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RESEARCH ARTICLE

CONSUMERS ATTITUDE TOWARDS ELECTRIC CARS WITH SPECIAL REFERENCE TO KOLLAM DISTRICT

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Key words:-

Electric Car, Consumer Attitude

Abstract

Automotive industry is undergoing a major transformation. Electric vehicles is gaining popularity owing to technological advancements, environmental benefits and government incentives. This paper presents a review regarding consumer attitude towards electric vehicles. Factors influencing the shift towards electric vehicles such as demographic, socio-economic, environmental and technological readiness are examined. 80 respondents are taken for the study from Kollam District in Kerala. The study found a positive attitude towards electric cars. Cost, lack of different models, recharging concerns were the main hindering factors. Overcoming these factors with the help of technological advancement will result in a greener environment.

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Introduction:-

There is an increase demand for Electric Vehicles in the current scenario. As per Bloomberg NEF report by the year 2025, 23% of all new car sales will be electric. There are several factors influencing consumer attitude and satisfaction towards electric vehicles. The primary motivators for current EV owners are reduction in cost and low pollution. Research points out that there is a positive attitude towards electric vehicles due to their environmental benefits, but certain concerns revolve around higher purchase costs, charging infrastructure, and range. (Kenneth Lebeau, 2013). Factors such as technology, cost considerations, and perceived risks play significant roles in shaping consumer perceptions and post-purchase dissonance. (Sakthivel, 2016). In addition to this customer satisfaction, other factors like smooth driving experience, battery life issues, and expectations regarding charging time and maintenance cost reduction also affect in the purchase of EVs. (Vithayathil, 2023). Overall, enhancing consumer knowledge about EVs' functional characteristics is crucial in creating positive attitudes and reducing post-purchase dissonance, ultimately contributing to higher satisfaction levels among EV users.

Review of Literature:-

Kenneth Lebeau (2013), A comprehensive survey found that consumers perceive several benefits of battery electric vehicles, including their low operational costs per kilometer, environmental benefits, and the convenience of home charging. However, the survey also identified drawbacks such as high initial purchase prices, restricted driving range, and inadequate charging infrastructure.

Simona Bigerna. et al., (2018) examine the consumer's attitude and preferences for EVs and help to provide insights for policymakers to design effective strategies for the adoption of EVs.

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Sakthivel .N.,(2016) conducted a study titled Users Attitude and Satisfaction Towards E-Bikes: A study in Erode District analyzed the attitude and brand preference of E-Bikes concluded that smooth driving influences E-Bike purchases but poor battery life is a major problem for consumers.

Hanza Kharim,(2020) found out that the post-purchase dissonance of a customer affects the factors such as functional characteristics, knowledge, and attitude but perceived risk has no role.

Yao-Wen. et.al.,(2015) analyzed the consumer's attitude toward battery electric vehicles and identified the factors influencing the satisfaction and purchase motivation for BEVs. He opined that the majority have a positive attitude towards electric vehicles but effective economic and political stimulation is required for the adoption of BEVs.

Significance of the study:-

Consumer attitude is an important instrument in purchase behaviour and influencing one's decision on what products to buy. It helps the producers to design their products and services to meet the needs and wants of their customers thereby increases customer satisfaction and loyalty. In addition to this consumer attitude impact market trends and influencing demand for certain products or services. Studying consumer attitude towards electric cars provides a valuable insights for businesses,policymakers which will help them to predict the market conditions and innovations can be made effectively to meet the needs and desires of customers.

Objectives:-

1. To study the consumers attitude towards electric cars
2. To assess the attitude towards electric cars based on gender.
3. To analyse attitude towards electric cars based on education.

