Jurnal Teknologi Transportasi dan Logistik Volume 3 No 2, Desember 2022, Hal 117-130
p-ISSN 2716-2990; e-ISSN 2745-8954

THE INTEREST OF THE BALINESE PEOPLE IN THE USE OF ELECTRIC VEHICLES

Arif Devi Dwipayana*, Adrian Pradana, I Putu Adi Suryasa, I Gusti Bagus Eka Nitiyasa
Teknologi Otomotif, Politeknik Transportasi Darat Bali, Jl. Batuyang No.109X, Batubulan Kangin, Sukawati, Gianyar, Bali 80582, Indonesia
*arif.devi@poltradabali.ac.id

ABSTRACT

Currently, the use of electric vehicles is experiencing very rapid development in several countries, partly due to the provision of subsidies by the government so that it can support environmentally friendly energy. Following up on Presidential Regulation 55 of 2019 the Governor of Bali Wayan Koster issued the Bali Governor Regulation Number 48 of 2019 concerning the Use of Battery-Based Electric Motorized Vehicles (KBL). The purpose of this study was to analyze the effect of income levels, electric vehicle taxes, product prices of electric vehicles, mileage of electric vehicles and the availability of SPKLU on public interest in using electric vehicles. The sample is 150 people who are in four sub-districts of Denpasar City and other areas of Bali. The data analysis technique used multiple linear regression formula analysis with the help of SPSS version 24 software. The results showed that the income level variable had a positive and significant effect on interest, the vehicle tax variable had a negative and insignificant effect on interest, the product price variable had a positive and significant effect on interest. the mileage variable has a positive and significant effect on interest and the SPKLU availability variable has a positive and significant effect on interest.

Keywords**:** distance traveled; income level; interest; multiple linear regression; product price; spklu; tax

INTRODUCTION

At present the use of electric vehicles is experiencing very rapid development in several countries, partly due to the provision of subsidies by the government so that they can support energy that is friendly to the environment. The development of electric vehicles, especially electric cars in Indonesia, began in 2012, an electric car prototype named Selo was exhibited at the APEC Summit in Bali in 2013. In 2017 the Ministry of Energy and Mineral Resources carried out a program to accelerate the development of electric vehicles starting with the drafting of a Presidential Decree/Perpres which has been consolidated by stakeholders. In 2019 Presidential Regulation Number 55 of 2019 was issued concerning the Acceleration of the Battery Electric Vehicle Program for Road Transportation and was promulgated on August 12 2019. Following up on Presidential Decree 55 of 2019, Bali Governor Wayan Koster also supports the president's program by issuing governor regulations (pergub) which are used to accelerate efforts to protect and improve Bali's natural environment and all its contents. This regulation is the Governor of Bali Regulation Number 48 of 2019 concerning the Use of Battery-Based Electric Motorized Vehicles (KBL) consisting of 17 Chapters and 25 Articles. The Governor's Regulation contains a policy to accelerate the use of Battery-Based KBL directed at preserving Bali's natural environment and minimizing damage to cultural heritage sites and sacred religious buildings in Bali.

Expected demand is one of the producer's tasks that must be accounted for in terms of providing an overview of the demand for a product to consumers, in this case the Regional Government of the Province of Bali has made a big leap regarding efforts to realize electricity independence and make Bali a pilot in the utilization of renewable energy.) through the signing of cooperation with PT PLN Bali Distribution Area. The Bali government, in collaboration with PT PLN, is currently preparing the right strategy to make this happen and encourage people to start switching to using electric vehicles. These strategies include socializing the use of electric

vehicles, designing zones designated for the use of electric vehicles and establishing public electric vehicle charging stations (SPKLU) and providing incentives for electric vehicle users. Socialization has been carried out using social communication methods by utilizing community activities or cooperating with several agencies, both government and private. The selection of zones for the use of electric vehicles will focus on congested areas and tourist destinations as well as the creation of SPKLUs, while providing incentives for the use of KBL can be in the form of fiscal or non-fiscal. Provision of incentives for the community will certainly be a sensitive issue for the community considering that it is not easy to generate public interest in using KBL quickly. To sharpen and get a picture of the interest of the Balinese people, especially the City of Denpasar, towards electric motorized vehicles, preliminary observations were made by interviewing respondents using indicators of income levels, vehicle tax costs, product prices, mileage and availability of SPKLUs. From the results of interviews with 40 people, it was suspected that the community evaluates the indicators used according to the real conditions of the community environment in the city of Denpasar, so the researcher wants to examine more deeply in this regard.

