

# Beyond Functional Benefits: The Influence of Sustainable Self-Identity, Functional and Symbolic Values and Technology Confidence on Consumers' Intention to Adopt Electric Vehicles: An integrated VAB-TPB-Self -Identity Theory Approach

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**Abstract:** *Electric vehicles (EVs) is becoming an important part of the transition to more sustainable transportation. EVs are receiving increasing attention from both consumers and policymakers as concerns about environmental protection and the need for cleaner mobility continue to grow. The consumers' willingness to adopt EVs can vary depending on how they perceive their benefits, values and the technology involved. The present study examines the factors that shape consumers' attitudes towards electric vehicles and influence their intention to adopt them. The study considers the factors such as sustainable self-identity, perceived functional value, EV symbolic value, confidence in EV technology and perceived innovativeness that may shape consumers' views and decisions regarding EVs. The Primary data were collected from employees working in both government and private-sector organisations. A total of 254 responses were received from respondents and of which 249 responses were found suitable for the further analysis. The findings show that customers who see themselves as environmentally responsible, recognise the practical benefits of EVs and associate EVs with a positive social image tend to have a more favourable attitude towards them. Among these factors the symbolic value of EVs had the strongest influence on consumers' attitudes ( $\beta = .413$ ). Confidence in EV technology also had a positive influence on customers' intention to adopt EVs ( $\beta = .414$ ). Attitude towards Electric Vehicle emerged as the strongest predictor of EV adoption intention ( $\beta = .636$ ). Perceived innovativeness also had a positive influence on EV adoption intention, although its effect was relatively small ( $\beta = .113$ ). The model has explained 41.8% of the differences in attitudes towards EVs and 54.9% of the differences in their intention to adopt EVs. These findings can help policymakers, manufacturers and other stakeholders better understand consumers and develop approaches that encourage wider adoption of electric vehicles.*

**Keywords:** Electric Vehicles, Sustainable Self-Identity, Perceived Functional Value, EV Symbolic Value, EV Technology Confidence, Perceived Innovativeness

## 1. Introduction

### 1.1 Background of the Study

The technological transition is becoming central to India's climate strategy and sustainable transportation vision. It is to be noted that government incentives, growing environmental awareness and rapid technological advancements, electric vehicles (EVs) have emerged as a national priority that shapes the future of the automobile industry (NITI Aayog, 2025). India is rapidly transitioning toward electric mobility. The e-mobility emerging as an important driver of economic growth, energy security and a cleaner transportation future. EV sales in India have increased approximately 46 fold since 2016. This reflects a significant shift in consumer adoption. India's EV exports also increased substantially from USD 1.2 million in 2020 to USD 84 million in 2024. This indicates the country's growing presence in international EV markets. The government initiatives including the National Mission on Manufacturing, Production Linked Incentive (PLI) Scheme for Automobile and Auto Components and PM Electric drive revolution in innovative Vehicle Enhancement (PM E-DRIVE) Scheme

are further supporting domestic manufacturing, technological development and the creation of a more self-reliant electric mobility ecosystem (Press Information Bureau, 2026). Many countries have included EVs as an element of transportation policy, their responses have varied according to their stage of economic development, energy resource endowments, technological capabilities and political prioritization of responses to climate change. In India a particular set of circumstances conducive to a sustainable mobility paradigm has created an opportunity for accelerated adoption of EVs over internal combustion engine (ICE) vehicles (Juyal et al., 2018). The revised guidelines issued by the Ministry of power in January 2022 seek to facilitate the rapid expansion of public charging infrastructure across India and the Bureau of energy efficiency has been designated as the central nodal agency responsible for facilitating the national level rollout of EV charging infrastructure. The state nodal agencies support implementation at the state level (Ministry of Power, 2022; Bureau of Energy Efficiency, 2026).

## 1.2 Objectives of the study

- 1) To examine the influence of Sustainable Self-Identity, Perceived Functional Value and EV Symbolic Value on attitude towards Electric Vehicles.
- 2) To examine the influence of EV Technology Confidence, attitude towards Electric Vehicles and Perceived Innovativeness on EV Adoption Intention.

