Examining the Mediating Effect of Environmental Attitudes on the Influence of Sustainable Social Media Influencers on Gen Z Buying Behaviour of Electric Vehicles

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Introduction

This study investigates how sustainable social media influencers (SSMIs) shape Generation Z's electric vehicle (EV) buying behaviour through the sequential mediating roles of environmental knowledge and environmental attitudes. Using a quantitative approach, data were collected from 300 Gen Z respondents in New Delhi, India, and analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results indicate that SSMIs significantly enhance environmental knowledge, which positively influences environmental attitudes, perceived environmental benefits, and EV purchase intentions. The findings confirm the presence of sequential mediation, highlighting the critical role of cognitive and attitudinal mechanisms in sustainable consumption decisions. This study contributes to sustainability marketing literature by integrating influencer-driven digital communication with pro-environmental decision-making and offers practical insights for policymakers and EV marketers.

Keywords: Environmental Attitudes; Environmental Knowledge; Purchase Intention; Electric Vehicles; PLS-SEM.

Introduction

The development of electric vehicles (EVs) is one of the major global challenges we face in the battle against climate change and reducing carbon footprint (Aderibigbe et al., 2023; Bakhtyar et al., 2023). The move towards the use of EVs reduces the dependence on fossil fuels; this also has a positive impact on the environment (Hossain et al., 2024). Although there is a growing awareness of the benefits of EVs and many policies that support the increased use of EVs, in many regions of the world, the acceptance of EVs has not been very strong. EVs are considered a more environmentally friendly alternative to petrol and diesel vehicles and are expected, in part, to help reduce the levels of pollution caused by carbon emissions from vehicles. According to Ahmad and Zhang (2020), carbon emissions not only contribute significantly to climate change but also have negative effects on the environment, people's health, and the economy. Electric vehicles are a

type of sustainable technology that utilizes rechargeable batteries to power one or more electric motors, generating torque instantly, producing no carbon emissions, and operating silently (Flowers et al., 2022). According to Wu et, in 2019, electric vehicles provide a viable means to decrease the amount of CO2 emissions produced by urban transportation and contribute positively to the environment. Since this time, there has been an increase in the popularity of using electric vehicles.

For many people, social media is their primary source of communication, social interaction, information, and self-expression (Heiets et al., 2024). Social media is described by Sarman and Çiftci (2024) as any web-based service that provides users with the ability to communicate with one another via a computer, mobile device, or through various media outlets. In addition to their ability to engage with others through social media, influencers also provide recommendations for products and services that could impact customer choices (Al-Mu'ani et al., 2023). As social media has led to several Influencers who have built strong connections with their followers through their large number of followers and credibility in a specific area, and who create an opinion about the product they are promoting, replying to questions, and posting product reviews, examples of expert opinions, and client testimonials (Hasan & Sohail, 2020). The current trend in social media use is to market products more easily to target customers, with Electric Vehicle Manufacturing aimed to market environmentally conscious customers (Masuda et al., 2022) (Masuda et al., 2022). The way consumers perceive influencers has a significant effect on their intent to purchase products. Influencers via social networks can provide positive reinforcement for consumers to feel good about purchasing a product (Chen et al., 2023).

One of the greatest impacts on consumers' decisions is their environmental concerns about the loss of natural resources and pollution. The influence of social media has also had a considerable effect on how Gen Z consumers are now aspiring to purchase sustainable vehicles. Social media has many ways of supporting and promoting electric vehicles, such as Vlogs, Blogs and Advertisements Shared via social media sites (e.g., YouTube, Instagram, TikTok) encourages a sense of community due to the environmental accountability associated with EV, as well as providing educational resources on EV; therefore, social media has become one of the most important platforms for influencing consumers to make purchases, which include a variety of products associated with sustainability (Xie et al., 2023). Although the body of research surrounding the adoption of electric vehicles and sustainability marketing continues to expand, there remain relatively few empirical studies that explore the manner in which sustainable Social Media Influencers influence both Environmental Knowledge and Purchasing Behaviour in Generation Z concurrently. Most of the existing study investigates these constructs in isolation and do not account for the sequential cognitive–attitudinal processes by which they develop. The purpose of this study is to address this gap by proposing and empirically testing a sequential mediation model that describes how, through Sustainable Influencer Communication, an individual will develop EV Purchasing Behaviour as a result of their Environmental Knowledge and Attitude, all communicated through social media.