There are two types of groups of electric vehicle adopters, namely early adapters and mainstream consumers (Rogers, 2010). The first group is stated as the type of group that has more income, so it has the ability to adopt, while the second group has an interest in electric vehicles, but is unable to reach the costs set by electric vehicle manufacturers. Bertha Maya Sopha et al. (2019) conducted an analysis of the desire to buy an electric car which is associated with driving habits, demographics, factors that influence public acceptance and expectations of electric cars. Using the multinomial logistic regression method to process the data. The results of the study show that respondents have a high desire to buy an electric car in the future, and the majority of them want an electric car to replace the conventional car they had before. Respondents also understood the environmental impact of electric cars, seen from their assessment of the level of environmental friendliness based on the type of car tested. The results of the study prove that the technical performance factors of electric cars, perceptions of electric cars, and consumer characteristics influence a person's interest in buying a hybrid and plug-in hybrid electric car. Whereas for the type of battery electric vehicle, there are extra factors that influence it, namely the context of use in terms of electricity costs and maintenance of electric cars. For this reason, it is necessary to carry out further research and studies regarding "Balinese People's Interest in Electric Motorized Vehicles" so that they can find out all the constraints and problems faced by the Balinese people and determine the right strategy that can implemented in Bali Province in addition to accelerating the implementation of Governor Regulation 48 of 2019 itself. The hypothesis of this study is H1: Income Level Has a Positive and Significant Influence on Interest in the Use of Electric Vehicles; H2: Vehicle Tax Has a Negative and Significant Effect on Interest in the Use of Electric Vehicles; H3: Product Prices Have a Positive and Significant Influence on Interest in the Use of Electric Vehicles; H4: Mileage Has a Positive and Significant Influence on Interest in the Use of Electric Vehicles; H5: Availability of SPKLU Has a Positive and Significant Influence on Interest in Using Electric Vehicles.

METHODS

This study uses descriptive analysis with a quantitative approach which includes data, analysis and interpretation of the meaning and data obtained. The population is Balinese, especially people who live in the Denpasar City area (North Denpasar, West Denpasar, East Denpasar and South Denpasar). To get good results, it can be done with the sample size of the respondents who were taken to fill out the questionnaire, which was determined to be slightly 5-10 times the number of indicators studied (Sugiyono, 2014: 647). The number of indicators in this study amounted to 29 indicators, thus the sample size taken was 5 X 29 = 145 samples. In this study,

145 respondents were taken as samples and rounded up to 150 samples which can be said to be sufficient to prove the results of this study.

