Research Article

Driving Change: How Pre-Purchase Behavior and Environmental Concerns Shape EV Buying Decisions Through Mediating Effect of Affection

Dr. Raju Bhai Manandhar[1], Madan Kandel[2*], Jagat Timilsina[3]

[1]Faculty, Public Youth Campus, T.U, Kathmandu Nepal

Email: raju.manandhar@pyc.tu.edu.np, ORCID ID: 0000-0002-8750-5823

[2]Corresponding Author*

Lecturer, Nepal Commerce Campus, T.U. Kathmandu Nepal

Email: kandelmadan15@gmail.com, ORCID ID: 0009-0009-6103-227X

[3]Associate Professor, Central Department of Management, T.U. Kathmandu Nepal

Email: jtimilsina027@gmail.com,ORCID ID: 0000-0002-0617-6686

ARTICLE INFO	ABSTRACT
	This study examines how pre-purchase behavior, environmental factors, and the mediating role of affection influence consumer purchase decisions regarding electric vehicles (EVs) in Nepal. The research utilizes a descriptive and causal-comparative design, focusing on 400 EV owners in Nepal, chosen through purposive sampling. Primary data were collected using a structured survey questionnaire based on a 5-point Likert scale and analyzed through Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings reveal that pre-purchase behavior directly impacts purchase decisions. Environmental factors have a moderate effect, both directly and indirectly through affection. Affection plays a crucial role in transforming environmental factors into purchase decisions. These results underscore the necessity for balanced marketing strategies that integrate cognitive and emotional appeals to promote EV adoption in Nepal. This study aligns with Nepal's constitutional commitment to ensuring a clean and healthy environment by addressing the environmental and public health challenges associated with rapid motorization. Promoting EVs also contributes to achieving sustainable transportation goals and supports environmental conservation. This research enhances consumer choice theory, the Theory of Planned Behavior, and the ABC model by incorporating rational, external, and emotional aspects of consumer behavior. It provides valuable insights into consumer decision-making processes within the context of sustainable transportation in developing economies. **Keywords:** Affection, Consumer purchase decision, environmental factor, electric vehicle, and pre-purchase behavior.

1. Introduction

Consumer buying behavior is a pivotal factor influencing purchase decisions, involving the actions consumers engage in while seeking, acquiring, utilizing, assessing, and discarding products and services to fulfill their needs [1–5]. This domain examines the intricate dynamics of how individuals, families, and households distribute their time, financial resources, and energy toward consumption activities, which constitute the foundation of marketing strategies [4,1,6,4]. Attitudes significantly influence purchase decisions since they embody customers' preferences, tendencies, and assessments of product attributes [7,8].

 In the context of Nepal, socioeconomic and technological progress has resulted in a transformation of consumer behavior, particularly within the transportation sector. The utilization of personal vehicles has become essential for professionals owing to the inconsistency of public transportation. The streets of Kathmandu are becoming increasingly clogged with vehicles, exacerbating severe air pollution. The number of registered automobiles in Nepal escalated from 24,003 in 2000/01 to 779,822 by 2015/16, representing a remarkable 32-fold development over 15

years [9]. The swift increase in vehicle quantities has intensified air pollution, jeopardizing the health and safety of Kathmandu inhabitants [10,11].

Electric vehicles provide a feasible remedy to address these challenges. Electric vehicles (EVs) correspond with green marketing ideas and modern technology by diminishing reliance on fossil fuels and decreasing greenhouse gas emissions. Notwithstanding their potential, electric vehicle adoption in Nepal is constrained, with merely approximately 1% of the vehicle fleet comprising electric vehicles [12,13]. Nonetheless, heightened environmental consciousness among Nepalese customers and favorable government initiatives, including tax incentives and enhanced financing alternatives, promote a transition to electric vehicles [11,14].

The Nepalese government has implemented substantial measures to encourage electric vehicle adoption, such as tax incentives and enhanced financing alternatives from financial institutions. The Constitution of Nepal (2015) guarantees the right to a clean and healthy environment, hence promoting the transition to electric vehicles. Nevertheless, elements affecting consumer purchasing choices for electric vehicles, including pre-purchase behavior, environmental influences, and the mediating influence of affection, necessitate further investigation to comprehend and improve adoption rates.

Consumer purchase decisions are influenced by a complex interaction of pre-purchase behavior, environmental circumstances, and emotional responses [1,8,15,6,4]. Although current studies have examined these factors separately, the synergistic impact and the mediating influence of affection on purchase decisions for electric vehicles have yet to be thoroughly investigated [8,11,6,12,6,16]. In the context of Nepal, the swift rise in vehicle numbers has intensified environmental and public health issues. Notwithstanding the clear advantages of electric vehicles, their uptake has been sluggish. Pre-purchase concerns, including cost, convenience, perceived value, and environmental awareness, significantly influence customer behavior [12,17]. The emotional mechanisms by which these aspects affect purchasing decisions, especially the mediating influence of attachment, remain inadequately comprehended [18,1,6,4,16].