## 2. Literature Review and Hypothesis Development

### 2.1 Theoretical Foundations

#### 2.1.1 Value-Attitude-Behavior theory (VAB)

Value-Attitude-Behavior (VAB) theory was developed by Homer and Kahle in 1988. It proposes a hierarchical relationship among three central components such as values, attitudes and behaviors. The theory suggests that individuals' underlying values influence the development of attitudes. The attitude subsequently guides behavioral responses. Values represent fundamental beliefs that influence individuals' thoughts, emotions and actions (Rokeach, 1972). They perform as important standards that guide consumers in evaluating alternatives and making decisions (Bjork, 1998). Kang et al. (2015) conceptualized values as desirable criteria that shape individuals' judgments, preferences and subsequent behaviors. The framework provides a useful theoretical explanation of how consumers' perceptions of the value associated with a product can translate into favorable attitudes and ultimately behavioral decisions (Mehrabian & Russell, 1974). EV adoption the framework can explain how consumers' perceptions of technological attributes, environmental benefits, economic considerations and other forms of perceived value contribute to the formation of favorable attitudes and subsequent intentions to adopt EVs (Liu et al., 2022; Nazari et al., 2024). The previous research has also demonstrated that perceived green value can strengthen pro-environmental attitudes and encourage environmentally responsible behaviors (Lee et al., 2023).

#### 2.1.2 Self-Identity Theory

Self identity theory provides a useful perspective for understanding electric vehicle (EV) adoption. It explains how individuals' perceptions of themselves can influence their attitudes, preferences and behavioural intentions. The consumers may see themselves as environmentally responsible, socially conscious, or innovative individuals and these self-perceptions can influence their willingness to purchase and use electric vehicles (Barbarossa et al., 2015). Green self identity refers to the extent to which individuals perceive themselves as environmentally responsible persons who engage in environmentally friendly behaviour (Barbarossa et al., 2015). Barbarossa et al. (2017) concluded that self-transcendence values, which emphasise concern for others and the environment positively contribute to the development of green identity. Such values encourage individuals to give importance to environmental well-being and socially responsible behaviour. Consumers with a stronger green self-identity may also be more likely to convert favourable attitudes towards electric vehicles into purchase intentions. When consumers see environmental

responsibility as an important part of who they are, they may be more willing to act on their positive attitudes towards EVs (Rahi et al., 2025).

#### 2.1.3 Theory of Planned Behaviour

Theory of Planned Behavior (TPB) was proposed by Ajzen (1991) and this theory was an extension of the Theory of Reasoned Action (TRA) developed by Fishbein and Ajzen. The primary objective of TPB is to explain individuals' intentions to engage in specific behaviors particularly in situations where the performance of the behavior may be influenced by perceived control over the available resources and opportunities. The TPB has been extensively applied to examine behavioral intentions related to sustainable consumption and environmentally responsible behaviors (Haustein & Jensen, 2018; Wang et al., 2016). The behavioral intention is the most immediate antecedent of actual behavior. It is determined by three principal constructs such as attitude toward the behavior, subjective norm and perceived behavioral control (Ajzen, 1991). Attitude refers to the individual's favorable or unfavorable evaluation of performing a particular behavior. In the context of EV adoption, it reflects the extent to which consumers perceive purchasing or using an electric vehicle as beneficial, desirable, or advantageous. Wang et al. (2016) applied an extended TPB framework to examine consumers' intention to adopt hybrid electric vehicles. Haustein and Jensen (2018) used an extended TPB model to investigate the factors influencing electric vehicle adoption.

### 2.2. Proposed Research Model and Hypothesis Development

The proposed model consists of seven constructs:

#### Sustainable Self-Identity (SSI)

Sustainable self-identity refers to the extent to which individuals perceive sustainability and environmentally responsible consumption as integral aspects of their self-concept and it reflects an individual's identification with environmentally conscious values, lifestyles, and consumption practices. Green self-identity is an important motivational basis for engaging in a range of pro-environmental behaviours (Whitmarsh & O'Neill, 2010). A sustainability-oriented mindset can further influence how individuals perceive and respond to environmental issues and shape their decisions concerning ecological preservation and such a mindset involves an awareness of the importance of conserving natural resources, reducing environmental harm and recognizing the broader consequences of individual actions for the environment (Eberhardt-Toth & Wasieleski, 2013). When individuals internalize sustainability-related values, these values can become integrated into their patterns of thinking and behaviour (Kassel et al., 2016). The sustainable self identity can encourage individuals to adopt consumption behaviours that are aligned with environmental protection and responsible resource use (Seretny et al., 2021; Whitmarsh & O'Neill, 2010).

