CONSUMERS INCLINATION TOWARDS ELECTRIC VECHILES (EV)

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ABSTRACT:.Ten years before Electric vehicles (**EVs**) are a dreaming one for the public and now it is implemented practically for achieving a sustainable development in transport sector in the future, due to the high fuel price and to control the carbon emissions, low noise, high efficiency, and flexibility in grid operation and integration. Electric Vehicles (EV), as a way to decrease the greenhouse effect, In this study we clearly explained about how the consumers are inclinated towards electric vehicle. Since the day of covid, people think about personal vehicles and there has been a gradual movement towards EV and hybrid vehicles. Instead of seeking for discounts as the demand for EV continues to rise in the recent days mainly it helps to save money.

Key words: EV, Fuel price, Preference, Income and purchasing Decision.

INTRODUCTION:

There is a proverb called, someone's loss is another's gain. With a fuel price is increased day by day by Rs.120 per liter consumers are seriously think about the electric vehicle and decided to switch over to the electric bike instead of begging the government to reduce the fuel price. Exactly that time Ola CEO Bhavish Agarwal, launch or entered into the market with its new idea about electric bikes.

Fuel prices crossed Rs.100 to Rs.115 in Mumbai and several other cities of north India. From the day of Pandemic, the fuel prices are suddenly increased by 25%. Middle class people are totally dependent upon their personal vehicles and moreover they are price sensitive. Thus, the entry of electric bike, induce the people to think about the new electric vehicle. Advance books are the good sign and indication among the consumers. This electric vehicle has helped the people as well as many industries because of drastic rise in fuel prices. Despite the government active support, the e-bike and two-wheeler segments have progressed at a snail's space. People are ready to pay even the premium price for the stylized, innovative products. Companies like Ola also take many steps to make its bike available across the Indian market at minimal cost.

Research Methodology:

Objectives:

1.To study about the consumers Inclination towards the electric bike

2. To identify how the consumers influence Economic benefits, convenience and perceived product value

3.To study about the impact of Electric Vehicles on buying decision of customers.

Scope of the study:

The inferences from the study are based on the responses given by the customers only from specific area. This study will be helpful in getting an insight into the effectiveness of EV on economic benefits of customers.

Customer survey and Questionnaire method:

Survey method is used for collecting data from customers at specific areas. We requested all respondents to fill in the questionnaire by self after explaining the various aspects mentioned in it. It contained both open and closed ended questions in a structured format very easy to understand on the first look.

Sample size:

A standard questionnaire is formulated for the collection of survey data from various customers. The Questionnaire is designed in such a way that it would collect all the needed information for the study. Size of the sample taken in this study is 213. For analysis and Interpretation, both primary and secondary data is used. The data collected from these sources were analyzed using various tools like independent sample T-test, one wayAnova and Regression.

ANALYSIS AND INTERPRETATION:

Independent Sample T- Test:

H0: There is no significant difference between Gender and Preference for EV

H1: There is a significant difference between Gender and preference for EV

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Preference	Male	110	1.06	.245	.023
	Female	103	1.06	.235	.023

Independent Samples Test									
		Levene's Test for Equality of Variances		t-test for Equality of Means					

			Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Preference	Equal variances assumed							0.032976	-0.059621	0.0704
	Equal variances not assumed			0.16349	210.868	0.87029	0.005384	0.032932	-0.059534	0.0703

Inference: Here the mean value of a preference of male is 106 and that of female is also 106 and there is no major deviation between the two things. Based on the result generated by SPSS, the significant value is .870 and it is greater than 0.05. So accept null hypothesis. Hence there is no significant difference between the two means i.e. both male and female prefers the Electric vehicle because of high fuel price.
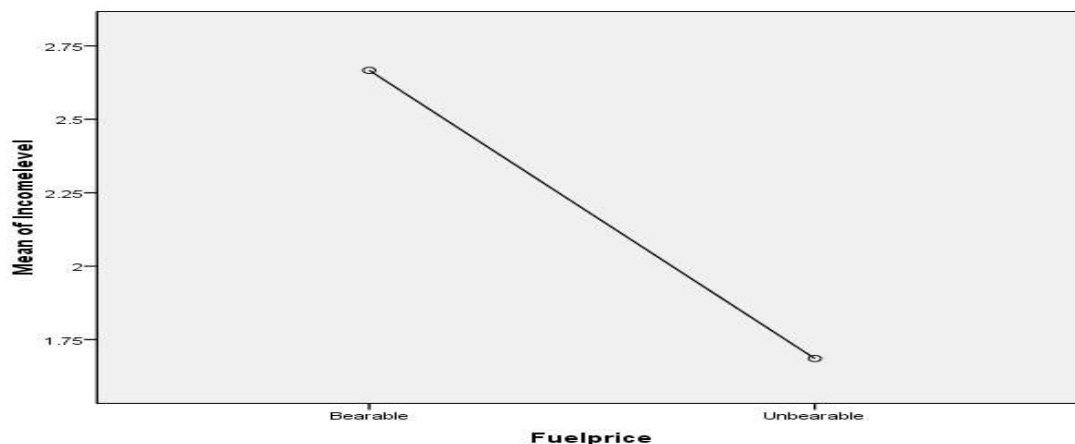
ONE WAY ANOVA

H0: There is no significant difference between the Income level and fuel price

H1: There is significant difference between the Income level and Fuel price.