This deficiency in comprehension constrains theoretical insights into consumer decision-making and obstructs the development of tactics that cater to rational and emotional customer requirements. Closing this gap is essential for advancing sustainable transport alternatives and tackling the environmental issues associated with conventional automobiles in Nepal. This study investigates the influence of pre-purchase behavior and environmental factors on consumer purchasing decisions for electric automobiles in Nepal, emphasizing the mediating role of attachment. The research seeks practical insights for policymakers, marketers, and stakeholders to expedite the shift toward sustainable transport solutions in Nepal by addressing these variables. The study seeks to investigate the subsequent research inquiries:

a. Do pre-purchase factors and environmental factors independently and collectively influence purchase decisions?

b. What role does affection play as a mediating variable in translating these influences into purchase decisions?

2.   Literature review and hypothesis formulation

This section reviews the theoretical and empirical literature supporting the conceptual framework that examines the relationships between pre-purchase factors, environmental factors, affection behavior (mediator), and purchase decisions.

Theoretical review

The framework synthesizes essential elements of the SOR Model, TPB, and ABC Model to elucidate how pre-purchase behaviors and environmental influences change emotions, subsequently driving consumer purchasing decisions. The interplay of these variables highlights the complex nature of consumer decision-making, involving both intellectual and emotional aspects. The proposed conceptual framework examines the links between pre-purchase behavior and environmental circumstances (independent variables), affection (mediating variable), and consumer purchase decisions (dependent variable). This framework employs various recognized theories to elucidate the interaction and influence of these structures on consumer decision-making processes.

Pre-purchase behavior encompasses the actions consumers undertake before purchase, such as information gathering, appraisal of alternatives, and decision-making processes. The TPB posits that pre-purchase behavior is

affected by attitudes, subjective standards, and perceived behavioral control, which collectively influence customer intentions [19].

Environmental elements, including store atmosphere, web interface quality, and socio-cultural influences, influence customer decision-making by eliciting emotional and cognitive reactions. SOR Model asserts that environmental stimuli, such as store design or internet navigation efficiency, affect consumers' internal states (organism), subsequently influencing their responses (buy decisions) [20].

Affection encompasses excitement, satisfaction, and trust that mediate the relationship between external factors (pre-purchase behavior and environment) and purchase decisions. Affect Control Theory suggests that emotional states significantly influence individuals' behavior by reinforcing or altering their preferences [21].

The consumer purchasing choice offers a thorough framework for comprehending this process, which includes problem recognition, information search, alternative evaluation, and purchase decision [22]. The emotional influences, in conjunction with rational assessments, substantially affect purchasing results [5]. How digital advancements demonstrate and personalized marketing correspond with contemporary consumer expectations, impacting purchasing decisions for electric vehicles [14]. The pricing and dealer influence impacted car purchases in Nepal, after-sales service did not [11]. The financial incentives and infrastructure surpassed pricing factors influencing electric vehicle adoption decisions in China [6]. These findings underscore the various aspects affecting buying decisions in different circumstances.

Incorporating empirical facts highlights the significance of a cohesive framework amalgamating cognitive and emotive aspects. Theories like the TPB and the SOR Model provide limited understanding of these linkages [19,20]. Incorporating attachment as a mediating variable offers a more comprehensive insight into consumer behavior.

Pre-purchase behavior, which includes information search, product assessment, and decision-making, is essential in influencing purchasing choices. Solomon highlighted that pre-buy behavior substantially impacts final purchase decisions by cultivating cognitive and emotional links to the goods [23]. Li et al. emphasized the significance of online reviews and comparisons in reconciling consumer expectations with purchasing behavior [24]. The Information-Processing Theory emphasizes that consumers analyze information to mitigate uncertainty, resulting in optimal decision-making [25]. Shrestha provides empirical evidence indicating that anticipated features and pricing are significant pre-purchase variables for vehicle acquisitions in Nepal [26]. Zeithaml further established that perceived value a balance between costs and benefits—is a crucial pre-purchase determinant [27]. Brand awareness fosters trust and confidence, positively affecting decision-making [1]. Collectively, these findings underscore how pre-purchase activities equip consumers for commitment their decisions. Thus, it can be hypothesized as follows:

H1: Pre-purchase factors significantly influence consumer decision-making of electric vehicles.