**H1:** Sustainable Self-Identity positively influences consumers' attitude towards electric vehicles.

**Perceived Functional Value (PFV)**

Perceived functional value refers to the utility that consumers perceive from the functional and utilitarian attributes of an electric vehicle (EV) such as cost, performance, reliability and convenience. In the context of EV adoption, consumers evaluate whether the practical benefits offered by an EV are capable of satisfying their transportation needs and functional evaluations can influence consumers' overall assessment of EVs and subsequently shape their attitudes toward adopting the technology (Han, 2017). Han et al. (2017) found that functional value significantly contributes to consumers' intention to adopt electric vehicles. Accordingly, the following hypothesis is proposed:

H2: Perceived Functional Value positively influences consumers' attitude towards electric vehicles.

**EV Symbolic Value (ESV)**

EV symbolic value refers to the extent to which consumers perceive an electric vehicle (EV) as a means of expressing their identity, personal values and social image. Electric vehicles can carry symbolic meanings that enable consumers to communicate their environmental consciousness to others. The previous research suggests that symbolic value is an important determinant of EV adoption. Herziger and Sintov (2023) found that experiencing an EV through test drives can enhance consumers' perceptions of its symbolic attributes and subsequently strengthen their adoption intentions. Sintov et al. (2020) in his study, demonstrated that symbolic and identity-related considerations can contribute to differences in consumers' willingness to adopt electric vehicles.

H3: EV Symbolic Value positively influences consumers' attitude towards electric vehicles.

**EV Technology Confidence (ETC)**

EV Technology Confidence refers to the extent to which consumers feel confident in the reliability, performance, safety and technological capabilities of electric vehicles (EVs). Bryła et al. (2023), in their systematic review of the EV adoption literature, identified perceived reliability, performance expectations, technological familiarity and risk-benefit evaluations as important factors influencing consumers' adoption decisions.

H4: EV Technology confidence positively influences consumers' attitude towards electric vehicles.

**Perceived Innovativeness (PI)**

It should be noted that the perceived innovativeness can play an important role in shaping consumers' evaluations of EVs. Moon (2020) demonstrated that innovation-related perceptions can contribute to explaining consumers' intention to adopt electric vehicles and the study suggested that consumers' responses to EVs are influenced not only by conventional behavioural considerations but also by how they perceive the innovative characteristics of the technology. Based on this rationale, the following hypothesis is proposed:

H5: Perceived Innovativeness positively influences consumers' attitude towards electric vehicles.

**Attitude towards EV (ATT)**

A recent systematic meta-analytical review by Qiu et al. (2025) identified attitude as a significant and consistently influential predictor of consumers' purchase intention toward electric vehicles across different countries and research contexts. Similarly, Buhmann et al. (2024), extending the Theory of Planned Behavior and found that attitude plays a particularly important role in explaining consumers' intention to adopt battery electric vehicles.

H6: Attitude towards EV positively influences consumers' EV adoption intention.

**Mediation effects**

H7: Attitude towards EV mediates the relationship between sustainable self-identity and EV adoption intention.

H8: Attitude towards EV mediates the relationship between perceived functional value and EV adoption intention.

H9: Attitude towards EV mediates the relationship between EV symbolic value and EV adoption intention.

**EV Adoption Intention**

Intention refers to an individual's willingness and motivation to exert effort toward performing a particular behaviour. Generally, the stronger an individual's behavioural intention, the greater the likelihood that the intended behaviour will be carried out (Waiswa et al., 2024).

**3. Research Methodology****3.1 Research Design**

The study employed a descriptive and analytical research design. The descriptive approach was used to understand the characteristics and perceptions of the respondents and the analytical approach was used to examine the relationships among the variables included in the proposed research model. Convenience sampling method was adopted to select the respondents. The sample consisted of employees working in various government and private organisations.

**3.2 Data Collection**

Primary data were collected from employees working in both the government and private sectors in Thrissur district, Kerala. A structured questionnaire was developed and used to collect the required information from the respondents. In total, 254 responses were received. The collected responses were screened for completeness and suitability for further analysis and following the screening process, 249 responses were considered valid and retained for the final analysis. Five responses were excluded.