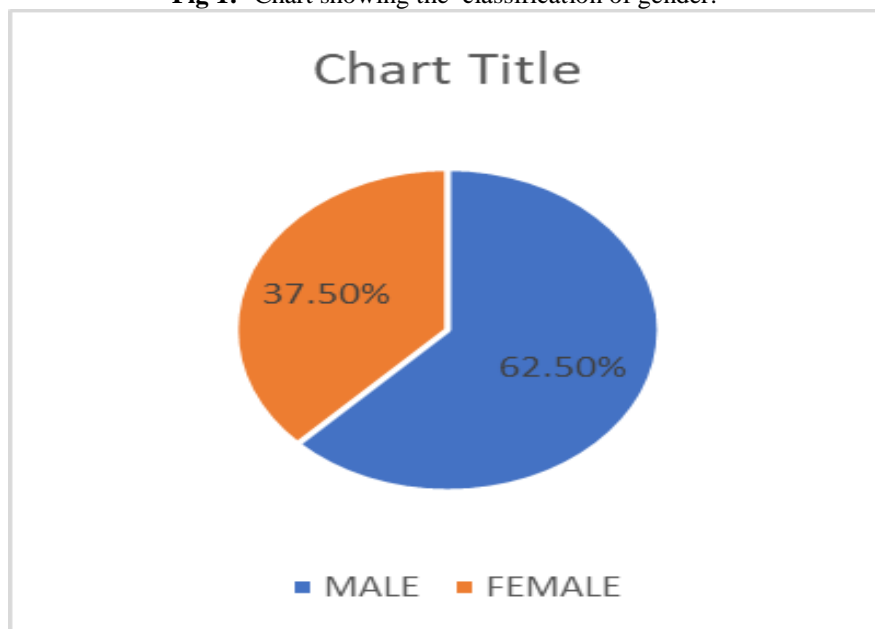
Methodology:-

This study investigates consumer attitudes towards electric cars by collecting data from 80 respondents through a Google Form survey. Convenience sampling was utilized. The survey instrument comprised closed-ended questions to gather demographic information and measure attitudes using Likerts Scale responses, as well as open-ended questions . Percentage and ANOVA was used for the analysis of data.

Results and Discussion:-

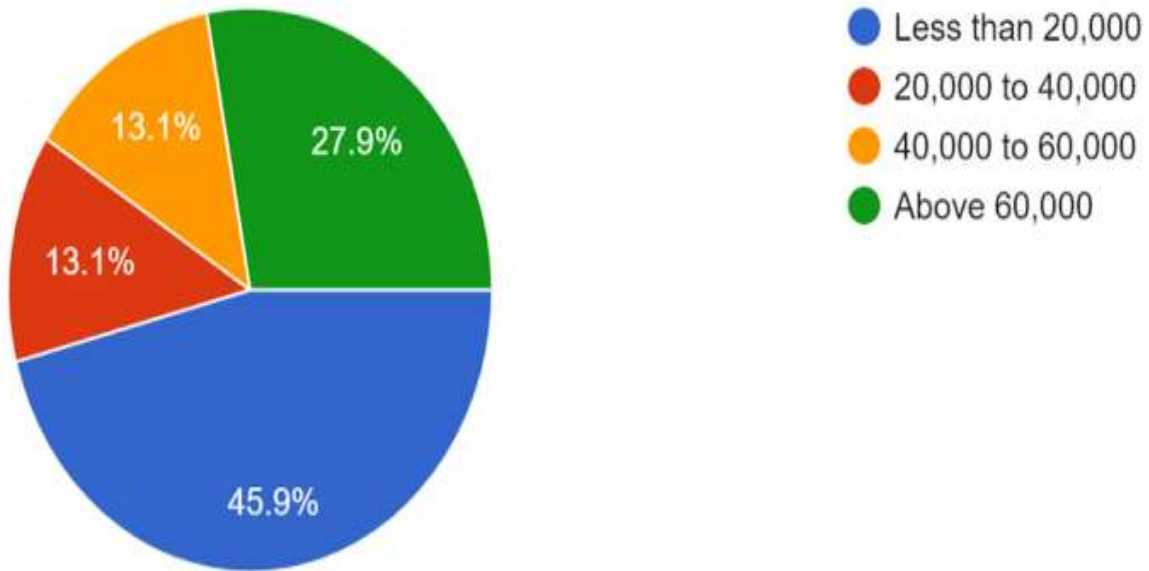
Socio economic status of respondents

Fig 1:- Chart showing the classification of gender.



