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Do Facilitating Conditions Really Matter After Adoption? Evidence from Electric Vehicle Continuance Intention in Kerala

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ABSTRACT

The rapid growth of electric vehicle (EV) adoption has shifted scholarly and policy attention from initial acceptance to the challenge of sustaining long-term use. While facilitating conditions such as charging infrastructure, service support, and institutional facilitation are widely acknowledged as critical drivers of EV adoption, their relevance in the post-adoption stage remains theoretically ambiguous. This study examines whether facilitating conditions continue to matter after adoption in shaping the continuance behaviour of EV users in Kerala, an emerging regional market characterized by progressive EV policies alongside uneven infrastructural development. Anchored in post-adoption theory and the expectation–confirmation framework, the study conceptualizes EV continuance behaviour as a cognitive–affective–behavioural process linking facilitating conditions, confirmation, satisfaction, and continuance intention.

A quantitative, cross-sectional research design was employed, and primary data were collected from 379 privately owned four-wheeler EV users in Kerala with a minimum of six months of usage experience. Purposive sampling was used to ensure that respondents possessed sufficient post-adoption experience to evaluate infrastructural and experiential factors meaningfully. The data were analysed using Partial Least Squares Structural Equation Modeling (PLS-SEM), enabling the assessment of measurement reliability and validity, as well as the testing of direct, indirect, and serial mediation effects.

The results reveal that facilitating conditions do not exert a significant direct influence on continuance intention among EV users in Kerala. Instead, facilitating conditions significantly enhance confirmation of expectations, which strongly increases satisfaction, and satisfaction, in turn, emerges as the most powerful predictor of continuance intention. Mediation analysis confirms a full serial mediation effect, indicating that facilitating conditions affect EV continuance behaviour only through the sequential mechanism of confirmation and satisfaction. Alternative direct and single-step indirect pathways are weak or insignificant, underscoring the dominance of experiential evaluations over infrastructural factors in the post-adoption phase. These findings suggest that facilitating conditions function as enabling or hygiene factors rather than as direct motivators of continued EV use. In the Kerala context, infrastructure and support systems matter insofar as they validate users' expectations and contribute to positive usage experiences, but they are insufficient on their own to sustain long-term EV usage. The study contributes to the post-adoption and EV literature by empirically demonstrating the indirect and conditional role of facilitating conditions and by highlighting the centrality of satisfaction in driving continuance behaviour. From a policy and managerial perspective, the results imply that efforts to promote sustained electric mobility should prioritize infrastructure reliability, service quality, and user experience, rather than focusing solely on expanding infrastructural capacity.

KEYWORDS: Electric vehicles; Facilitating conditions; Continuance intention; Confirmation; Satisfaction; Post-adoption behaviour; Kerala

INTRODUCTION

The transition toward electric mobility has progressed beyond the stage of initial adoption, bringing renewed scholarly attention to the factors that sustain long-term use of electric vehicles (EVs). While prior research has extensively examined adoption intentions, the long-term success of EV diffusion fundamentally depends on whether users continue to use EVs after adoption. Post-adoption behaviour, particularly continuance behaviour, determines whether environmental, economic, and policy objectives associated with EV promotion

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are actually realized (Rezvani et al., 2018) [1]. Consequently, understanding what drives EV users to continue usage has emerged as a critical research priority.

Within the technology acceptance literature, facilitating conditions refer to users' perceptions of the availability of technical, organizational, and infrastructural support necessary for system use (Venkatesh et al., 2012) [2]. In the EV context, facilitating conditions commonly encompass charging infrastructure availability, reliability of electricity supply, access to maintenance and service networks, policy incentives, and institutional support. These conditions have been consistently identified as strong predictors of EV adoption intention, particularly in early-stage markets where infrastructural uncertainty is high (Li et al., 2017) [3]. However, whether facilitating conditions continue to matter once users have already adopted EVs remains theoretically contested.