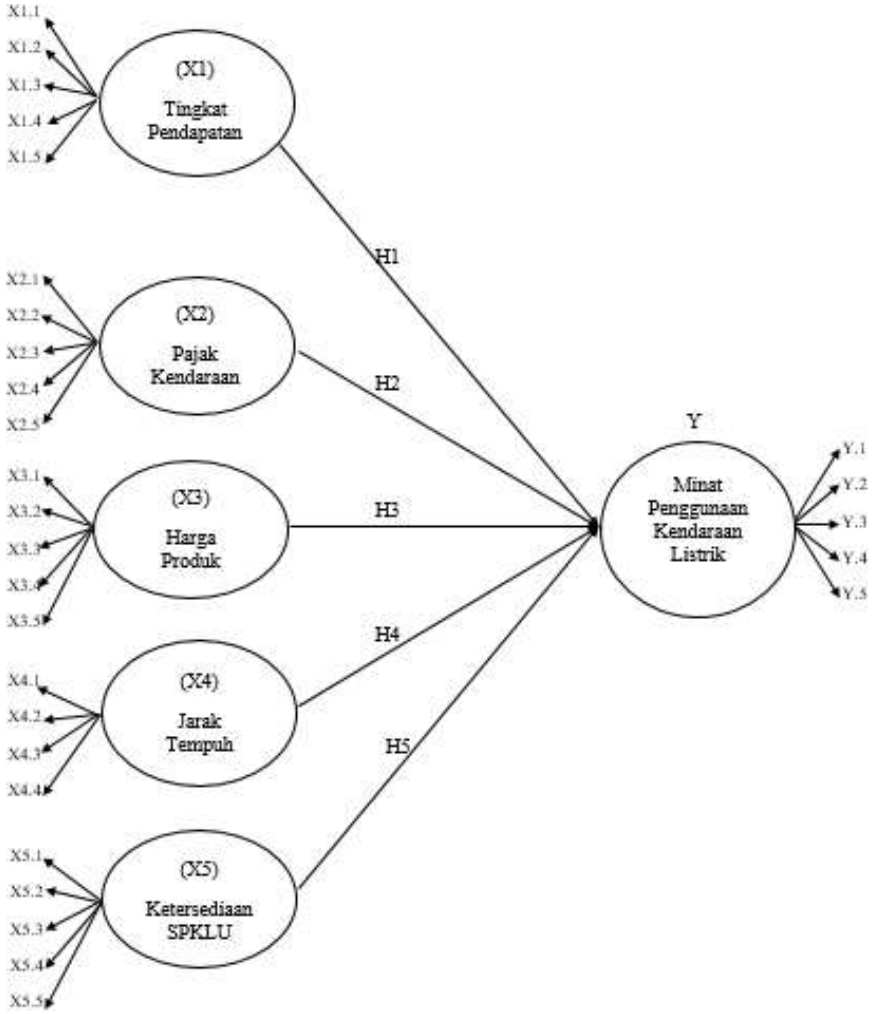

Figure 1. Research Hypothesis

The method of determining the sample using non-probability sampling is purposive sampling. Research data were collected through instruments in the form of questionnaires which were distributed to respondents who live in Denpasar City. The scale used is the Likert scale as a means of measuring attitudes, opinions, and perceptions of a person or group of people about the social phenomena to be studied. Quantitative data is in the form of respondents' opinions on statements which include income level variables, vehicle tax, product prices, mileage, availability of SPKLU and interest in using electric vehicles. The qualitative data in this study is qualitative data which is scored by the scoring method. Primary data is the result of observations, distribution of questionnaires and interviews, secondary data that will be used in this study are related regulations, such as Presidential Decree No. 55 of 2019 concerning the Acceleration of the Battery-Based Electric Motorized Vehicle Program for Road Transportation and Governor Regulation No. 48 of 2019 concerning the Use of Battery-Based Electric Vehicles and SPKLU Distribution Map Data in Denpasar City. The data analysis technique used is multiple linear regression to be able to make predictions, which estimate the effect value of the independent variable (variable X) on the dependent variable (variable Y). The form used is as follows:

$Y = a + b1X1 + b2X2 + b3X3 + b4X4 + b5X5 + e$

Information:
Y = Interest in Using Electric Vehicles (dependent variable)
X1 = Income Level (independent variable)
X2 = Vehicle Tax (independent variable)
X3 = Product Price (independent variable)
X4 = Mileage (independent variable)
X5 = Availability of SPKLU (independent variable)
a = Constant
b1 = Regression coefficient of the Income Level variable
b2 = Regression coefficient of the Vehicle Tax variable
b3 = Regression coefficient of the Product Price variable
b4 = Regression coefficient of the Mileage variable
b5 = SPKLU Availability variable regression coefficient
e=error

RESULTS

Validity and Reliability Test of Variable X1 Level of Income, Variable X2 Vehicle Tax, Variable X3 Product Prices, Variable X4 Mileage, Variable X5 Availability of SPKLU and Variable Y Interest in Using Electric Vehicles.

Table 1.
Results of Validity and Reliability Test of Income Level Indicator (X1)

Indikator	Nomor Item	Validitas Korelasi (r)	Koefisie Alpha	Description
$X_{1.1}$	$X_{1.1}$	1	0,830	Valid dan Reliabel
	$X_{1.2}$	0,644		Valid dan Reliabel
	$X_{1.3}$	0,658		Valid dan Reliabel
	$X_{1.4}$	0,559		Valid dan Reliabel
	$X_{1.5}$	0,789		Valid dan Reliabel
$X_{1.2}$	$X_{1.1}$	0,644	0,872	Valid dan Reliabel
	$X_{1.2}$	1		Valid dan Reliabel
	$X_{1.3}$	0,450		Valid dan Reliabel
	$X_{1.4}$	0,548		Valid dan Reliabel
	$X_{1.5}$	0,640		Valid dan Reliabel
$X_{1.3}$	$X_{1.1}$	0,658	0,856	Valid dan Reliabel
	$X_{1.2}$	0,450		Valid dan Reliabel
	$X_{1.3}$	1		Valid dan Reliabel
	$X_{1.4}$	0,573		Valid dan Reliabel
	$X_{1.5}$	0,732		Valid dan Reliabel
$X_{1.4}$	$X_{1.1}$	0,559	0,878	Valid dan Reliabel
	$X_{1.2}$	0,548		Valid dan Reliabel
	$X_{1.3}$	0,573		Valid dan Reliabel
	$X_{1.4}$	1		Valid dan Reliabel
	$X_{1.5}$	0,480		Valid dan Reliabel
$X_{1.5}$	$X_{1.1}$	0,789	0,829	Valid dan Reliabel
	$X_{1.2}$	0,640		Valid dan Reliabel
	$X_{1.3}$	0,732		Valid dan Reliabel
	$X_{1.4}$	0,480		Valid dan Reliabel
	$X_{1.5}$	1		Valid dan Reliabel

Table 2.
Test Results of the Validity and Reliability of Vehicle Tax Indicators (X2)