**4. Results and Discussion****4.1 Demographic profile of the respondents**

**Table 1:** Demographic profile of respondents (N = 249)

| Demographic Variable      | Category           | Frequency (N) | Percentage (%) |
|---------------------------|--------------------|---------------|----------------|
| Gender                    | Male               | 145           | 58.2           |
|                           | Female             | 104           | 41.8           |
| Type of Employment        | Government service | 82            | 32.9           |
|                           | Private sector     | 167           | 67.1           |
| Educational Qualification | Up to SSLC         | 21            | 8.4            |
|                           | Higher Secondary   | 41            | 16.5           |
|                           | Graduate           | 123           | 49.4           |
|                           | Postgraduate       | 43            | 17.3           |
|                           | Others             | 21            | 8.4            |
| Previous EV Experience    | Yes                | 63            | 25.3           |
|                           | No                 | 186           | 74.7           |
| Residential Area          | Rural              | 185           | 74.3           |
|                           | Urban              | 64            | 25.7           |
| Monthly Income            | Less than ₹25,000  | 20            | 8.0            |
|                           | ₹25,000–₹50,000    | 60            | 24.1           |
|                           | ₹50,000–₹75,000    | 125           | 50.2           |
|                           | ₹75,000–₹1,00,000  | 22            | 8.8            |
|                           | Above ₹1,00,000    | 22            | 8.8            |
| Total                     |                    | 249           | 100.0          |

The demographic profile shows that 145 respondents that is 58.2% were male. While 104 respondents (41.8%) were female. It shows a relatively higher representation of male respondents in the sample. With respect to employment 67 per cent of respondents were employed in the private sector and 32.9 per cent of respondents were government employees. The educational qualification of the respondents show that nearly half of the respondents, that is 49.4% were graduates. This was followed by postgraduate respondents at 17.3%, higher-secondary educated respondents at 16.5%, and respondents with education up to SSLC and other qualifications at 8.4% each. It is also revealed that 186 respondents that is 74.7% per cent had no previous

experience with electric vehicles, whereas only 63 respondents 25.3 per cent had previous EV experience. The collected sample data was predominantly rural with 185 respondents that is 74.3% residing in rural areas compared with 25 per cent from urban areas. The monthly income shows that the largest group comprised respondents earning ₹50,000–₹75,000 per month (50.2%) and it is followed by those earning ₹25,000–₹50,000 (24.1%). Respondents earning less than ₹25,000 accounted for 8.0% while 8.8% each belonged to the ₹75,000–₹1,00,000 and above ₹1,00,000 income categories.

#### 4.2 Measurement Model Assessment

**Table 2:** Measurement Model Assessment

| Construct                        | Item | Standardized Loading ( $\lambda$ ) | AVE  | Cronbach's $\alpha$ | Composite Reliability (CR) |
|----------------------------------|------|------------------------------------|------|---------------------|----------------------------|
| Sustainable Self-Identity (SSI)  | SSI1 | .772                               | .618 | .865                | .866                       |
|                                  | SSI2 | .822                               |      |                     |                            |
|                                  | SSI3 | .744                               |      |                     |                            |
|                                  | SSI4 | .804                               |      |                     |                            |
| Perceived Functional Value (PFV) | PFV1 | .867                               | .700 | .903                | .903                       |
|                                  | PFV2 | .821                               |      |                     |                            |
|                                  | PFV3 | .837                               |      |                     |                            |
|                                  | PFV4 | .820                               |      |                     |                            |
| EV Symbolic Value (ESV)          | ESV1 | .825                               | .691 | .899                | .899                       |
|                                  | ESV2 | .808                               |      |                     |                            |
|                                  | ESV3 | .833                               |      |                     |                            |
|                                  | ESV4 | .858                               |      |                     |                            |
| EV Technology Confidence (ETC)   | ETC1 | .815                               | .683 | .896                | .896                       |
|                                  | ETC2 | .790                               |      |                     |                            |
|                                  | ETC3 | .852                               |      |                     |                            |
|                                  | ETC4 | .848                               |      |                     |                            |
| Perceived Innovativeness (PI)    | PI1  | .793                               | .660 | .885                | .886                       |
|                                  | PI2  | .815                               |      |                     |                            |
|                                  | PI3  | .833                               |      |                     |                            |
|                                  | PI4  | .807                               |      |                     |                            |
| Attitude Towards EV (ATEV)       | ATT1 | .832                               | .655 | .883                | .883                       |
|                                  | ATT2 | .795                               |      |                     |                            |
|                                  | ATT3 | .827                               |      |                     |                            |
|                                  | ATT4 | .781                               |      |                     |                            |
| EV Adoption Intention (EAI)      | INT1 | .833                               | .670 | .890                | .890                       |
|                                  | INT2 | .837                               |      |                     |                            |
|                                  | INT3 | .769                               |      |                     |                            |
|                                  | INT4 | .833                               |      |                     |                            |