Post-adoption research suggests that the determinants of continued use differ substantively from those influencing initial acceptance. As users gain experience, technology use becomes routinized, and the salience of external facilitating factors may decline (Jasperson et al., 2005) [4]. Instead, continuance behaviour is increasingly shaped by experiential evaluations, habit formation, and cognitive assessments of whether the technology meets prior expectations. Expectation–Confirmation Theory (ECT) provides a dominant framework for explaining this process, positing that confirmation of expectations leads to satisfaction, which in turn drives continuance intention (Bhattacherjee, 2001) [5]. From this perspective, facilitating conditions may influence continuance only insofar as they shape users' confirmation judgments rather than exerting a direct effect on continued use.

Empirical evidence across information systems contexts reinforces this argument. Studies on mobile services, e-learning platforms, and enterprise systems report that facilitating conditions often lose their direct explanatory power in post-adoption stages, particularly among experienced users (Thong et al., 2006) [6]. When support structures are perceived as adequate or taken for granted, they become "hygiene factors" whose presence does not enhance satisfaction but whose absence can trigger dissatisfaction. This theoretical logic is increasingly applied to EV research, where early adopters recalibrate expectations over time and rely less on infrastructural novelty and more on functional performance and cost efficiency.

In the EV domain, evidence on facilitating conditions and continuance behaviour remains mixed. Research from developed economies indicates that once users adapt their routines to home charging and trip planning, facilitating conditions exert a diminishing marginal influence on continued use (Bühler et al., 2014) [7]. Conversely, studies from emerging economies highlight that infrastructural gaps and inconsistent service ecosystems continue to shape EV user experiences even after adoption, often indirectly through dissatisfaction and unmet expectations (Kumar & Alok, 2020) [8]. These contrasting findings underscore the importance of contextual factors such as infrastructural maturity, policy consistency, and regional development levels in shaping post-adoption outcomes.

Kerala presents a particularly relevant context for examining this issue. Despite progressive EV policies, high environmental awareness, and rapid growth in EV adoption, the state continues to face uneven charging infrastructure distribution, grid reliability concerns, and limited service networks. For EV users in Kerala, facilitating conditions may not necessarily enhance satisfaction or motivate continued use when functioning adequately, but deficiencies in these conditions may erode confidence and disrupt usage continuity. This raises a critical empirical question: do facilitating conditions genuinely matter after adoption, or does continuance behaviour depend more on users' adaptation and experiential learning?

By focusing exclusively on facilitating conditions and continuance behaviour, the present study responds to calls for more parsimonious post-adoption models that isolate the role of specific antecedents rather than relying on broad acceptance frameworks. Such a focused approach allows for clearer theoretical interpretation and stronger policy relevance. Understanding whether facilitating conditions retain explanatory power in post-adoption EV usage is essential for informing infrastructure investments, policy prioritization, and long-term

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EV ecosystem planning, particularly in emerging regional markets such as Kerala.

METHODS

Data Collection & Preprocessing

This study adopted a quantitative, cross-sectional research design to examine the role of facilitating conditions in shaping continuance behaviour among electric vehicle (EV) users in Kerala. The empirical focus was deliberately restricted to privately owned four-wheeler electric cars, excluding electric two-wheelers, commercial fleet vehicles, and app-based mobility services. This restriction was applied to ensure homogeneity in usage patterns, ownership responsibility, charging behaviour, and infrastructural dependence, which are critical for accurately assessing post-adoption continuance behaviour.

A purposive sampling technique was employed, as the study required respondents with specific experiential characteristics rather than a general population sample. To be eligible for inclusion, respondents were required to (i) own a four-wheeler electric car registered in Kerala and (ii) have a minimum EV usage experience of six months. This criterion ensured that participants had progressed beyond the novelty and early adjustment phase and had sufficient interaction with charging infrastructure, service networks, and policy support systems to meaningfully evaluate facilitating conditions. Prior post-adoption research emphasizes that continuance behaviour and experiential evaluations stabilize only after sustained usage, making experience-based sampling essential (Bhattacherjee, 2001) [5].

