	-3.672	.413	-3.798	-8.886	.000	.001	766.735
	Interest	-.246	.028	-.253	-8.627	.000	.278	3.601
	Evaluation	3.713	.378	3.796	9.830	.000	.002	625.608
	Trial	1.212	.076	1.210	15.872	.000	.041	24.398

a. Dependent Variable: Adoption

Figure 4 Path Coefficients

The First Hypothesis Testing: Awareness and Adoption Relationship

H0: Awareness has no significant effect on Adoption partially

H1: Awareness has significant effect on Adoption partially

From the calculation the significance level (Sig) value within the Sig column in Figure 4.3 is 0.000 for Awareness variable is < 0.05; thus reject H0 and accept H1. This decision result means that the variable of Awareness affects significantly Adoption partially. The amount of effect is as much as 0.413 which is significant.

Second Hypothesis: Relationship between Interest and Adoption Variables

H0: Interest has no significant effect on Adoption partially

H1: Interest has significant effect on Adoption partially

From the calculation result, the significance level (Sig) value in Sig column in Figure 4.3 is 0.000 for Interest variable is < 0.05; thus reject H0 and accept H1. The decision result means that Interest affects significantly Adoption partially. The amount of effect is as much as 0.028 which is significant.

Third Hypothesis: Relationship between Evaluation and Adoption Variables

H0: Evaluation has no significant effect on Adoption partially

H1: Evaluation has significant effect on Adoption partially

From the calculation result, the significance level (Sig) value in Sig column in Figure 4.3 is 0.000 for Evaluation variable is < 0.05; thus reject H0 and accept H1. The decision result means that the Evaluation affects significantly Adoption partially. The amount of effect is as much as 0.378 which is significant.

Fourth Hypothesis: Relationship between Trial and Adoption Variables

H0: Trial has no significant effect on Adoption partially

H1: Trial has significant effect on Adoption partially

From the calculation result, the significance level (Sig) value in Sig column in Figure 4.3 is 0.000 for Trial value of is < 0.05; thus reject H0 and accept H1. The decision result means that Trial affects significantly Adoption partially. The amount of effect is as much as 0.076 which is significant.

Sub Structure II Results: Relationship between Adoption and Purchase Decision Variables

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.747[a]	.557	.533	2.827

a. Predictors: (Constant), Adoption

Figure 5 The Value of R Square

The second R² (R square) value in Figure 4.4 above is 0.557 meaning that the influence of Adoption variable on Purchase Decision is 0.557 (55.7%) and the rest as much as 0.443 (44.3%) is influenced by other variables.

Hypothesis: Relationship between Adoption and Purchase Decision Variables

ANOVAᵃ

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	181.123	1	181.123	22.668	.000ᵇ
	Residual	143.827	18	7.990		
	Total	324.950	19			

a. Dependent Variable: Purchase Decision

b. Predictors: (Constant), Adoption

Figure 6 Value of Significance Level

H0: Adoption does not affect Purchase Decision significantly
H1: Adoption affects Purchase Decision significantly

From the calculation result, the significance level (Sig) value in Sig column in Figure 4.5 is 0.000 for Adoption variable is < 0.05; thus reject H0 and accept H1. The decision result means that the Adoption affects significantly Purchase Decision.

3.2 Discussion

First, Awareness, Interest, Evaluation and Trial affect significantly Adoption simultaneously. The new products can create unexpected emotions. Meanwhile, customers can expect new product which is consistent with their objectives; On the other hand , they may also worry about possible consequences that are incongruent with the objective. A study about the new product that has been carried out by Lin, Y.T., et.al., 2020) shows that the adoption of the new products are effective if the customers feel happy and anxious strongly. Use of electrical vehicles, currently, increases significantly in various countries. This is not because of the consumer needs merely dealing with the means of personal transportation, this deals with experiences, charging infrastructure, and marketing strategies as well. Accordingly, for the practical purposes, both consumers and sellers must know and experience of the adoption of the new product (Kumar, L.L. & Alok, K., 2020).

Second, Awareness affects significantly Adoption partially. Based on the research consumer knowledge (awareness) affects adoption decisions significantly (Li, L et.al., 2021).

Third, Interest affects significantly Adoption partially. In the research concerning the adoption of autonomous shopping system, the study reveals that psychological and cultural barriers,

which emerges during the interest of consumers on the new product arouses, relate to the adoption of the new shopping system (Bellis, e.d. & Johar, G.V., 2020).

Fourth, Evaluation affects significantly Adoption partially. As a matter of fact, the consumers control resources, such as money, evaluation, and awareness which are used to evaluate when they want to buy electric vehicles. The customers' need to buy the electric vehicles is significant factors. Furthermore, the environmental awareness of consumers and the technological products' acceptance will influence the customers' buying decision. If the customers trust that electrical cars give more advantages to them or they perceive that the operation of the electrical cars is more practical, then the customers shall have positive opinion the electric car buying. This is done because the consumers see that electric vehicles as technological products of the future with similar characteristics with the cost of operation and driving use when it is compared with the conventional cars. Moreover, in terms of regulation and legal provision consumers ' attitude or behavior towards the purchase of electric vehicles must be matched respectively (T, Je Ce & Yang .C., 2019).

Fifth, Trial affects significantly Adoption partially. The role of trial is important in using the electronic vehicle since there are many factors that can influence of the consumers in choosing the electronic vehicle. This relates to barriers of using such electronic vehicle. Those are performance and range, the total cost of ownership, shortage of charging infrastructure, lack of consumer awareness on the electronic vehicle technology (Tarei, P.K., et.al., 2021).

Sixth, Adoption affects Purchase Decision significantly. Consumer's adoption on new technology, such in this research is an electric car, can contribute to marketing and promotional strategy which closely relates to the consumer purchase decision. When the process of adoption has been done by the consumers it will lead to the decision of buying something new. In practical purposes, the adoption can have an impact on promotion and marketing campaign which is aimed at steering the consumer purchase decision (PK. Kapur., et.al., 2019). In the study of the new electric vehicle among the consumers, it has been revealed that the adoption of using the electric vehicles contributes to the accelerating purchase of those electric vehicles (Plananska, J. & Gamma, K., 2022). Furthermore, based on the official report, in 2019, Indonesia has been ranked second with 619,840.03 carbon emissions. Accordingly, the Indonesian government has issued a zero emission plan in 2022 and encouraged Indonesian citizens to purchase electric vehicles. Based on the research, it is known that there are several factors why Indonesia consumers have bought the Wuling electric car, namely perceived risk and brand image (Li, X & Setiowati, R., 2023).

IV. CONCLUSION

From the results of analysis and discussion, it can be drawn the following conclusion: First, Awareness, Interest, Evaluation and Trial affect significantly Adoption simultaneously. Second, Awareness affects significantly Adoption partially. Third, Interest affects significantly Adoption partially Fourth, Evaluation affects significantly Adoption partially. Fifth, Trial affects significantly Adoption partially. Sixth, Adoption affects Purchase Decision significantly

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