Environmental factors serve as external stimuli that shape consumer perceptions and decisions. The physical and sensory cues like store design and ambiance affect purchase intentions [28]. How website usability and mobile app design enhance consumer engagement [29]. The SOR model provides a theoretical foundation, suggesting that environmental stimuli evoke emotional (organism) responses, which translate into purchase behavior [20]. It was found that charging infrastructure and range considerations strongly influenced EV adoption in the Netherlands [14].

In contrast, the government incentives and social influences as significant determinants for EV purchases in China [6]. Empirical studies from South Asia echo these findings. It was showed that environmental concerns and charging infrastructure were critical for electric two-wheeler purchases in India [10]. It was revealed pro-environmental behavior as a mediator in EV purchase intentions [29]. These studies underscore the pivotal role of environmental factors as drivers of consumer behavior. Thus, it can be hypothesized as follows:

follows:

H2: Environmental factors significantly influence consumer decision-making of electric vehicles.

Affection denotes emotions such as trust, satisfaction, and enthusiasm that influence the relationship between external influences and purchasing decisions. Hamzah and Pontes discovered that positive affection enhances the propensity to acquire, particularly for hedonic products [30]. Milheiro et al. established that affection, including trust and emotional connection, mediates the influence of online reviews and store trustworthiness on purchasing behavior [4]. Affection functions as the emotional link between cognitive assessments and behavioral results. The emotions

augment the predictive capacity of rational elements, whereas satisfaction incites loyalty, resulting in advantageous purchase results [30,8]. Attachment can convert environmental worries and pre-purchase efforts into decisive actions in the context of electric vehicles. Singh et al. showed that although psychological factors did not directly affect electric vehicle purchase intentions in Thailand, they influenced emotional reactions that indirectly encouraged adoption [14].

Mediating Role of Affection on Pre-purchase Factors and Purchase Decision of EV

The influence of affection on consumer purchasing decisions is especially pertinent in the realm of electric vehicles (EVs), where emotional attachment may moderate the impact of rational pre-purchase considerations such as environmental awareness, perceived performance, and cost [6,8,11,6,31,17,16]. Research demonstrates that consumers driven by environmental concerns frequently establish a positive emotional affiliation with sustainable products, increasing their likelihood of considering electric vehicles despite obstacles such as elevated initial costs [9,8,11,29,6,12,9,17,32]. Furthermore, favorable views of electric vehicle performance, including range and charging convenience, may foster a fondness for the technology, hence enhancing the emotional allure of acquiring an electric vehicle [17,8,29,6,33]. This affection can influence customer decision-making, transforming reasonable assessments into actual purchases [34]. Marketers can capitalize on this by emphasizing not just the practical advantages of electric vehicles but also by cultivating emotional ties through brand positioning that underscores sustainability and innovation [31,8,6]. Grasping the mediating function of affection is crucial for elucidating how pre-purchase elements influence consumer behavior in the electric vehicle market [12,17,8]. Thus, it can be hypothesized as follows:

H3: Affection mediates the relationship between pre-purchase factors and purchase decisions of EVs.

Mediating Role of Affection on Environmental Factors and Purchase Decision of EV

The adoption of electric vehicles has garnered considerable attention in recent years as a strategy for mitigating environmental issues and decreasing transportation's carbon footprint [35]. Numerous studies have examined the determinants affecting consumers' purchasing intentions for electric vehicles, emphasizing environmental, social, and technological concerns [36−38].

A significant element examined is the influence of environmental concern on consumers' views and intentions towards electric vehicles [6,9,8]. Studies indicate that environmental concern is a crucial predictor of favorable attitudes and heightened purchasing intentions for electric vehicles [35,38]. Environmentally conscious consumers are more likely to view electric vehicles as an eco-friendly option and are more predisposed to accept them [6,9,29,5].

The correlation between environmental concern and purchase intention may not be straightforward. Studies indicate that the influence of environmental concern on purchase intention may be mediated by psychological characteristics, including affection or emotional attachment to electric vehicles [16,8,29,6].

The proposed hypothesis is as follows:

Hypothesis 4: Affection towards electric vehicles mediates the relationship between environmental concern and purchase decision for electric vehicles.

3. Conceptual Framework

The research is framed by consumer choice theory and the ABC model (Affect, Behavior, and Cognition), which collectively guide the exploration of consumer decision-making processes. Consumer choice theory underscores consumers' rational evaluation of options, while the ABC model emphasizes the interplay of affective, behavioral, and cognitive components in influencing decisions. This theoretical foundation aligns with the study's focus on understanding how pre-purchase behavior and environmental factors, mediated by affection, impact purchase decisions.