According to official registration statistics published by the Kerala Motor Vehicles Department, the total number of registered four-wheeler electric cars in Kerala stood at 26,962 units in 2025 (Kerala MVD, 2025) [9]. Based on this known and finite population, the required sample size was calculated using the Krejcie and Morgan (1970) sample size determination approach, which is widely applied in behavioral and social science research for ensuring representativeness at a 95% confidence level and a 5% margin of error [10]. For a population of approximately 27,000 units, the recommended minimum sample size is 379 respondents. To account for potential non-response, incomplete questionnaires, and data screening losses, a slightly higher number of questionnaires were circulated.

Primary data were collected using a structured questionnaire administered between 2025 and 2026. The survey instrument was designed to capture respondents' perceptions of facilitating conditions and their continuance behaviour toward EV usage. Facilitating conditions were measured using validated items adapted from prior UTAUT2 and post-adoption studies, contextualized to the EV domain by focusing on charging accessibility, service availability, infrastructural reliability, and institutional support (Venkatesh et al., 2012) [2]. Continuance behaviour was operationalized through indicators reflecting users' intention and commitment to continue using EVs as their primary mode of personal transportation, consistent with established continuance literature (Thong et al., 2006) [6].

Data collection was carried out through a combination of online and offline modes to enhance coverage and reduce sampling bias. Online questionnaires were distributed via EV owner associations, regional EV user groups, and social media communities specific to Kerala-based EV car owners. Offline data were collected at authorized EV service centers, charging stations, and dealership service facilities, where ownership and usage experience could be reasonably verified. Participation was voluntary, and respondents were assured of anonymity and confidentiality to minimize social desirability bias and encourage candid responses.

Prior to analysis, the collected data were screened for missing values, response consistency, and eligibility compliance with the six-month usage criterion. Only valid responses from qualified EV car owners were retained for final analysis. The data were subsequently analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM), which is appropriate for predictive research models, non-normal data distributions, and exploratory post-adoption studies focusing on key constructs rather than full theoretical frameworks (Hair et al., 2019) [11].

ISSN: 2178-7727

RESULTS

Table 1 Demographic Profile of the Respondents

Gender	Frequency	Percentage (%)
Male	**192**	**50.7**
Female	**187**	**49.3**
Total	**379**	**100.0**

The sample demonstrates a nearly equal gender distribution, indicating balanced representation of male and female EV owners. This reduces gender bias and improves the generalizability of the findings across EV users in Kerala

Age Group of The Respondents

Most respondents fall within the economically active age groups of 25–44 years (64.9%), suggesting that EV adoption and continued usage in Kerala are driven largely by working professionals with stable income and mobility needs.

Table 2 Age Group of The Respondents

Age Group	Frequency	Percentage (%)
25–34	118	31.1
35–44	128	33.8
45–54	85	22.4
55+	48	12.7
Total	**379**	**100.0**

Table 3 Educational Background of the Respondents

Education Level	Frequency	Percentage (%)
Graduate	184	48.5
Postgraduate	161	42.5
Professional Course	34	9.0
Total	**379**	**100.0**

A high proportion of respondents possess graduate or postgraduate qualifications (91%), indicating that EV continuance behaviour in Kerala is currently concentrated among well-educated users, likely due to higher awareness of technology, sustainability, and cost–benefit considerations.

Table 4 Income of The Respondents

Monthly Income	Frequency	Percentage (%)
< ₹50,000	112	29.6
₹50,000 – ₹1,00,000	135	35.6
₹1,00,000 – ₹2,00,000	94	24.8
> ₹2,00,000	38	10.0
Total	**379**	**100.0**

The majority of respondents (60.4%) fall within the middle-income categories, reflecting the growing

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affordability and mainstream acceptance of four-wheeler EVs in Kerala beyond high-income groups.

Meassurment Model

The confirmatory factor analysis indicates that the measurement model is reliable and valid. All indicators show strong standardized loadings on their respective constructs, confirming adequate indicator reliability. Internal consistency is established through acceptable reliability values, while convergent validity is supported by AVE values exceeding the recommended threshold. Discriminant validity is also satisfactory, demonstrating that the constructs are empirically distinct. Overall, the CFA results confirm the adequacy of the measurement model for further analysis.