ANOVA

Income level					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	2.846	1	2.846	5.892	.016
Within Groups	101.924	211	.483		
Total	104.770	212			

Inference:

Based on the result generated by SPSS, the significant value is .016 and it is lower than 0.05. So we reject null hypothesis. Hence there is a significant difference in the Income level of the respondents with respect to their preference level. Middle class people and many Industries are depending upon their personal vehicle for their day-to-day operations. They already to pay even the premium price to switch over from fuel vehicle to EV especially of moderate income and protect themselves and environment from pollution.

By using Duncan method, the consumption of the fuel price is separated into two groups based on their Income level.

In the mean plot it shows that the fuel price is unbearable one when their Income level is lower and it is bearable only for the upper class people when their Income level is increased.

Regression:

H0: There is no significant relationship between the variables

H1: There is significant relationship between the Fuel price and purchase decision

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.222[a]	.049	.045	.484

a. Predictors: (Constant), Fuel price

b. Dependent Variable: Purchase Decision

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.553	1	2.553	10.903	.001[a]
	Residual	49.400	211	.234		
	Total	51.953	212			

a. Predictors: (Constant), Fuel price

b. Dependent Variable: Purchase Decision

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.635	.685		5.306	.000
	Fuel price	-1.135	.344	-.222	-3.302	.001

a. Dependent Variable: Purchase Decision

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.36	2.50	1.38	.110	213
Residual	-.500	.635	.000	.483	213
Std. Predicted Value	-.097	10.247	.000	1.000	213
Std. Residual	-1.033	1.312	.000	.998	213

a. Dependent Variable: Purchase Decision

Histogram

Dependent Variable: PurchaseDecision

Mean =1.58E-16
Std. Dev. =0.998
N =213
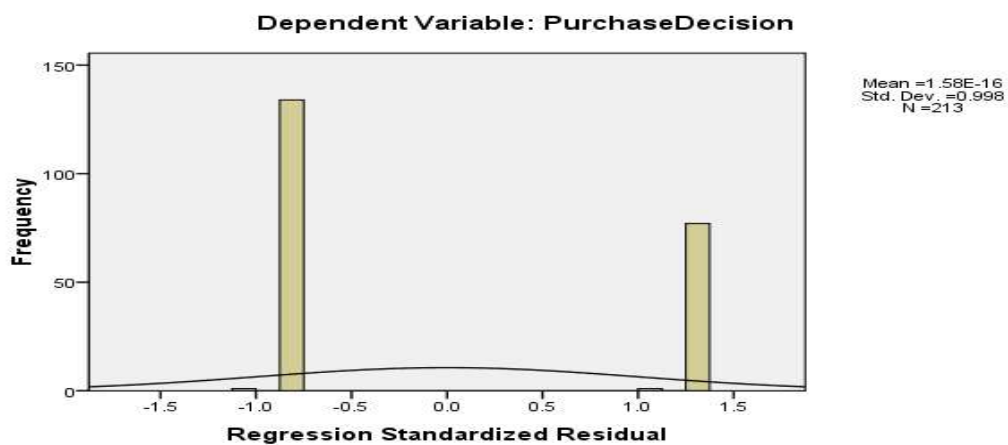
Normal P-P Plot of Regression Standardized Residual

Dependent Variable: PurchaseDecision
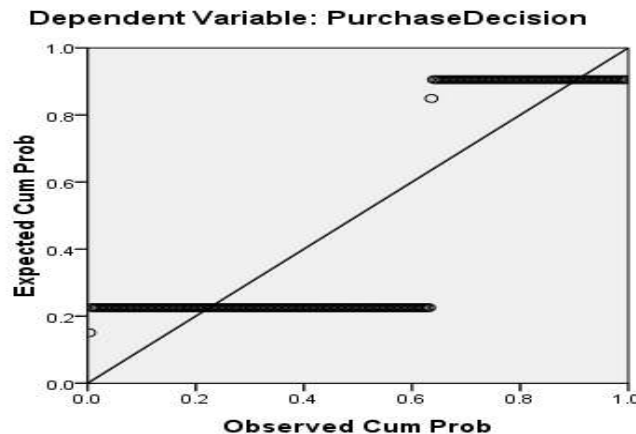
Inference:

The common regression equation is Y= a+bx

The effect of purchase decision on fuel price is given by the regression equation

Total Purchase Decision = 3.635-1.135 (Fuel price)

Y is the Purchasing decision and A is a constant value.

B is the coefficient for the variable x.

Conclusion

In India majority of the middle-Income group people are ready to pay the premium price for EV. This EV helps the people a driving range of 100 to 200 miles from a fully charged EV. Prices of EV are lower due to two subsidies offered by State government. They all are moving towards the EV for unbearable increasing level of fuel price, and for environmental pollution. They can recharge their EV daily or overnight at their home or at workplace parking itself.

For the last five years there was a rapid growth in EV sales. Sales are expected to grow in the upcoming years. Factors like driving distance, location, family size, customer preference, Income level influence EV ownership. Price affordability, availability influencing likelihood of EV purchase. EV Manufacturers provides charging station at many business entities like shopping malls, highway stops, restaurants, grocery stores and other park and rides.

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