Fig1: Conceptual Framework
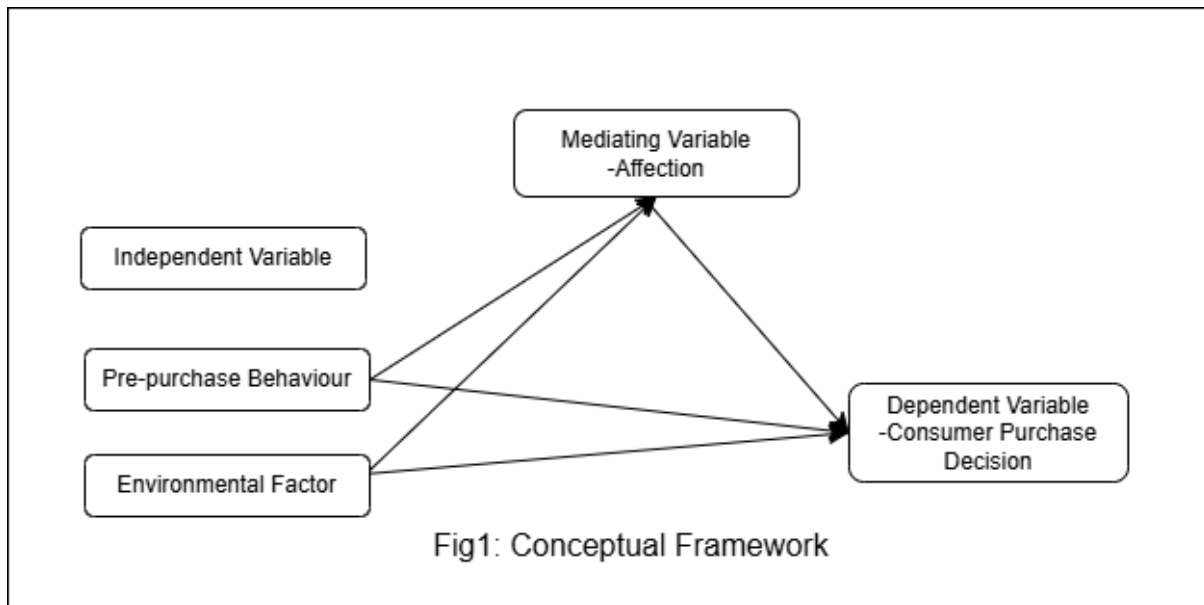
(**Source:** Adapted from Montian, Suthikarnnarunai, and Rattanwong, 2019)

2. Research Methodology

The study employs a descriptive and causal-comparative research design. The descriptive component provides a detailed account of pre-purchase behavior, environmental factors, affection, and purchase decisions among electric vehicle consumers in Nepal. The causal-comparative aspect examines the relationships and potential causal pathways among these variables, particularly the mediating role of affection. The target population for this research includes individuals actively involved in the electric vehicle industry in Nepal, such as electric car owners, potential buyers, and stakeholders. A purposive sampling technique was used to ensure the inclusion of participants with relevant experience and knowledge. A total sample size of 400 respondents was determined to provide a robust dataset for statistical analysis.

Primary data for the study were collected through field surveys. A structured, closed-ended questionnaire was developed as the primary data collection instrument. The questionnaire was designed based on established constructs and utilized a 5-point Likert scale ranging from "strongly disagree" (1) to "strongly agree" (5). This approach facilitated the quantification of participant responses and ensured consistency across the dataset. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM), a statistical technique suitable for exploring complex relationships and testing mediation effects. PLS-SEM was employed to examine the direct impact of pre-purchase behavior and environmental factors on consumer purchase decisions and the mediating role of affection in these relationships.

Measures

Construct, scale items, Cronbach's Alpha, Rho- Average, Composite Reliability, and average variance extracted (AVE) are summarized in Table 1. It was proposed three indices for determining whether or not measurement items have convergent validity: (a) the item reliability of each measure, also known as the square multiple correlation; (b) the composite reliability of each construct; and (c) the average variance extracted [5]. The composite reliability of all of the indicators in a construct is referred to as the internal consistency in reliability that it possesses.

4. Results and Analysis
Table 1 - Evaluation of the Measurement Model

Constructs	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
AFF	0.784	0.830	0.859	0.605
EVF	0.693	0.727	0.820	0.603
PRE	0.899	0.924	0.929	0.766

| PUD | 0.876 | 0.882 | 0.923 | 0.800 |

Source: Authors' Own Work

Methods for assessing convergent and and discriminant validity, together with evaluating the internal reliability of the measurement model, were utilized [39]. The composite reliability (CR), computed by Dijkstra and Henseler's rho A for all constructs, exceeds 0.70, and all indicator loadings surpass 0.7 [5,40–42]. In recent years, the value of rho A has exceeded that of Cronbach's Alpha [42].