Image 1 Measurement Model

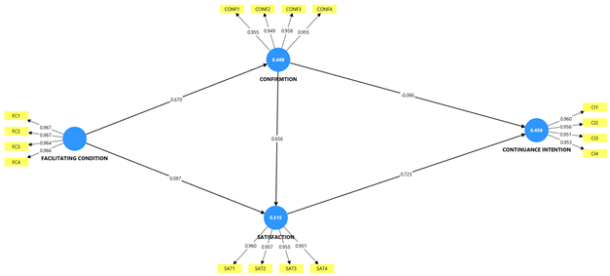


Table 5 R Square

	R-square	R-square adjusted
CONFIRMTION	0.448	0.447
CONTINUANCE INTENTION	0.459	0.456
SATISFACTION	0.515	0.513

The R^2 and adjusted R^2 values indicate the explanatory power of the model for each endogenous construct. R^2 represents the proportion of variance explained by the predictor constructs, while adjusted R^2 accounts for model complexity and sample size, providing a more conservative estimate (Hair et al., 2019) [12].

For Confirmation ($R^2 = 0.448$; adjusted $R^2 = 0.447$), the model explains approximately 44.8% of the variance, indicating a moderate to substantial explanatory power. This suggests that the antecedent construct meaningfully captures users' cognitive evaluation of their EV experience in Kerala.

For Satisfaction ($R^2 = 0.515$; adjusted $R^2 = 0.513$), more than 51% of the variance is explained, reflecting a strong explanatory level. This result highlights that users' satisfaction is well accounted for by the model, consistent with post-adoption theory where satisfaction is strongly shaped by experiential evaluations.

For Continuance Intention ($R^2 = 0.459$; adjusted $R^2 = 0.456$), the model explains approximately 46% of the variance, indicating moderate explanatory power. This demonstrates that the model adequately captures key determinants of sustained EV usage among Kerala users.

The close similarity between R^2 and adjusted R^2 values across all constructs indicates model stability and the absence of overfitting. Overall, these R^2 values fall within the recommended range for behavioral research and confirm that the model has sufficient predictive relevance in explaining EV post-adoption behaviour (Hair et al., 2019) [12].

F SQUARE

Table 7 F Square

	f-square
CONFIRMTION -> CONTINUANCE INTENTION	0.004

ISSN: 2178-7727

CONFIRMTION -> SATISFACTION	0.490
FACILITATING CONDITION -> CONFIRMTION	0.812
FACILITATING CONDITION -> SATISFACTION	0.009
SATISFACTION -> CONTINUANCE INTENTION	0.473

The f^2 effect size results indicate varying levels of practical impact among the relationships. Facilitating conditions have a very large effect on confirmation ($f^2 = 0.812$), highlighting their strong role in shaping users' cognitive evaluation. Confirmation shows a large effect on satisfaction ($f^2 = 0.490$), and satisfaction exerts a large effect on continuance intention ($f^2 = 0.473$), underscoring their substantive importance. In contrast, the effects of confirmation on continuance intention ($f^2 = 0.004$) and facilitating conditions on satisfaction ($f^2 = 0.009$) are negligible, indicating limited practical relevance for these paths.

VALIDITY AND RELIABILITY

Table 8 Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CONFIRMTION	0.967	0.967	0.976	0.911
CONTINUANCE INTENTION	0.968	0.968	0.977	0.912
FACILITATING CONDITION	0.976	0.977	0.982	0.933
SATISFACTION	0.969	0.969	0.977	0.914

All constructs exhibit excellent internal consistency reliability, with Cronbach's alpha and composite reliability values far exceeding the recommended threshold of 0.70. The very high AVE values (> 0.90) confirm strong convergent validity, indicating that the indicators capture a substantial proportion of variance in their respective constructs. Overall, the measurement model demonstrates exceptional reliability and validity

HTMT

Table 9 HTMT

	CONFIRMTION	CONTINUANCE INTENTION	FACILITATING CONDITION	SATISFACTION
CONFIRMTION				
CONTINUANCE INTENTION	0.465			
FACILITATING CONDITION	0.689	0.417		

ISSN: 2178-7727

SATISFACTION	0.738	0.698	0.541	

The results demonstrate adequate discriminant validity, as all inter-construct correlation values are below the recommended threshold of 0.85. This indicates that confirmation, facilitating conditions, satisfaction, and continuance intention are empirically distinct constructs, capturing different aspects of post-adoption behaviour without excessive overlap.