Literature Review

An analysis and summary of the pertinent literature on the topic is presented in the next section of the research report. The preceding concise introduction, the setting of the study, and the significance of the inquiry all contributed to this conclusion. The following section summarises research on " The Mediating Effect of Environmental Attitudes on the Influence of Sustainable Social Media Influencers on Gen Z Buying Behaviour of Electric Vehicles" that has been published. The goals have caused the split of the literature evaluation into three areas, which are explained below:

Electric Vehicles as a Sustainable Mobility Choice among Gen-Z

The effects of climate change, limited resources, and resource depletion on the lifestyle and behaviors of youth are significant. Therefore, the rise of Gen Z's interest in sustainable forms of transportation, as well as the growing knowledge of environmental issues among the generation, has influenced the plantation of research on sustainable transportation options for Gen Z (Zhao et al, 2019; Zafar et

al, 2021). The access to tremendous amounts of information as digital natives has greatly influenced the views and preferences of Gen Z consumers with respect to both sustainable forms of transportation and green technology. The studies by Hossain et al (2024) and Bakhtyar et al (2023) suggest that EVs continue to become a more environmentally viable option for Gen Z in terms of the principles of sustainability over time. It has been noted in prior research that many young adults belonging to Generation Z prioritize environmentally-friendly products when making purchases and consider the impact that their purchasing decisions have on the environment compared to older generations (Yadav & Pathak, 2016; Maichun et al., 2016). Electric cars can provide a clean alternative to traditional means of transportation, as they do not emit harmful byproducts from burning fossil fuels, which makes them an appealing option for environmentally-conscious young adults (Wu et al., 2019; Flowers et al., 2022). Although there is a positive perception among young adults towards environmental sustainability, there is still a low level of electric vehicle adoption by this cohort, indicating that an insufficient amount of information and supportive attitudes exist regarding electric vehicle adoption (Rezvani et al., 2018; Wang et al., 2021). Gen Z will utilize price perception, available charging infrastructure, the social effects of electric vehicle (EV) adoption, and their trust in environmental sustainability claims when adopting EVs (Jansson et al., 2017; Hardman et al., 2021). Prior studies indicate that Generation Z has a strong positive view toward sustainable products (including EVs). However, most prior studies focused on the economic, infrastructural, or technological barriers to Gen Z's adoption of EVs; there has been less emphasis on how sustainability-based information of the environment affects Gen Z's buying behaviour, but limited studies exist examining cognitive factors (e.g. environmental knowledge & attitude) that can be predictors for how psychologically, cognitive processes (e.g., environmental knowledge) will affect how they choose to adopt EV technology.

Social Media as a Catalyst for Sustainable Consumption

According to recent research done by McKeown & Shearer (2019), social media has been used recently as an important tool for promoting sustainable values and behaviours. Kapoor et al. (2018) stated that there were no studies available to investigate the impact of social media on sustainable purchasing behaviour. Some researchers (Cerri et al., 2018; Testa et al., 2015) suggest that consumers do not purchase sustainable products as often as they would like to, as this is due to their lack of awareness and understanding of what sustainable means, which affects consumers on multiple levels (psychologically). In order to achieve sustainability goals, educational opportunities must be provided through partnerships involving many different social actors (Sahakian & Seyfang, 2018; Xu et al., 2018). Social media influences millennials to make sustainable purchases, and it highlights the importance of using social media as a tool in the digitally driven economy to reach larger markets, increase profits, and be able to compete (Radi, 2021). The increased efficiency of business operations and the growing recognition of the value of using information to manage the economy have also led to the importance of social media, according to Madhusudhan & Nagpal (2019). Heiets et al. (2024), Sarman & Çiftci (2024), and Xie & al. (2023) state that social media platforms have developed into an essential form of promotion of sustainable consumption; as a result, they influence how users perceive and engage with environmentally friendly products such as Electric Vehicles (EVs). Users can obtain information, share experiences, and be educated regarding the environmental benefits of using EVs primarily through platforms, thereby influencing users' opinions and encouraging them to adopt more sustainable mobility practices (Zafar et al. 2021; Hasan and Sohail 2020). The presence of social media allows people to be aware of and also be influenced by the same type of pressure and social norms (Heiets et al., 2024; Rezvani et al., 2018). Social media has played an important role in promoting the uptake of electric vehicles, especially to younger generations like Generation Z. These individuals were raised on technology and are therefore extremely receptive to messages related to sustainability (Suki, 2016; Zhao et al., 2019). Moreover, research shows that social media has a growing influence on the decisions