Each standardized factor loading, as presented in Table 2, ranges from 0.71 to 1, which is an acceptable range. This signifies that all inquiries are equally genuine. The composite reliabilities of the constructions range from 0.82 to 1, exceeding the proposed threshold of 0.7 by Nunnally and Bernstein [43], indicating that all constructs exhibit internal consistency. In conclusion, the average variance extracted (AVE) values span from 0.60 to 1, surpassing the 0.5 threshold established by Hair, Anderson, Tatham, and Black, as well as Fornell and Larcker, signifying that all constructs possess sufficient convergent validity [5,44].

Discriminant Validity - Fornell-Larcker Criterion

Discriminant validity is demonstrated when assessments of theoretically unrelated constructs do not exhibit substantial correlations. In reality, the magnitude of the discriminant validity coefficients should be significantly less than that of the convergent validity coefficients [45]. In their seminal paper on testing structural equation models, assert that discriminant validity is demonstrated when a latent variable accounts for a more significant proportion of the variance among its corresponding indicator variables than it does among itself and other constructs within the same model [5]. The average variance extracted (AVE) must be assessed against its squared correlations with other constructs within the model to fulfill this criterion for each construct [5].

Table 2 - Discriminant Validity

Fornel and Lacrker Citeria (1981)

Consructs	AFF	EVF	PRE	PUD
AFF	**0.778**			
EVF	0.364	**0.776**		
PRE	-0.143	-0.150	**0.875**	
PUD	0.141	0.149	0.231	**0.895**

Note: *AFE = Affection, EVF = Environmental factors, PRE = Pre-purchase factors, PUD = Purchase decision, Source: Authors' Own Work*

The study's discriminant validity has been calculated. Table 3 shows that the average square root variance obtained from each diagonal line construct (bold) is greater than its correlation with the other constructs, confirming the validity of discriminating and separating each construct from the others.

6.1 Discriminant Validity: Heterotrait-Monotrait (HTMT) Criterion

The Heterotrait-Monotrait correlation ratio, introduced by Henseler, Ringle, and Sarstedt, is a novel approach to assessing discriminant validity (HTMT) [46]. The HTMT quantifies the similarity between latent variables. Discriminant validity is proved if the HTMT is below one. A threshold of 0.85 consistently distinguishes correct latent variable pairs from invalid ones in numerous real-world situations. The HTMT demonstrates superior classification performance, as evidenced by Monte Carlo simulations [47,48]. The discriminant validity was subsequently assessed utilizing the heterotrait-monotrait criterion.

Table 3 - Discriminant Validity- Heterotrait-Monotrait Criterion

Constructs	AFF	EVF	PRE	PUD
AFF				
EVF	0.447			

| PRE | 0.155 | 0.195 | | |
| PUD | 0.172 | 0.162 | 0.247 | |

Source: Authors' Own Work

The Heterotrait-Monotrait (HTMT) ratio quantifies the average correlations between constructs, differentiated by indicator correlations within the same construct [46]. The research suggests a maximum threshold of 0.9 [40,46,49]. The HTMT matrix indicates appropriate discriminant validity when values are below 0.9 [40,46,49]. All constructs included in Table 4 have values below the 0.9 criterion, so the presence of discriminant validity for each construct is confirmed.

Table 4 - Model Fit

	Saturated model	Estimated model
SRMR	0.077	0.077
d_ULS	0.630	0.630
d_G	0.240	0.240
Chi-square	613.449	613.449
NFI	0.776	0.776

Source: Authors' Own Work

Examining the structural equation model (SEM) utilizing PLS-SEM discloses multiple significant model fit indices from Table 4. The Standardized Root Mean Square Residual (SRMR) is 0.077 for both the saturated and estimated models, below the acceptable threshold of 0.08, signifying a strong model fit [50]. The d_ULS (Squared Euclidean Distance) value of 0.630 and the d_G (Geodesic Distance) value of 0.240 indicate a strong alignment between the empirical and model-implied data, as lower values signify a superior match. The Chi-Square value of 613.449, although maybe exaggerated due to the sample size of 400, does not compromise the model's overall validity. The Normed Fit Index (NFI) is 0.776, signifying a moderate fit since values ranging from 0.70 to 0.89 are deemed acceptable. The results indicate that the model attains a satisfactory level of fit, showing congruence between observed and anticipated data.