The measurement model exhibited satisfactory levels of reliability and convergent validity. The above table shows that the standardized factor loadings of all measurement items ranged from .744 to .867 and these values are above the recommended threshold of .70. It should also be noted that all factor loadings were statistically significant at the  $p < .001$  level. This indicates that the items adequately represented their respective constructs. The AVE values ranged from .618 to .700 and all the values exceeded the recommended minimum of .50. Therefore, the results provide clear evidence of adequate convergent validity. The composite reliability values ranged from .866 to .903 and it also indicates good to excellent internal consistency among the constructs. It is concluded that constructs such as sustainable self identity, perceived functional value, EV symbolic value, EV technology confidence, perceived innovativeness, attitude towards EV, and EV adoption intention all shown satisfactory measurement quality. Therefore, these constructs were retained for the subsequent structural model analysis.

### 4.3 Structural Model Assessment

**Table 3:** Discriminant Validity Assessment Using the Fornell Larcker Criterion

| Construct | SSI         | PFV         | ESV         | ATEV        | ETC         | PI          | EAI         |
|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| SSI       | <b>.786</b> |             |             |             |             |             |             |
| PFV       | .014        | <b>.836</b> |             |             |             |             |             |
| ESV       | .257        | .112        | <b>.831</b> |             |             |             |             |
| ATEV      | .306        | .348        | .474        | <b>.809</b> |             |             |             |
| ETC       | -.036       | .013        | -.054       | -.040       | <b>.827</b> |             |             |
| PI        | -.111       | -.004       | -.040       | -.114       | -.154       | <b>.812</b> |             |
| EAI       | .181        | .220        | .249        | .535        | .337        | -.025       | <b>.818</b> |

The Fornell-Larcker criterion confirms adequate discriminant validity of the variable as the square root of AVE for each construct exceeded its correlations with all

other constructs and the diagonal values also ranged from 0.786 to 0.836. The highest inter-construct correlation was 0.535. This indicates that each construct shared greater variance with its own indicators than with other constructs. The results provide evidence that all constructs possess adequate discriminant validity and it confirms that the constructs are empirically distinct from one another. It can be concluded that the measurement model demonstrates satisfactory discriminant validity and is suitable for proceeding with the assessment of the structural relationships and hypothesis testing.

**Table 4:** Multicollinearity diagnostics and autocorrelation analysis

| Predictor | Tolerance | VIF   | Durbin-Watson |
|-----------|-----------|-------|---------------|
| SSI       | .934      | 1.071 | 1.932         |
| PFV       | .987      | 1.013 |               |
| ESV       | .922      | 1.084 |               |
| ATEV      | .984      | 1.017 | 1.929         |
| ETC       | .973      | 1.028 |               |
| PI        | .962      | 1.040 |               |

Multicollinearity of the variables was assessed using tolerance and variance inflation factor (VIF) statistics. VIF values ranged from 1.013 to 1.084, with tolerance values ranging from .922 to .987. For the EV Adoption Intention equation the VIF values ranged from 1.017 to 1.040. The tolerance values ranged from .962 to .984. All VIF values were substantially below the recommended threshold of 5.00. All tolerance values exceeded the minimum acceptable level of .20. This indicates that multicollinearity was not a concern among the predictors. The Durbin-Watson statistics were 1.932 for the attitude towards EV and 1.929 for the EV adoption intention. Both values were close to 2.00. This recommends no evidence of serious first-order residual autocorrelation.

**Table 5:** Structural Model Results and Hypothesis Testing

| Hypothesis | Relationship           | Unstandardized Coefficient (B) | Standardized Coefficient ( $\beta$ ) | S.E. | C.R. | p-value | Decision  |
|------------|------------------------|--------------------------------|--------------------------------------|------|------|---------|-----------|
| H1         | SSI $\rightarrow$ ATEV | .230                           | .222                                 | .066 | 3.49 | < .001  | Supported |
| H2         | PFV $\rightarrow$ ATEV | .341                           | .330                                 | .063 | 5.40 | < .001  | Supported |
| H3         | ESV $\rightarrow$ ATEV | .401                           | .413                                 | .063 | 6.32 | < .001  | Supported |
| H4         | ETC $\rightarrow$ EAI  | .423                           | .414                                 | .060 | 7.00 | < .001  | Supported |
| H5         | ATEV $\rightarrow$ EAI | .636                           | .636                                 | .065 | 9.78 | < .001  | Supported |
| H6         | PI $\rightarrow$ EAI   | .114                           | .113                                 | .056 | 2.04 | .041    | Supported |