Indikator	Nomor Item	Validitas Korelasi (r)	KoefisienAlpha	Keterangan
$X_{2.1}$	$X_{2.1}$	1	0,911	Valid dan Reliabel
	$X_{2.2}$	0,665		Valid dan Reliabel
	$X_{2.3}$	0,845		Valid dan Reliabel
	$X_{2.4}$	0,857		Valid dan Reliabel
	$X_{2.5}$	0,897		Valid dan Reliabel
$X_{2.2}$	$X_{2.1}$	0,665	0,953	Valid dan Reliabel
	$X_{2.2}$	1		Valid dan Reliabel
	$X_{2.3}$	0,700		Valid dan Reliabel
	$X_{2.4}$	0,574		Valid dan Reliabel
	$X_{2.5}$	0,577		Valid dan Reliabel
$X_{2.3}$	$X_{2.1}$	0,845	0,918	Valid dan Reliabel
	$X_{2.2}$	0,700		Valid dan Reliabel
	$X_{2.3}$	1		Valid dan Reliabel
	$X_{2.4}$	0,792		Valid dan Reliabel
	$X_{2.5}$	0,792		Valid dan Reliabel
$X_{2.4}$	$X_{2.1}$	0,857	0,921	Valid dan Reliabel
	$X_{2.2}$	0,574		Valid dan Reliabel
	$X_{2.3}$	0,792		Valid dan Reliabel
	$X_{2.4}$	1		Valid dan Reliabel
	$X_{2.5}$	0,869		Valid dan Reliabel
$X_{2.5}$	$X_{2.1}$	0,897	0,917	Valid dan Reliabel
	$X_{2.2}$	0,577		Valid dan Reliabel
	$X_{2.3}$	0,792		Valid dan Reliabel
	$X_{2.4}$	0,869		Valid dan Reliabel
	$X_{2.5}$	1		Valid dan Reliabel

Table 3.
Product Price Indicator Validity and Reliability Test Results (X3)

Indikator	Nomor Item	Validitas Korelasi (r)	KoefisienAlpha	Keterangan
X 3. 1	$X_{3.1}$	1	0,863	Valid dan Reliabel
	$X_{3.2}$	0,527		Valid dan Reliabel
	$X_{3.3}$	0,910		Valid dan Reliabel
	$X_{3.4}$	0,727		Valid dan Reliabel
	$X_{3.5}$	0,663		Valid dan Reliabel
X 3. 2	$X_{3.1}$	0,527	0,898	Valid dan Reliabel
	$X_{3.2}$	1		Valid dan Reliabel
	$X_{3.3}$	0,384		Valid dan Reliabel
	$X_{3.4}$	0,643		Valid dan Reliabel
	$X_{3.5}$	0,662		Valid dan Reliabel
	$X_{3.1}$	0,910		Valid dan Reliabel

Indikator	Nomor Item	Validitas Korelasi (r)	KoefisienAlpha	Keterangan
$X_{3.3}$	$X_{3.2}$	0,384	0,876	Valid dan Reliabel
	$X_{3.3}$	1		Valid dan Reliabel
	$X_{3.4}$	0,712		Valid dan Reliabel
	$X_{3.5}$	0,600		Valid dan Reliabel
$X_{3.4}$	$X_{3.1}$	0,727	0,862	Valid dan Reliabel
	$X_{3.2}$	0,643		Valid dan Reliabel
	$X_{3.3}$	0,712		Valid dan Reliabel
	$X_{3.4}$	1		Valid dan Reliabel
	$X_{3.5}$	0,674		Valid dan Reliabel
$X_{3.5}$	$X_{3.1}$	0,663	0,879	Valid dan Reliabel
	$X_{3.2}$	0,662		Valid dan Reliabel
	$X_{3.3}$	0,600		Valid dan Reliabel
	$X_{3.4}$	0,674		Valid dan Reliabel
	$X_{3.5}$	1		Valid dan Reliabel

Table 4.
Results of Validity and Reliability Test of Mileage Indicator (X4)

Indikator	Nomor Item	Validitas Korelasi (r)	KoefisienAlpha	Keterangan
$X_{4.1}$	$X_{4.1}$	1	0,893	Valid dan Reliabel
	$X_{4.2}$	0.583		Valid dan Reliabel
	$X_{4.3}$	0,759		Valid dan Reliabel
	$X_{4.4}$	0,811		Valid dan Reliabel
$X_{4.2}$	$X_{4.1}$	0,583	0,913	Valid dan Reliabel
	$X_{4.2}$	1		Valid dan Reliabel
	$X_{4.3}$	0,661		Valid dan Reliabel
	$X_{4.4}$	0,798		Valid dan Reliabel
$X_{4.3}$	$X_{4.1}$	0,759	0,883	Valid dan Reliabel
	$X_{4.2}$	0,661		Valid dan Reliabel
	$X_{4.3}$	1		Valid dan Reliabel
	$X_{4.4}$	0,789		Valid dan Reliabel
X4.4	$X_{4.1}$	0,811	0,857	Valid dan Reliabel
	$X_{4.2}$	0,798		Valid dan Reliabel
	$X_{4.3}$	0,789		Valid dan Reliabel
	$X_{4.4}$	1		Valid dan Reliabel