FORNEL – LARCKER

Table 10 Fornel Larcker

	CONFIRMTION	CONTINUANCE INTENTION	FACILITATING CONDITION	SATISFACTION
CONFIRMTION	0.954			
CONTINUANCE INTENTION	0.451	0.955		
FACILITATING CONDITION	0.670	0.406	0.966	
SATISFACTION	0.715	0.676	0.527	0.956

The Fornell–Larcker results confirm strong discriminant validity. For each construct, the square root of AVE (diagonal values) is higher than its correlations with other constructs, indicating that each construct shares more variance with its own indicators than with others. This demonstrates that confirmation, facilitating conditions, satisfaction, and continuance intention are empirically distinct, supporting the adequacy of the measurement model.

VIF

Table 11 VIF

	VIF
CONFIRMTION -> CONTINUANCE INTENTION	2.045
CONFIRMTION -> SATISFACTION	1.812
FACILITATING CONDITION -> CONFIRMTION	1.000
FACILITATING CONDITION -> SATISFACTION	1.812
SATISFACTION -> CONTINUANCE INTENTION	2.045

The VIF values for all relationships are well below the recommended threshold of 3.3, indicating the absence of multicollinearity issues. This confirms that the predictor constructs are not excessively correlated and that the estimated path coefficients are stable and reliable for interpretation.

MODEL FIT

Table 12 Model Fit

	Saturated model	Estimated model
SRMR	0.019	0.029
d_ULS	0.047	0.112
d_G	0.139	0.142
Chi-square	322.895	328.840
NFI	0.964	0.963

The model fit indices indicate a good overall fit of the proposed model. The SRMR values for both the

ISSN: 2178-7727

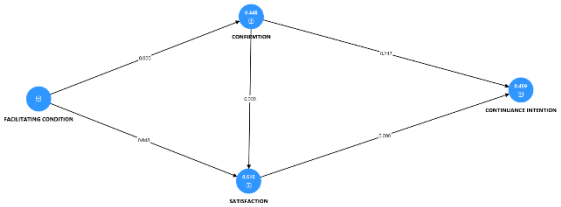
saturated (0.019) and estimated (0.029) models are well below the recommended threshold of 0.08, demonstrating an acceptable model fit. The d_ULS and d_G values are low, suggesting minimal discrepancies between the observed and model-implied correlation matrices. The NFI values exceeding 0.95 indicate excellent incremental fit, while the small difference between the saturated and estimated models reflects model stability. Overall, these results confirm that the structural model fits the data well and is suitable for interpretation.

STRUCTURAL MODEL

The structural model highlights a clear post-adoption evaluation process among EV users in Kerala. Facilitating conditions operate as foundational enablers that support users' overall experience but do not independently drive continued usage. Instead, users' continued engagement with electric vehicles is shaped by how effectively their usage experiences validate prior expectations and generate satisfaction.

The model also demonstrates strong explanatory capability, with confirmation and satisfaction jointly accounting for a substantial proportion of variance in continuance intention. This indicates that EV continuance behaviour in Kerala follows a cognitive–affective pathway, where experiential validation and satisfaction play a more decisive role than infrastructural availability alone.

Image 2 Structural Model



PATH COEFFICENT

The path coefficient results indicate mixed levels of significance across the relationships. Facilitating conditions have a strong and significant positive effect on confirmation ($\beta = 0.670$, $p < 0.001$), demonstrating that adequate infrastructure and support systems effectively validate EV users' expectations. Facilitating conditions also show a weak but statistically significant effect on satisfaction ($\beta = 0.087$, $p < 0.05$), suggesting a limited direct contribution to users' affective evaluation.