The above table shows that sustainable self-identity has a positive and significant effect on attitude on EV ( $B = .230$ ,  $\beta = .222$ ,  $SE = .066$ ,  $CR = 3.496$ ,  $p < .001$ ) and this indicates that individuals with a stronger sustainable self-identity are more likely to have a favorable attitude towards EVs and therefore H1 is supported. Another variable perceived functional value also positively influences attitude towards EV ( $B = .341$ ,  $\beta = .330$ ,  $SE = .063$ ,  $CR = 5.405$ ,  $p < .001$ ). This suggests that consumers who recognize greater functional benefits in EVs tend to develop more favorable attitudes, although its effect is lower than that of EV symbolic value. EV symbolic value has also a significant positive effect on attitude towards EV ( $B = .401$ ,  $\beta = .413$ ,  $SE = .063$ ,  $CR = 6.322$ ,  $p < .001$ ). Among the three predictors, it shows the strongest influence, highlighting the importance of the symbolic benefits associated with owning

or using an EV. EV Technology confidence significantly affects EV adoption intention ( $B = .423$ ,  $\beta = .414$ ,  $SE = .060$ ,  $CR = 7.003$ ,  $p < .001$ ). This confirms that consumers who feel more confident about EV technology are more likely to consider adopting an electric vehicle. Attitude towards EV has the strongest relationship with EV adoption intention ( $B = .636$ ,  $\beta = .636$ ,  $SE = .065$ ,  $CR = 9.787$ ,  $p < .001$ ) and it has revealed that a favorable attitude plays a key role in strengthening consumers' intention to adopt EVs. Finally, perceived innovativeness has contributed a positive but comparatively smaller effect on EV adoption intention ( $B = .114$ ,  $\beta = .113$ ,  $SE = .056$ ,  $CR = 2.042$ ,  $p = .041$ ). This result indicates that consumers who perceive EVs as innovative are somewhat more likely to intend to adopt them and hence Hypothesis 6 is supported.