Table 5.
Validity and Reliability Test Results of SPKLU Availability Indicators (X5)

Indikator	Nomor Item	Validitas Korelasi (r)	KoefisienAlpha	Keterangan
$X_{5.1}$	$X_{5.1}$	1	0,911	Valid dan Reliabel
	$X_{5.2}$	0,767		Valid dan Reliabel
	$X_{5.3}$	0,827		Valid dan Reliabel
	$X_{5.4}$	0,744		Valid dan Reliabel
	$X_{5.5}$	0,731		Valid dan Reliabel
$X_{5.2}$	$X_{5.1}$	0,767	0,908	Valid dan Reliabel
	$X_{5.2}$	1		Valid dan Reliabel
	$X_{5.3}$	0,742		Valid dan Reliabel
	$X_{5.4}$	0,806		Valid dan Reliabel
	$X_{5.5}$	0,798		Valid dan Reliabel
$X_{5.3}$	$X_{5.1}$	0,827	0,926	Valid dan Reliabel
	$X_{5.2}$	0,742		Valid dan Reliabel
	$X_{5.3}$	1		Valid dan Reliabel
	$X_{5.4}$	0,592		Valid dan Reliabel
	$X_{5.5}$	0,655		Valid dan Reliabel
$X_{5.4}$	$X_{5.1}$	0,744	0.920	Valid dan Reliabel
	$X_{5.2}$	0,806		Valid dan Reliabel
	$X_{5.3}$	0,592		Valid dan Reliabel
	$X_{5.4}$	0,734		Valid dan Reliabel
	$X_{5.5}$	1		Valid dan Reliabel
$X_{5.5}$	$X_{5.1}$	0,731	0,918	Valid dan Reliabel
	$X_{5.2}$	0,798		Valid dan Reliabel
	$X_{5.3}$	0,655		Valid dan Reliabel
	$X_{5.4}$	0,734		Valid dan Reliabel
	$X_{5.5}$	1		Valid dan Reliabel

Table 6.
Test Results of the Validity and Reliability Indicators of Interest in the Use of Electric Vehicles (Y)

Indikator	Nomor Item	Validitas Korelasi (r)	KoefisienAlpha	Keterangan
Y_1	Y_1	1	0,838	Valid dan Reliabel
	Y_2	0,622		Valid dan Reliabel
	Y_3	0,639		Valid dan Reliabel
	Y_4	0,666		Valid dan Reliabel
	Y_5	0,622		Valid dan Reliabel
Y_2	Y_1	0,622	0,867	Valid dan Reliabel
	Y_2	1		Valid dan Reliabel
	Y_3	0,715		Valid dan Reliabel
	Y_4	0,470		Valid dan Reliabel

Indikator	Nomor Item	Validitas Korelasi (r)	KoefisienAlpha	Keterangan
	Y_5	0,394		Valid dan Reliabel
Y_3	Y_1	0,639	0,853	Valid dan Reliabel
	Y_2	0,715		Valid dan Reliabel
	Y_3	1		Valid dan Reliabel
	Y_4	0,513		Valid dan Reliabel
	Y_5	0,539		Valid dan Reliabel
Y_4	Y_1	0,666	0,850	Valid dan Reliabel
	Y_2	0,470		Valid dan Reliabel
	Y_3	0,513		Valid dan Reliabel
	Y_4	1		Valid dan Reliabel
	Y_5	0,758		Valid dan Reliabel
Y_5	Y_1	0,622	0,857	Valid dan Reliabel
	Y_2	0,394		Valid dan Reliabel
	Y_3	0,539		Valid dan Reliabel
	Y_4	0,758		Valid dan Reliabel
	Y_5	1		Valid dan Reliabel

From the results of the validity test and reliability test which have been described in table 5 to table 6 shows that all instruments are valid and reliable. The results of the correlation r show that all instruments are greater than 0.30 and the Cronbach Alpha value shows all instruments are greater than 0.60.

Table 7.
Results of Multiple Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Konstan)	2.258	.237		9.537	.000
Tingkat pendapatan	.107	.043	.153	2.464	.015
Pajak kendaraan	-.009	.047	-.013	-.188	.851
Harga produk	-.189	.055	-.253	-3.414	.001
Jarak tempuh	.345	.075	.418	4.597	.000
Ketersediaan SPKLU	.171	.076	.196	2.246	.026