Path Analysis of Factors Affecting Consumer Purchase Decision of Electric Vehicles in Nepal

Table - 5

Path	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
PRE -> PUD	0.271	0.275	0.032	8.451	0.000
EVF -> PUD	0.143	0.147	0.060	2.376	0.018
AFF -> PUD	0.128	0.127	0.055	2.352	0.019
EVF -> AFF	0.350	0.359	0.049	7.103	0.000
PRE -> AFF	-0.091	-0.088	0.044	2.043	0.041
EVF -> AFF -> PUD	0.045	0.046	0.020	2.212	0.027
PRE -> AFF -> PUD	-0.012	-0.011	0.008	1.497	0.134

Source: Authors' Work

The research assesses the direct impacts of pre-purchase behavior (PRE), environmental variables (EVF), and affection (AFF) on purchase decisions (PUD), offering insights into their comparative influences. Pre-purchase behavior (PRE) has a robust and statistically significant positive correlation with purchase decisions, indicated by a path coefficient of 0.271 (T = 8.451, P = 0.000). This finding highlights the significance of pre-purchase behavior in influencing consumer decisions, indicating that effective marketing strategies and increased consumer knowledge are vital for fostering electric vehicle (EV) adoption. Environmental factors (EVF) demonstrate a modest and statistically significant positive correlation with purchasing decisions, indicated by a path coefficient of 0.143 (T = 2.376, P = 0.018). This outcome underscores the significance of external factors, like environmental awareness, governmental laws, and supportive infrastructure, in shaping consumer decisions. Moreover, love (AFF) exerts a minor yet statistically significant favorable influence on purchasing decisions, evidenced by a path coefficient of 0.128 (T = 2.352, P = 0.019). This result indicates that emotional elements play a role in consumer decision-making. However, their impact is less significant than that of pre-purchase behavior.

The research additionally investigates the mediating function of affection (AFF) in the connections of pre-purchase behavior (PRE), environmental factors (EVF), and purchase decisions (PUD). The study indicates that attachment partially mediates the association between environmental conditions and purchasing decisions, exhibiting a positive and statistically significant indirect effect (O = 0.045, T = 2.212, P = 0.027). This discovery suggests that emotional reactions triggered by environmental elements influence customer decision-making. The mediation impact of attachment on the relationship between pre-purchase behavior and purchase decisions is negative and statistically negligible (O = -0.012, T = 1.497, P = 0.134), indicating that pre-purchase decisions are primarily influenced by cognitive judgments rather than emotional responses.

The research additionally investigates the correlation between predictors and affection. Environmental factors (EVF) demonstrate a significant positive correlation with affection, evidenced by a path coefficient of 0.350 (T = 7.103, P = 0.000). This result underscores the capacity of environmental elements to elicit profound emotional reactions, including favorable sentiments or apprehensions, which affect consumer affinity for electric vehicles. Conversely, pre-purchase behavior (PRE) exhibits a marginally negative correlation with attachment, indicated by a path coefficient of -0.091 (T = 2.043, P = 0.041). This result indicates that cognitive assessments in the pre-purchase phase may diminish emotional involvement, possibly resulting in ambivalence.
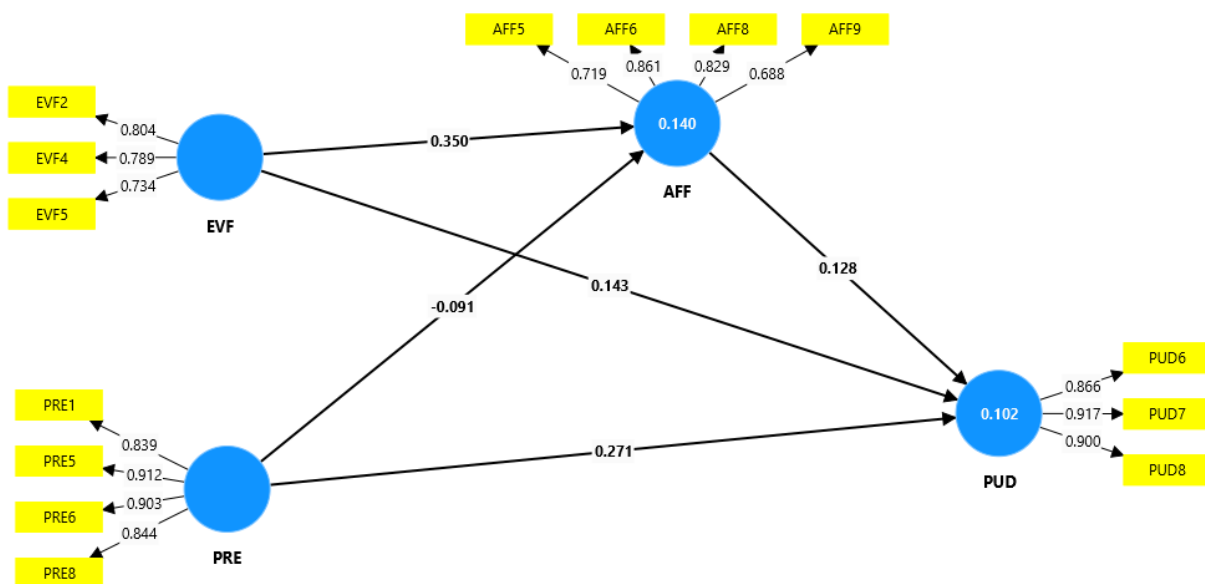