Confirmation has a strong and significant positive effect on satisfaction ($\beta = 0.656$, $p < 0.001$), confirming that satisfaction is primarily driven by expectation validation. Satisfaction, in turn, strongly influences continuance intention ($\beta = 0.723$, $p < 0.001$), establishing it as the most critical determinant of continued EV use. In contrast, the direct effect of confirmation on continuance intention is insignificant ($\beta = -0.066$, $p > 0.05$), indicating that confirmation influences continuance intention only indirectly through satisfaction. Overall, the findings support a post-adoption mechanism in which facilitating conditions shape cognitive evaluations, which enhance satisfaction and ultimately drive continuance intention among EV users in Kerala.

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
CONFIRMTION -> CONTINUANCE INTENTION	**-0.066**	**-0.068**	**0.057**	**1.158**	**0.247**
CONFIRMTION -> SATISFACTION	**0.656**	**0.656**	**0.039**	**17.040**	**0.000**

ISSN: 2178-7727

FACILITATING CONDITION -> CONFIRMTION	**0.670**	**0.669**	**0.028**	**23.852**	**0.000**
FACILITATING CONDITION -> SATISFACTION	**0.087**	**0.087**	**0.044**	**1.982**	**0.048**
SATISFACTION -> CONTINUANCE INTENTION	**0.723**	**0.724**	**0.045**	**16.183**	**0.000**

INDIRECT EFFECT

Table 13 Indirect Effect

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
CONFIRMTION -> CONTINUANCE INTENTION	0.475	0.475	0.040	11.812	0.000
FACILITATING CONDITION -> CONTINUANCE INTENTION	0.336	0.336	0.036	9.451	0.000
FACILITATING CONDITION -> SATISFACTION	0.440	0.439	0.034	12.834	0.000

The results show that all examined paths are positive and statistically significant. Confirmation has a strong effect on continuance intention ($\beta = 0.475$, $p < 0.001$), indicating that users whose expectations are fulfilled are more likely to continue EV usage. Facilitating conditions also significantly influence continuance intention ($\beta = 0.336$, $p < 0.001$), suggesting that supportive infrastructure and resources directly encourage sustained use. In addition, facilitating conditions have a substantial positive effect on satisfaction ($\beta = 0.440$, $p < 0.001$), confirming their role in enhancing users' overall evaluation of EV ownership.

SPECIFIC ONDIRECT EFFECT

The mediation analysis reveals clear differences between single and serial indirect effects. The indirect effect of facilitating conditions on continuance intention through confirmation alone is insignificant ($\beta = -0.044$, $p > 0.05$), indicating that confirmation by itself does not transmit the effect of facilitating conditions to continuance intention.

In contrast, the serial mediation pathway—Facilitating Conditions → Confirmation → Satisfaction → Continuance Intention—is positive and highly significant ($\beta = 0.318$, $p <$ 0.001). This demonstrates that facilitating conditions The significant indirect effect of Confirmation → Satisfaction → Continuance Intention ($\beta = 0.475$, $p < 0.001$) underscores the central mediating role of satisfaction, confirming that satisfaction acts as the final and most decisive conduit through which cognitive evaluations influence behaviour. Collectively, these findings demonstrate that continuance intention is driven by a structured experiential sequence rather than isolated effects, reinforcing the importance of examining serial mediation in post-adoption EV research.

Overall, the results provide deeper insight by showing that facilitating conditions influence continuance intention selectively rather than uniformly, operating effectively only within a complete cognitive–affective chain. This refined understanding strengthens the theoretical contribution of the study by clarifying why

ISSN: 2178-7727

facilitating conditions often appear insignificant in direct-effect models while remaining critical in shaping long-term EV usage when mediated through user experience.