a. Dependent Variable: Minat

Based on table 7 the purchase is obtained as follows:
Y = 2.258 + 0.107 X1 – 0.009 X2 – 0.189 X3 + 0.345 X4 + 0.171 X5 + e
The interpretation of the agreement above is as follows:
a = 2.258; meaning that if the income level is 0, vehicle tax is 0, product price is 0, mileage is 0 and SPKLU availability is 0, then the public's interest in using electric vehicles is 2,258
b = 0.107; meaning that if the income level increases by 1 level and the vehicle tax, product prices, mileage and SPKLU availability remain constant, then people's interest in using electric vehicles will increase by 0.107 levels
c = -0.009; meaning that if the vehicle tax increases by 1 level and the level of income, product price, mileage and availability of SPKLU remains constant, then people's interest in using

electric vehicles will decrease by 0.009 levels
d = -0.189; meaning that if the price of the product increases by 1 level and the level of income, vehicle tax, mileage and availability of SPKLU remains the same, then people's interest in using electric vehicles will decrease by 0.189 levels
e = 0.345; meaning that if the mileage increases by 1 level and the level of income, vehicle tax, product prices and availability of SPKLU remains the same, then people's interest in using electric vehicles will increase by 0.345 levels
f = 0.171; meaning that if the availability of SPKLU increases by 1 level and the level of income, vehicle tax, product price and mileage is fixed, then public interest in using electric vehicles will increase by 1.171

Table 8.
Normality Assumption Test Results
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		150
Normal Parameters a, b	Mean	.0077613
	Std. Deviation	.29092337
Most Extreme Differences	Absolute	.104
	Positive	.074
	Negative	-.104
Kolmogorov-Smirnov Z		1.275
Asymp. Sig. (2-tailed)		.077

The output test results in table 8 obtained a significance value of 0.077 > 0.05. Then the assumption with all normality variables is fulfilled.

Table 9.
Multicollinearity Test results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	2.258	.237		9.537	.000		
Income level	.107	.043	.153	2.464	.015	.349	2.862
Vehicle tax	-.009	.047	-.013	-.188	.851	.282	3.546
Product price	-.189	.055	-.253	-3.414	.001	.247	4.053
Mileage	.345	.075	.418	4.597	.000	.164	6.109
SPKLU availability	.171	.076	.196	2.246	.026	.177	5.637

Based on the multicollinearity test criteria, it can be concluded that there is no multicollinearity in the data.

Table 10.
Heteroscedasticity Test Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.176	.135		-1.300	.196
Income level	-.046	.025	-.241	-1.844	.067
Vehicle tax	.029	.027	.154	1.060	.291
Product price	.042	.032	.209	1.344	.181
Mileage	.010	.043	.045	.236	.814
SPKLU availability	.066	.043	.277	1.512	.133

From the results of table 1.10 above, it shows that the variables tested do not contain heteroscedasticity but homoscedasticity. This means that there is no correlation between the size of the data and the residual so that if the data is enlarged it does not cause errors (residuals) that are getting bigger too.

Table 11.
Test Results for the Coefficient of Determination (R2)

Model	R	R Square	AdjustedR Square	Std. Error ofthe Estimate
1	.897[a]	.805	.798	.29353

Table 11 can be seen that the coefficient of determination (adjusted R square) obtained is 0.798. This means that 79.8% interest in using electric vehicles is influenced by income level variables (X1), vehicle tax (X2), product prices (X3), mileage (X4) and availability of SPKLU (X5), while the remaining 20.2 % interest in using electric vehicles is influenced by other variables not examined in this study.

Table 12.
F Test (Model Test)
ANOVA b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	51.146	5	10.229	118.724	.000[a]
	Residual	12.407	144	.086		
	Total	63.553	149			

From the results of the output table 1.12 above, it shows that the significance result is 0.000 <0.05 and the Fcount value is 118.724. So Fcount > Ftable (118.724 > 0.228). So from the above analysis it can be concluded that together the independent variables of income level, vehicle tax, product price, mileage and availability of SPKLU have a significant effect on the variable of interest in using electric vehicles.

Table 13.
Results of the Partial Effect Significance Test (t test)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.258	.237		9.537	.000
Income level	.107	.043	.153	2.464	.015
Vehicle tax	-.009	.047	-.013	-.188	.851
Product price	-.189	.055	-.253	-3.414	.001
Mileage	.345	.075	.418	4.597	.000
SPKLU availability	.171	.076	.196	2.246	.026

The results of the partial test output (t test) in table 1.13 above can be explained as follows:

1. Effect of income level on interest in using electric vehicles Based on table 1.13 it can be obtained t count of 2.464 with a significance value of 0.015. This shows that the calculated t value is greater than the t table value of 1.65550 and the significance value is less than 0.05. Thus Ho is accepted and Ha is rejected. This means that the income level variable has a significant influence on people's interest in using electric vehicles
2. Effect of vehicle tax on interest in using electric vehicles Based on table 1.13 it can be obtained t count of -0.188 with a significance value of 0.851. This shows that the calculated t value is smaller than the t table value of 1.65550 and the significance value is greater than 0.05. Thus Ho is rejected and Ha is accepted. This means that the vehicle tax variable does not have a significant effect on people's interest in using electric vehicles.
3. Effect of product prices on interest in using electric vehicl Based on table 5.13, it can be obtained tcount of -3.414 with a significance value of 0.001. This shows that the calculated t value is greater than the t table value of 1.65550 and the significance value is less than 0.05. Thus Ho is accepted and Ha is rejected. This means that the product price variable has a significant influence on people's interest in using electric vehicles.
4. The effect of mileage on interest in using electric vehicle Based on table 5.13 it can be obtained t count of 4.597 with a significance value of 0.000. This shows that the calculated t value is greater than the t table value of 1.65550 and the significance value is less than 0.05. Thus Ho is accepted and Ha is rejected. This means that the mileage variable has a significant influence on people's interest in using electric vehicles.
5. Effect of SPKLU availability on interest in using electric vehicles

Based on table 13 it can be obtained t count of 2.246 with a significance value of 0.026. This shows that the calculated t value is greater than the t table value of 1.65550 and the significance value is less than 0.05. Thus Ho is accepted and Ha is rejected. This means that the SPKLU availability variable has a significant influence on people's interest in using electric vehicles.

DISCUSSION

The Effect of Income Level on Interest in Using Electric Vehicles

Based on the results of hypothesis testing, the level of income has a positive and significant effect on the interest in using electric vehicles. The higher the level of income earned, the higher the interest in using electric vehicles and vice versa, a person's needs and desires are not limited in number, but this is limited by the income he receives. Each community has a different income depending on competence, level of education, abilities/skills and existing experience. The results of this test are consistent with research conducted by Jansson (2017) and Rizki Gusnandar (2018) which shows that there is a positive and significant relationship between income level variables and interest in using electric vehicles.

Effect of Vehicle Tax on Interest in Using Electric Vehicles

Based on the results of hypothesis testing, vehicle tax has a negative effect but does not have a significant effect on people's interest in using electric vehicles. These results are not in accordance with the hypothetical framework where vehicle tax has a negative and significant effect. Regarding taxes for electric vehicles, this has been regulated in Government Regulation Number 73 of 2019 article 17, article 24 and article 36. Various incentive/subsidy policies can contribute to increasing public interest in buying electric vehicles. Direct subsidies such as taxes and access to free electricity charging can be provided. The results of this test are consistent with research conducted by Collantes & Eggert (2014), Gallagher and Muehlegger (2011) and Sierzchula et al. (2013) which shows that there is a negative and significant relationship between the vehicle tax variable and the interest in using electric vehicles.

The Effect of Product Prices on Interest in Using Electric Vehicles

Based on the results of hypothesis testing, product prices have a positive and significant effect on people's interest in using electric vehicles. The lower the product price, the higher the interest in using electric vehicles, and vice versa. One of the things that is important in increasing interest in using electric vehicles is competitive prices and the provision of incentives / price discounts by dealers. Providing incentives/rebates shows that it is more valuable than providing tax incentives, in California about 70% of electric vehicle purchases get price incentives. Several countries have provided discount incentives, including China, Canada, France, Japan, Korea, Sweden and several states in the United States with the aim of increasing public interest in buying electric vehicles. The results of this test are consistent with research conducted by Cahill et. al (2014), Lévay et al., (2017) and Gordon et al., (2012) which show that there is a positive and significant relationship between product price variables and interest in using electric vehicles.

The Effect of Mileage on Interest in Using Electric Vehicles

Based on the results of hypothesis testing, mileage has a positive and significant effect on people's interest in using electric vehicles. The farther the electric vehicle travels, the more people's interest in using electric vehicleshigh, and vice versa. The relatively short mileage is considered to be one of the biggest obstacles to people's interest in using electric vehicles. Mileage was found to have a positive and statistically significant effect on the decision to use an electric vehicle in most of the studies. However, Hess et al. (2012) found that this effect was not significant, which could be explained by the limited mileage used in their study (30–60 miles). In another electric vehicle mileage study, longer mileage increases the likelihood of purchasing an electric vehicle (Helveston et

al., 2015). The results of this test are consistent with research conducted by Jensen et al. (2013), Bunce, Harris, and Burgess (2014) and Franke and Krems (2013) which show that there is a positive and significant relationship between the mileage variable and interest in using electric vehicles.