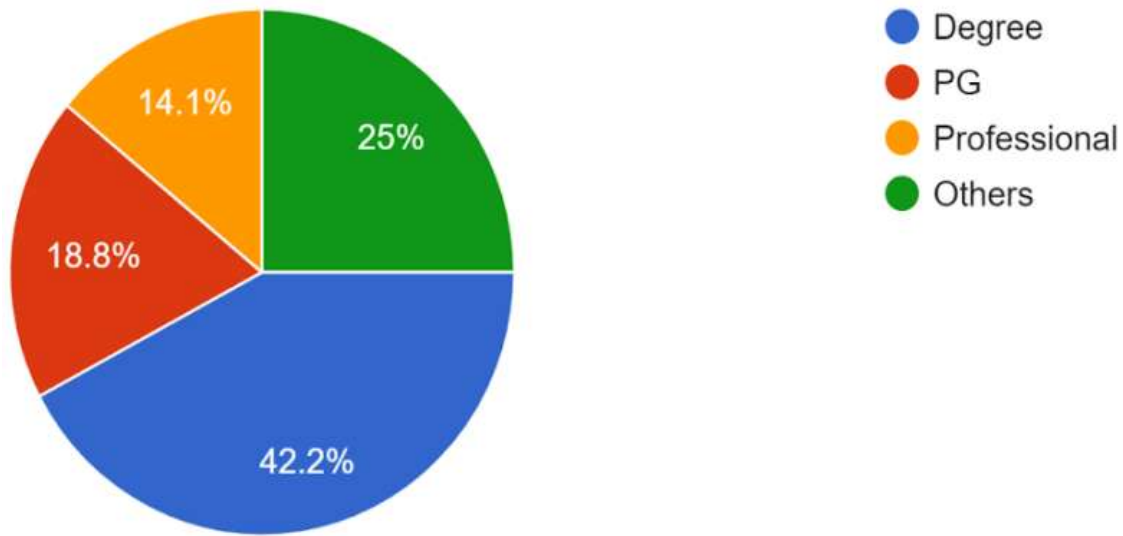
Majority (62.5%) of respondents are female.

Fig 2:- Chart Showing the monthly income of respondents.



45.9% of respondents having income less than 20000 per month.

Fig 3:- Chart showing the qualification of respondents.



Hypothesis No .1

Null hypothesis (H0):- There is no significant difference in attitude towards electric cars between gender.

Alternate hypothesis (H1):-There is significant difference in attitude towards electric cars between gender.

Anova: Single Factor						
SUMMARY						
Category	Count	Sum	Average	Variance		
Male	30	679	22.63333	6.791954		
Female	50	1161	23.22	7.19551		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	6.453333	1	6.453333	0.915955	0.341496	3.963472
Within Groups	549.5467	78	7.04547			
Total	556	79				

Interpretation

With an F-statistic of 0.916 and a corresponding p-value of 0.341, which exceeds the standard significance level of 0.05, we do not reject the null hypothesis. This suggests that based on the ANOVA results, there is insufficient evidence to support a significant difference in attitudes towards electric cars between genders. Therefore, gender does not appear to have a statistically significant influence on attitudes towards electric cars according to this analysis.

Hypothesis No.2

Null hypothesis (H₀): There is no significant difference in the means of the age groups

Alternate hypothesis (H₁): There is a significant difference in the means of the age groups.

SUMMARY						
Groups	Count	Sum	Average	Variance		
Less than 20	37	874	23.62162	8.186186		
20-30	15	344	22.93333	6.066667		
30-40	4	90	22.5	24.33333		
40-50	11	245	22.27273	3.218182		
Above 50	13	286	22	3.5		
ANOVA						
Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	34.16965	5	6.833929	0.959935	0.447981	2.338278
Within Groups	526.8179	74	7.11916			
Total	560.9875	79				

Interpreting the ANOVA results:

With an F-statistic of 0.9599 and a p-value of 0.448, which exceeds the typical significance level of 0.05, we do not reject the null hypothesis. This indicates that based on the data analyzed, there is insufficient evidence to support a significant difference in means between the age groups. Therefore, we cannot conclude that age significantly influences the outcome variable being studied according to the results obtained from this analysis.

Conclusion:-

The public opinion on electric vehicles has changed drastically which is evident from the number of electric vehicles seen on the roads. Lack of different models, cost of the vehicle and concerns regarding charging the vehicle were the main hindering factors preventing people from the purchase of electric vehicles. Environmental benefits and technological advances have changed peoples perception towards electric vehicles as more models have come into the market at competitive prices with increased charging stations. With the major problems addressed electric vehicles are gaining in popularity resulting in a cleaner future.

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