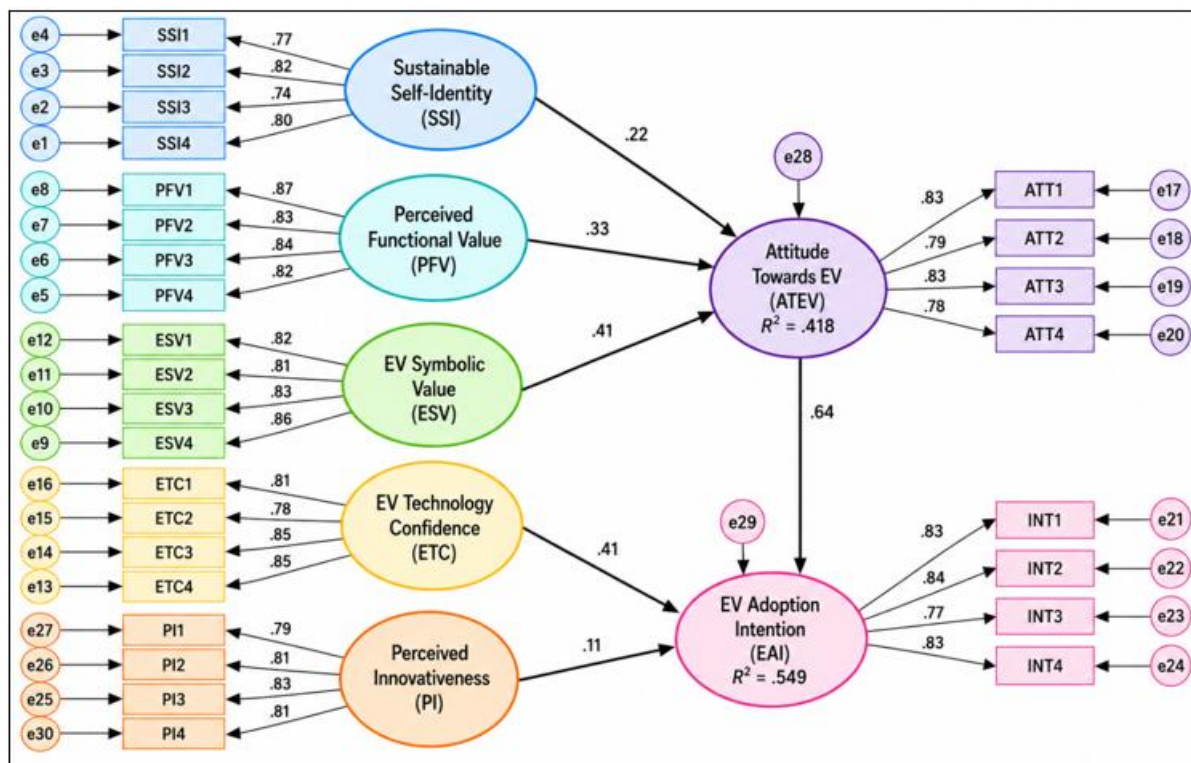


**Figure 1:** Structural Equation Model of Factors Influencing EV Adoption Intention

The structural model also provides information on the explanatory power of the model through the squared multiple correlations ( $R^2$ ) and the AMOS output reports  $R^2 = .418$  for ATEV and  $R^2 = .549$  for EAI. It is found that sustainable self-identity, perceived functional value, and EV symbolic value jointly explain 41.8% of the variance in

attitude towards EV and the remaining 58.2% is attributable to other factors and unexplained variance not included in the model. It is also revealed that EV technology confidence, attitude towards EV and perceived innovativeness jointly explain 54.9% of the variance in EV adoption intention.

**Table 6:** Model Fit Indices of the Structural Model

| Fit Index               | Obtained Value | Recommended Criterion             | Interpretation | References                              |
|-------------------------|----------------|-----------------------------------|----------------|-----------------------------------------|
| CMIN/DF ( $\chi^2/df$ ) | 1.077          | < 3.00                            | Good fit       | Kline (2016); Hair et al. (2019)        |
| NFI                     | .920           | $\geq .90$                        | Good fit       | Hair et al. (2019)                      |
| RFI                     | .909           | $\geq .90$                        | Good fit       | Hair et al. (2019)                      |
| IFI                     | .994           | $\geq .90$ ; $\geq .95$ preferred | Excellent fit  | Hair et al. (2019); Hu & Bentler (1999) |
| TLI                     | .993           | $\geq .90$ ; $\geq .95$ preferred | Excellent fit  | Hair et al. (2019); Hu & Bentler (1999) |
| CFI                     | .994           | $\geq .90$ ; $\geq .95$ preferred | Excellent fit  | Hair et al. (2019); Hu & Bentler (1999) |
| RMSEA                   | .018           | $\leq .08$ ; $\leq .06$ preferred | Excellent fit  | Kline (2016); Hu & Bentler (1999)       |

**Note.** CMIN = chi-square; DF = degrees of freedom; NFI = normed fit index; RFI = relative fit index; IFI = incremental fit index; TLI = Tucker–Lewis index; CFI = comparative fit index; RMSEA = root mean square error of approximation.

Structural model demonstrates a very good overall fit to the observed data. The chi-square statistic was  $\chi^2(334) = 359.808$ , with a CMIN/DF ratio of 1.077 and this reflects a good fit. The incremental and comparative fit indices also indicated satisfactory to excellent model fit with NFI = .920, RFI = .909, IFI = .994, TLI = .993, and CFI = .994. In particular, the IFI, TLI, and CFI values exceeded .95, indicating excellent comparative fit. The RMSEA was .018. In short, all major fit indices satisfied their recommended criteria indicating that the proposed structural model provides an excellent representation of the observed data.

## 5. Managerial Implications

Since the EV attitude emerged as the strongest predictor of EV adoption intention, the managers should focus on developing favourable consumer evaluations by clearly communicating the practical, symbolic and technological

benefits of EVs in detail. The influence of EV symbolic value suggests that consumers may view EV ownership as a reflection of environmental responsibility, a modern lifestyle and interest in technological progress. Marketing strategies can therefore present EVs as a symbol of a more progressive way of living. The sustainable self-identity and perceived functional value highlight the importance of communicating both environmental and practical benefits and therefore the consumers should be made aware that EVs can support their desire to live in a more sustainable way while also offering useful benefits in everyday life. The manufacturers and dealers should strengthen consumer confidence through test drives, demonstrations, transparent information on battery performance and safety, warranty support and accessible charging solutions. Although perceived innovativeness had a comparatively weaker effect, communicating innovative features can further enhance consumers.