of Gen-Zs to buy eco-friendly items because of the information provided by social media on the advantages of environmentally sustainable purchasing behaviour (examples - waste minimization, conservation of resources, and improvement of the environment).

Impact of Sustainable Social Media Influencers on purchasing an electric vehicle

Social media is an online medium where people can meet each other and create relationships by exchanging content and communications. According to Ohnstone and Lindh (2022), Generation Z is less likely to be linear in its support for sustainability. They also stated that Generation Z may have a greater susceptibility to peer pressure and social influence than past generations. Using the example of SMIs (social media influencers) as well as social media platforms, Pop, Săplăcan, and Alt (2020) found that the presence of SMIs can lead to greater intentions to purchase green cosmetics than the perception of environmental concerns or altruism, which Wang, Zhang, and Wong (2022) point out that altruism is one of the pro-environmental values consisting of collectivistic, biospheric and altruistic values. Research by Kumar et al. (2021) shows that there is an increasing trend of consumers using digital platforms to obtain EV-related information. Influencers who emphasize sustainability and environmentally conscious living play an important role in creating a favorable perception of adopting electric vehicles (EVs) by reducing perceived risk regarding the adoption of new green technologies (Jin, Muqaddam, & Ryu, 2019). In addition, the perceived legitimacy and sincerity of influencers enhance consumer trust and lead to a higher likelihood of increasing purchase intent (Lou & Yuan, 2019). It has been shown that content produced by influencers is more persuasive than traditional forms of advertising in promoting sustainable messaging along with the user's individual lifestyle choices, particularly among younger and environmentally concerned consumers (Ki et al., 2020). Now, although previous research confirms that social media influencers significantly influence consumers' green purchasing intentions, much of the existing literature examines these relationships as being directly related to the consumers' levels of trust or credibility towards the influencer. There have been relatively few studies that examine how sustainable influencers have the ability to influence consumers' buying behaviour indirectly through a series of psychological processes, including knowledge acquisition and attitude transformation, particularly about electric vehicles.

Environmental Attitudes as a Mediator in Sustainable Purchasing Decisions

At its core, an individual's or organization's attitude is their predisposition towards a particular performance. As Ajzen (1991) noted, the attitude of an individual determined how they evaluate an activity for the purpose of determining how they would feel toward that activity (in a positive or negative way) regarding the contextual situation. Attitude is the primary indicator of potential future behaviour. An environmentally aware consumer of sustainable products, who displays a positive attitude (i.e., good environmental evaluation), would be expected to engage in greater environmentally friendly behaviour (Ogiemwonyi & Jan, 2023). Mobrezi & Khoshtinat (2016) EA does not predict EC, and also, EA impacts buying behaviour. On the other hand, sometimes EA does not reflect the intention to engage in the actual behaviour under certain conditions (Ghvanidze et al., 2016). An environmental attitude (EAT) is an individual's positive evaluation of the behavior(s) that should be adopted to minimize damaging effects to the environment (Woo & Kim, 2019). Eco-conscious attitudes held by consumers fully mediate the relationship between environmental awareness and their intention to purchase EVs (Mohd Suki, 2016; Astuti et al., 2022). Cognitive factors influence customers directly and indirectly (through an intermediary role called "attitude") on their intention(s) to buy "green" goods. Customers who perceive themselves as environmentally aware have (Taufique and Vaithianathan) strong, positive attitudes toward purchasing green products. Jaiswala, K., & Kant, R. (2018) provided evidence of attitudes mediating cognitive factors affecting customer behaviour concerning their intention to purchase environmentally favourable products. Most studies thus far on this subject consider attitude one and do not consider how environmental knowledge facilitates the mediation of attitudinal beliefs by being an antecedent to attitude from

either an environmental standpoint or an attitudinal approach.