Figure 2: Final Model

The research investigates the direct and intermediary influences of environmental factors (EVF), pre-purchase behavior (PRE), and affection (AFF) on purchase decisions (PUD) for electric vehicle (EV) adoption. The direct effects indicate a moderate positive correlation between EVF and AFF, with a path coefficient of 0.350, implying that environmental elements, including laws and infrastructure, elicit favorable emotional reactions. EVF demonstrates a somewhat negative correlation with PUD, evidenced by a coefficient of -0.091, suggesting that although environmental influences affect emotions, they may not directly influence purchasing decisions. PRE exhibits a mild

positive correlation with AFF (0.143) and a moderate positive correlation with PUD (0.271), underscoring its significant influence on emotional responses and purchasing results. Furthermore, AFF exhibits a weak positive correlation with PUD (0.128), indicating its influence, though less significant than that of PRE or EVF.

The mediating analysis highlights the function of AFF as a partial mediator. AFF substantially mediates the association between EVF and PUD (indirect effect = 0.045, $p < 0.05$), indicating that emotional reactions stemming from environmental factors indirectly affect purchasing decisions. Nevertheless, AFF does not substantially moderate the association between PRE and PUD (indirect effect = -0.012, $p > 0.05$), indicating that PRE's impact on PUD is predominantly governed by cognitive assessments rather than emotional reactions.

The correlations between the predictors and AFF further elucidate the dynamics of EV adoption. EVF significantly affects AFF (coefficient = 0.350, $p < 0.05$), indicating that environmental cues trigger positive emotional responses. Conversely, PRE demonstrates a marginally adverse effect on AFF (coefficient = -0.091, $p < 0.05$), indicating that cognitive assessments in the pre-purchase phase may diminish emotional involvement, resulting in ambivalence.

Table 6 - R Square value

Construct	R-square	R-square adjusted
AFF	0.140	0.136
PUD	0.102	0.095

The analysis indicates that the R² value for Affection (AFF) is 0.140, signifying that 14% of the variance in affection is accounted for by independent variables, including Environmental Factors (EVF) and Pre-Purchase Behaviour (PRE). The R² value for Purchase Decision (PUD) is 0.102, indicating that EVF, PRE, and the mediating variable, AFF, explain 10.2% of the variance in purchase decisions. These findings indicate that although both models exhibit limited explanatory power, pre-buy behavior considerably influences the diversity in affection, which, in turn, partially accounts for the variety in consumer purchase decisions.

The study's results provide significant insights into the elements affecting customer purchasing decisions related to electric vehicles (EVs) in Nepal. The results stem from both direct and indirect associations between pre-purchase behavior (PRE), environmental factors (EVF), affection (AFF), and purchase decision (PUD), as examined by Partial Least Squares Structural Equation Modelling (PLS-SEM).

Table 7 - Hypothesis Testing

	Path	P values	Impact
H1	**PRE -> PUD**	0.000	Accepted
H2	**EVF -> PUD**	0.018	Accepted
H3	**EVF -> AFF -> PUD**	0.027	Accepted
H4	**PRE -> AFF -> PUD**	0.134	Rejected

Source: Authors' Work

The research demonstrated the direct influence of pre-purchase behavior (PRE), environmental variables (EVF), and affection (AFF) on purchasing decisions (PUD). Environmental variables (EVF) demonstrate a moderate and statistically significant positive correlation with purchasing decisions. Moreover, attachment (AFF) exerts a modest, although statistically significant, favorable influence on purchasing decisions. The research investigates the mediating function of affection (AFF) in the connections among pre-purchase behavior (PRE), environmental factors (EVF), and purchase decisions (PUD).

Discussion

The research demonstrates the direct impact of pre-purchase factors on purchasing decisions, offering insights into their comparative influences. This study aligns with Solomon, who emphasized that pre-buy behavior significantly impacts purchase decisions by cultivating cognitive and emotional ties with objects [23]. The study's findings align closely with those of previous studies, emphasize that pre-purchase activities facilitate consumer commitment to their decisions [26,1,27,25].

The research illustrates the direct impact of environmental elements on purchasing decisions, offering insights into their comparative influences. This conclusion aligns with Zou et al., who demonstrate that physical and sensory cues, including store design and ambiance, influence purchase intentions [28]. The findings align with those of previous studies which indicated that environmental concerns and charging infrastructure are pivotal for electric two-wheeler acquisitions in India [29,51,20,10]. Additionally, it was identified pro-environmental behavior as a mediating factor in electric vehicle purchase intentions [29].