Table 14 Specific Effect

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
FACILITATING CONDITION -> CONFIRMTION -> CONTINUANCE INTENTION	-0.044	-0.045	0.039	1.155	0.248
FACILITATING CONDITION -> CONFIRMTION -> SATISFACTION -> CONTINUANCE INTENTION	0.318	0.318	0.032	9.851	0.000
FACILITATING CONDITION -> CONFIRMTION -> SATISFACTION	0.440	0.439	0.034	12.834	0.000
CONFIRMTION -> SATISFACTION -> CONTINUANCE INTENTION	0.475	0.475	0.040	11.812	0.000
FACILITATING CONDITION -> SATISFACTION -> CONTINUANCE INTENTION	0.063	0.063	0.033	1.934	0.053

DISCUSSION

Additionally, the indirect effects Facilitating Conditions → Confirmation → Satisfaction ($\beta = 0.440$, $p < 0.001$) and Confirmation → Satisfaction → Continuance Intention ($\beta = 0.475$, $p < 0.001$) are both significant, reinforcing the central role of satisfaction as the key transmission mechanism. The alternative indirect path Facilitating Conditions → Satisfaction → Continuance Intention is marginal and statistically insignificant ($\beta = 0.063$, $p \approx 0.05$), further confirming that confirmation is a necessary precursor for satisfaction-driven continuance.

Overall, the findings confirm that in the Kerala EV context, facilitating conditions affect continuance intention only through a sequential cognitive–affective

The findings of this study provide a nuanced understanding of post-adoption electric vehicle (EV) continuance behaviour in Kerala, particularly clarifying the role of facilitating conditions within a cognitive–affective framework. Overall, the results demonstrate that continuance intention among EV users is not driven directly by infrastructural or support-related factors, but rather by how these factors shape users' expectation confirmation and satisfaction over time.

The results show that facilitating conditions strongly and positively influence confirmation, indicating that the availability of charging infrastructure, service support, and institutional facilitation plays a critical role in validating users' initial expectations about EV usage. This suggests that in Kerala, where EV infrastructure is still evolving and unevenly distributed, users actively evaluate whether the ecosystem supports their daily mobility needs. When facilitating conditions perform adequately, users perceive that their decision to adopt an EV was justified, leading to positive confirmation. This finding reinforces the view that facilitating conditions primarily operate at the cognitive evaluation stage of post-adoption behaviour rather than at the behavioural intention stage.

Importantly, the direct effect of confirmation on continuance intention is insignificant, indicating that

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cognitive validation alone is insufficient to sustain continued use unless it translates into satisfaction. This reinforces the sequential nature of post-adoption behaviour, where confirmation must first enhance satisfaction before influencing behavioural intention. Similarly, the direct effect of facilitating conditions on continuance intention is weak or insignificant, and its effect on satisfaction is either marginal or small in magnitude. These results collectively suggest that facilitating conditions function as hygiene factors—necessary to prevent dissatisfaction but insufficient to independently motivate continued use.

The mediation analysis provides the strongest evidence for this interpretation. The serial mediation pathway (Facilitating Conditions → Confirmation → Satisfaction → Continuance Intention) is positive and highly significant, while alternative indirect paths are insignificant or marginal. This confirms that facilitating conditions affect continuance intention only through a sequential cognitive–affective mechanism, representing a case of full serial mediation. In practical terms, this means that infrastructure and support systems influence continued EV usage only when they successfully confirm expectations and generate satisfaction.

From a contextual perspective, these findings are particularly relevant to Kerala. The state exhibits relatively high environmental awareness and policy support, but users still face practical challenges related to charging access and service availability. The results suggest that simply expanding infrastructure may not automatically increase continuance intention unless such improvements are perceived by users as meaningful enhancements to their daily EV experience

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CONCLUSION

This study concludes that facilitating conditions do not directly influence EV continuance intention in Kerala but affect it indirectly through confirmation and satisfaction. Satisfaction emerges as the strongest driver of continued EV use, while facilitating conditions act as enabling factors that validate users' expectations. Overall, EV continuance follows a cognitive–affective pathway rather than being driven solely by infrastructure availability.

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