The Effect of SPKLU Availability on Interest in Using Electric Vehicles Based on the results of hypothesis testing, the availability of SPKLUs has a positive and significant effect on people's interest in using electric vehicles. The more SPKLUs available, the higher the public's interest in using electric vehicles, and vice versa. Infrastructure development related to accelerating the implementation of electric vehicles, one of which focuses on the availability of public electric vehicle charging station infrastructure. Rasouli and Timmermans (2013) stated that the public represented the existence of charging stations in various areas such as at home, at work or in shopping centers, etc. In most studies, this has a significant positive effect, as more charging facilities save time and eliminate range anxiety from electric vehicles. Achtnicht et. al (2012) found that charging stations in different areas are preferred by certain groups, and Jensen et al. (2013) found that long-haul electric vehicle users prefer charging stations located at work over others. The results of this test are consistent with research conducted by Potoglou & Kanaroglou (2007), Tamor, Moraal, Reprogle, & Milačić (2015) and Bunce et.al (2014) which showed that there is a positive and significant relationship between the availability of SPKLU and interest using electric vehicles.

CONCLUSION

Based on the research objectives, problem formulation and research results with the discussion that has been described, it can be concluded from the research as follows: 1) Variable X1 income level has a positive and significant effect on interest in using electric vehicles, where t count is 2.464 with a significance value of 0.015. This shows that the calculated t value is greater than the t table value of 1.65550 and the significance value is less than 0.05. Thus Ho is accepted and Ha is rejected; 2) Variable X2 electric vehicle tax has a negative effect but does not have a significant effect on people's interest in using electric vehicles, where a t count of -0.188 is obtained with a significance value of 0.851. This shows that the calculated t value is smaller than the t table value of 1.65550 and the significance value is greater than 0.05. Thus Ho is rejected and Ha is accepted; 3) Variable X3 product prices have a positive and significant effect on the interest in using electric vehicles, where the t count is -3.414 with a significance value of 0.001. This shows that the calculated t value is greater than the t table value of 1.65550 and the significance value is less than 0.05. Thus Ho is accepted and Ha is rejected; 4) Variable X4 mileage has a positive and significant effect on interest in using electric vehicles, where a t count of 4.597 is obtained with a significance value of 0.000. This shows that the calculated t value is greater than the t table value of 1.65550 and the significance value is less than 0.05. Thus Ho is accepted and Ha is rejected; 5) Variable X5 availability of SPKLU has a positive and significant effect on interest in using electric vehicles, where a t count of 2.246 is obtained with a significance value of 0.026. This matter shows that the calculated t value is greater than the t table value of 1.65550 and the significance value is less than 0.05. Thus Ho is accepted and Ha is rejected**.**

REFERENCES

Baraldi. A., dan Blonda. P., 1998, *A Survey of Fuzzy Clustering Algorithms for Pattern Recognition*, IEEE Trans, Vol.29, 778 - 785., Swiss.

Barakbah. A.R., 2006, *Cluster Analysis*, Soft Computation Research Group, EEPIS-ITS, Surabaya.

Berry. M.J.A. dan Linoff. G.S., 2000, *Mastering Data Mining, The Art and Science of Customer Relationship Management*, Wiley Computer Publishing, Canada.

Bjorn Nykvist dan Mans Nilsson., 2015, Rapidly Falling Costs of Battery Packs forElectric Vehicles.

William Sierzchula, Sjoerd Bakker, Kees Maat dan Bert Van Wee, 2014, The Influence of Financial Incentives and other Socio-Economic Factors on Electric Vehicle Adoption

Joachim Globisch, Patrick Plotz, Elisabeth Dutschke, Martin Wietschel, 2019, Consumer Preferences For Public Charging Infrastructure For Electric Vehicles

Lingzhi Jin, Stephanie Searle, Nic Lutsey, 2014, Evaluation of State-Level U.S ElectricVehicle Incentive

Zifei Yang, Peter Slowik, Nic Lutsey, Stephanie Searle, 2016, Principles for Effective Electric Vehickle Incentive Design

Xiao Shi, Jian Pan, Hewu Wang, Hua Cai, 2018, Battery Electric Vehicles : What is the Minimum Range Required

Milad ghasari, Ali Ardeshiri, Taha Rashidi, 2019, Perception Towards Electric Vehicles and the Impact on Consumers Preference

Franhao Liao, Eric Molin, Bert Van Wee, 2016, Consumer Preferences for Electric Vehicles : a Literature Review

Michael K. Lim, Ho yin Mak, Ying Rong, 2014 Toward Mass Adoption of Electric Vehicles : Impact of the Range and Resale Anxieties

Guido Wager, Jonathan Whale, Thomas Brauni, 2016 Driving Electric Vehicles at Highway Speeds : The Effect of Higher Driving Speeds on Energy Consumption and Driving Range for Electric Vehicles in Australia

Martin Redelbach, Enver Doruk Ozdemir, Horst E. Friedrich, 2014, Optimizing Battery Sizes of Plug-In Hybrid and Extended Range Electric Vehicles for Different User Types

Jurnal Ilmiah Mahasiswa (JIM) Ekonomi Pembangunan Fakultas Ekonomi dan Bisnis Unsyiah Vol.3 No.2 Mei 2018 : 146-156 *ISSN. 2549-8355*