Moreover, attachment exerts a modest yet statistically significant favorable influence on purchase decisions, evidenced by a path coefficient of 0.128 (T = 2.352, P = 0.019). The finding closely aligns with the studies which discovered positive affection enhances purchasing willingness, particularly for hedonic products [30]. The findings are analogous to previous studies which emphasized satisfaction fosters loyalty, resulting in advantageous purchasing outcomes [8]. While, another study indicated that psychological factors did not directly affect electric vehicle purchase intentions [14].

The research indicates that attachment partially mediates the association between environmental conditions and purchasing decisions, exhibiting a positive and statistically significant indirect effect (T = 2.212, P = 0.027). The finding is somewhat congruent with the assertions of previous studies [6,9,29,5]. Environmentally conscientious consumers are more likely to view electric vehicles as an eco-friendly option and are more predisposed to accept them. The findings align with those of previous studies, indicating that additional psychological characteristics, including affection or emotional attachment to electric vehicles, may mediate the influence of environmental concern on purchase intention [16,8,29,6].

The mediating effect of attachment on the relationship between pre-purchase behavior and purchase decisions is negative and statistically negligible (T = 1.497, P = 0.134). The findings align closely with the assertions of previous studies, which indicate that favorable perceptions of electric vehicle performance, including range and charging convenience, can foster an affinity for the technology, thereby enhancing the emotional allure of acquiring an electric vehicle [17,8,29,6,33]. The findings align with the studies of other studies, which illustrate that the mediating role of affection is crucial for understanding the translation of pre-purchase determinants into consumer behavior in the electric vehicle market [12,17,8].

It was further substantiated the mediating role of affection, asserting that emotional satisfaction enhances buying intentions [52]. It is also corroborated that emotions are essential mediators in consumer decision-making [53]. These findings correspond with planned behavior, which posits that emotions affect buying intentions [19].

Environmental factors demonstrate a significant positive correlation with affection, evidenced by a path coefficient of 0.350 (T = 7.103, P = 0.000). This study underscores the capacity of environmental elements to elicit profound emotional reactions, including favorable sentiments or apprehensions, which affect consumer affinity for electric vehicles.

Conversely, pre-purchase behavior exhibits a marginally negative correlation with attachment, indicated by a path coefficient of -0.091 (T = 2.043, P = 0.041).

5. Conclusion

In conclusion, PRE is identified as the primary determinant of PUD, highlighting the significance of cognitive assessments in influencing consumer choices. EVF exerts a moderate direct and indirect influence on PUD via AFF, highlighting the importance of environmental policy and infrastructure in determining attitudes and behaviors. Although AFF is a significant mediator, its impact on PUD is comparatively less than that of PRE or EVF. The results suggest that cognitive assessments in the pre-purchase phase mitigate emotional reactions, underscoring the intricate relationship between cognition and emotion in electric vehicle purchasing decisions. These observations offer

significant implications for policymakers and marketers seeking to improve electric vehicle adoption by addressing rational and emotional considerations.

This study offers an in-depth analysis of the determinants affecting electric vehicle purchase decisions in Nepal, highlighting the significant influences of pre-purchase behavior, environmental considerations, and emotional attachment. The results indicate that cognitive assessments, environmental factors, and emotional reactions intricately interact to influence customer decisions. Policymakers and marketers can use these insights to design effective policies that enhance EV adoption by addressing consumer behavior's cognitive, environmental, and emotional aspects.

Practical Implications

Pre-purchase Behaviour: Policymakers and marketers ought to improve consumers' pre-purchase experiences by offering transparent information, financial incentives, and electric vehicle test drives to bolster their confidence in purchasing decisions.

Environmental Factors: Initiatives to enhance infrastructure (e.g., charging stations), fortify environmental regulations, and foster environmental consciousness might elicit positive sentiments and facilitate the adoption of electric vehicles (EVs).

Emotional Engagement: Marketing strategies that emphasize electric vehicles' environmental advantages and technological advancements could augment consumer affinity and positively affect purchasing choices.

The government should incentivize dealers to proliferate charging stations equipped with DC fast charging and reduce electricity costs. Automobile dealers must collaborate to share their charging stations. The banking services, electricity supply, and provision of subsidies are advised. Automobile dealerships must oversee the management of all spare components for electric vehicles. Furthermore, they must offer guarantees for all categories of components to clients acquiring electric automobiles. Future researchers should utilize diverse approaches with varied samples to improve the acceptance of electric vehicles.

Conflict of interest: There is no conflict of interest

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