Generation Z and Pro-Environmental Decision-Making in the EV Context

Globally, governments and organizations are trying to promote electric vehicles (EVs), as they believe that EVs can be a major contributor to both reducing greenhouse gas emissions and decreasing reliance on fossil fuels. Still, some research does not fully explore the specific elements contributing to Gen Z's intention to purchase EVs, including psychological, social, economic, and technological aspects (Hardman et al., 2016; Yang et al., 2020a; Rezvani et al., 2015). "The subjective norm does not strongly mediate the connection between government aid and willingness to buy an electric vehicle (Boo & Tan, 2024)" As a generation born primarily after the technology revolution, they has developed a strong and clear purchasing intention with respect to electric vehicles: they know exactly what they want (and how to get it) due in part to growing up in a world with limited educational opportunities; however, age can distort confidence in performance, thereby creating doubts in the intelligence of Gen Z in making decisions (Kung, 2023)." Hazard control is vital in creating value in electric vehicle repair, as the subjective norm does not mediate the effect of government support on purchasing intent (Boo & Tan, 2024). Previous generations were considered savvy consumers who knew how to find what they wanted and were willing to take risks to obtain it, whereas older generations may perceive themselves to be less intelligent than they are when it comes to making decisions (Kung, 2023). Hazard control is essential in creating value for customers when performing maintenance on electric vehicles. According to research by Boo and Tan (2024), the influence of a person's social environment (subjective norm) on their intention to purchase an electric vehicle (EV) is minimal compared to government support. This means that Gen Z will develop an unclear sense of self-efficacy due to risks associated with making decisions (Kung, 2023). Gen Z's perception of themselves as being smarter than older generations results in them being able to make informed decisions. Hazard reduction is essential to providing added value when charging/repairing an EV.

The literature reviewed here shows that Generation Z consumers are impacted by sustainable social media influencers, who positively contribute to the development of their environmental knowledge and attitudes. Prior research has shown that Generation Z consumers' environmental knowledge and attitudes are an important influence on their sustainable purchasing decisions, particularly regarding electric vehicles. However, there is currently very little empirical evidence that has integrated all three areas mentioned above (sustainable social media Influencers' impact on environmental knowledge/attitudes and sustainable purchasing decisions) into one study. Thus, this study aims to test these hypotheses by collecting empirical evidence.

H1: Sustainable social media influencers positively influence Gen Z's environmental knowledge regarding electric vehicles.

H2: Environmental knowledge positively influences Gen Z's environmental attitudes.

H3: Environmental attitudes positively influence Gen Z's buying behaviour toward electric vehicles.

H4: Environmental attitudes positively influence Gen Z's perceived environmental benefits of electric vehicles.

H5: Perceived environmental benefits positively influence Gen Z's buying behaviour toward electric vehicles.

H6: Environmental knowledge and environmental attitudes sequentially mediate the relationship between sustainable social media influencers and EV buying behaviour.

Research Methodology

A structured approach has been adopted in creating a strategy to conduct research for this study. The research design has involved the use of a quantitative research approach and an online survey as the principal instrument for gathering data. A uniform method of collecting data, that is, using a Google Forms questionnaire, was used to send the questionnaire out through social media and the Internet to a representative sample of Gen Z consumers actively engaging with digital content related to sustainability. Gen Z is the largest user of social media and

digital technology, and as such has interacted with a large variety of digital content, including videos that pertain to sustainability issues.

Population and sample

The study's sample comprises Gen-Z customers from New Delhi, India, who utilize social media and are knowledgeable about electric vehicle usage. Gen-Z has been selected due to their growing awareness of environmental sustainability and their high levels of internet usage. Using convenience sampling, the study collected data from 300 respondents using an online survey distributed through Google Forms on various social media and WhatsApp. This sample size is believed to provide enough information to conduct PLS-SEM analysis.