## 6. Conclusion

The consumers' adoption intention towards electric vehicles is determined by a combination of psychological, functional, symbolic and technological factors. The empirical results supported all six hypothesized relationships. This confirms the relevance of the proposed model in explaining EV-related attitudes and adoption intentions. It was revealed that the sustainable self-identity, perceived functional value and EV symbolic value significantly contributed to attitude. Moreover, EV technology confidence, attitude towards EV

and perceived innovativeness significantly influenced EV adoption. The model explained 41.8% of the variance in attitude towards EV. There is 54.9% of the variance in EV adoption intention due to the influence independent variables. This demonstrates the meaningful explanatory power. It is recommended that the future research on EV adoption in Kerala could explore how factors such as government policies, electricity costs, consumer awareness and changing lifestyles influence people's decisions to adopt electric vehicles across different regions and groups.

| Code | Statement                                                                                       | Source / Adapted from                            |
|------|-------------------------------------------------------------------------------------------------|--------------------------------------------------|
| SSI1 | I regularly choose environmentally friendly products whenever possible.                         | Whitmarsh & O'Neill (2010)                       |
| SSI2 | I see myself as a person who tries to make environmentally responsible choices.                 | Whitmarsh & O'Neill (2010)                       |
| SSI3 | Living in an environmentally responsible way reflects the kind of person I am.                  | Whitmarsh & O'Neill (2010)                       |
| SSI4 | Sustainability is an important part of my personal identity.                                    | Whitmarsh & O'Neill (2010)                       |
| PFV1 | An electric vehicle would perform well for my everyday transportation needs.                    | Han et al. (2017); Sweeney & Soutar (2001)       |
| PFV2 | An electric vehicle would be suitable for my regular travel requirements.                       | Han et al. (2017)                                |
| PFV3 | An electric vehicle would provide the functionality I expect from a personal vehicle.           | Han et al. (2017); Sweeney & Soutar (2001)       |
| PFV4 | An electric vehicle would be a practical choice for my transportation needs.                    | Han et al. (2017)                                |
| ESV1 | Compared with a conventional car, an electric vehicle would be well suited to my lifestyle.     | Schuitema et al. (2013)                          |
| ESV2 | I would feel proud to own and have an electric vehicle at my home.                              | Schuitema et al. (2013)                          |
| ESV3 | I would feel confident and proud to drive an electric vehicle.                                  | Schuitema et al. (2013)                          |
| ESV4 | Owning an electric vehicle would reflect a positive image of myself.                            | Schuitema et al. (2013)                          |
| ETC1 | I am confident that I could learn to use the technological features of an electric vehicle.     | Compeau & Higgins (1995)                         |
| ETC2 | I am confident that I could manage the charging requirements of an electric vehicle.            | Compeau & Higgins (1995), contextualized to EVs  |
| ETC3 | I would feel capable of using the digital and electronic systems of an electric vehicle.        | Compeau & Higgins (1995)                         |
| ETC4 | I am confident in my ability to handle the technological aspects of owning an electric vehicle. | Compeau & Higgins (1995)                         |
| ATT1 | Adopting an electric vehicle would be a good idea for me.                                       | Ajzen (1991); Jaiswal et al. (2021)              |
| ATT2 | I have a favourable attitude towards adopting an electric vehicle.                              | Ajzen (1991); Jaiswal et al. (2021)              |
| ATT3 | I believe that adopting an electric vehicle would be beneficial for me.                         | Ajzen (1991); Jaiswal et al. (2021)              |
| ATT4 | Overall, I have a positive evaluation of adopting an electric vehicle.                          | Ajzen (1991); Jaiswal et al. (2021)              |
| PI1  | If I hear about a new technology, I would look for ways to experience it.                       | Agarwal and Shanmugavel                          |
| PI2  | Among my peers, I am usually the first to try out new technologies.                             |                                                  |
| PI3  | In general, I do not hesitate to try out new technologies.                                      |                                                  |
| PI4  | I like to experience driving electric vehicles.                                                 |                                                  |
| INT1 | I intend to purchase an electric vehicle in the future.                                         | Adapted from Ajzen (1991); Jaiswal et al. (2021) |
| INT2 | I plan to consider an electric vehicle when I next purchase a vehicle.                          | Adapted from EV intention literature             |
| INT3 | I would seriously consider adopting an electric vehicle.                                        | Adapted from EV adoption literature              |
| INT4 | I am willing to purchase an electric vehicle when the opportunity arises.                       | Adapted from EV adoption literature              |

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