Data Collection Procedure

Using Google Forms, the primary data collection for the study involved a very structured online survey of many respondents from Generation Z in Delhi through WhatsApp groups and social media networks. This survey was designed for those who have access to social networks, frequently using such networks, and also know what an electric vehicle is. 400 surveys were sent initially to create a pool large enough to produce sufficient legitimate responses. Out of 400 sent, 320 received. The answer rate was 80%. As such, the 300 legitimate completed surveys that met the minimum requirements of PLS-SEM were analysed after being cleaned of any inconsistencies or missing data. The Structured and Methodical Questionnaire Included Sections to Evaluate the Impact of Sustainable Social Media Influencers, Environmental Attitude, and Purchase Behaviour Related to Electric Cars. Respondents Were Guaranteed Privacy and Confidentiality, and Participation Was Voluntary. The Quality of the Data Was Assured Through a Methodical Methodology to Ensure Its Suitability for Further Analysis Using SmartPLS.

Data Analysis Method

The data collected from 300 respondents in New Delhi were analysed using the Software, the "Partial Least Squares Structural Equation Modelling method (PLS-SEM)". After the measurement model was validated (Reliability, Internal Consistency, Converging Validity, Discriminating Validity), the next step is to perform the measurement model validation. The next step in this evaluation of the structural model was to examine the path coefficients and coefficient of determination (R2) of the environmental attitudes mediating the relationship between the influences of social media influencers on purchasing behaviours regarding electric vehicle purchases. All hypothesised relationships were evaluated for significance based on a bootstrapping methodology, which included 5000 resamples.

Validity testing was carried out to confirm that each item in the questionnaire consistently measured the respective target variable. The research utilized multiple types of validity testing as part of the process for assessing the validity of the research. The validity tests assessed whether the item in the questionnaire was measuring what it was intended to measure, whereas reliability testing was used to ensure that the measurements from the questionnaire were consistent and could be repeated. The validity tests were critical in establishing the accuracy of the conclusions of the research and the validity of the data collected by the research.

Data Analysis

Demographic profile

Table 1: Demographic profile

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	156	52.0
	Female	144	48.0
	Total	300	100
Age (Years)	18–20	92	30.7
	21–23	126	42.0
	24–26	82	27.3
	Total	300	100

Variable	Category	Frequency (n)	Percentage (%)
Highest Educational Qualification	Undergraduate	162	54.0
	Postgraduate	112	37.3
	Doctoral / Others	26	8.7
	Total	300	100
Occupational Status	Student	178	59.3
	Employed	104	34.7
	Self-employed / Others	18	6.0
	Total	300	100
Monthly Income (INR)	Below ? 20,000	98	32.7
	? 20,001 – ? 40,000	116	38.7
	Above ? 40,000	86	28.6
	Total	300	100
Frequency of Social Media Use	Several times a day	214	71.3
	Once a day	68	22.7
	Occasionally	18	6.0
	Total	300	100
Awareness of Electric Vehicles	High awareness	198	66.0
	Moderate awareness	102	34.0
	Low awareness	0	0

A total of 300 participants completed the study; there were almost equal numbers of men (52%) and women (48%). 42% of all participants are aged between 21 and 23 years and have completed their undergraduate education (54%). The majority of participants (59.3%) are students, while only 34.7% are working, and about 6 percent are employed in their own business. The largest category of monthly income is ?20,001-?40,000 (38.7%); followed by ?20,000 or less (32.7%); and lastly over ?40,000 (28.6%). 71.3% of participants reported they use social media multiple times each day. In terms of electric vehicles (EVs), 66% of participants reported having a high level of awareness, while 34% of reported moderate awareness. No participants reported having a low level of awareness about EVs. Overall, the participants of this study appear to be young, educated, and active members of the community who possess a high level of familiarity with EVs.

Reliability of Questionnaire

Table 2: Reliability Testing of the Questionnaire

Reliability Statistics	
Cronbach's Alpha	N of Items
.972	29

A Cronbach's Alpha value of .972 for the 29 items supports a high level of internal consistency between the measurement indicators, as shown in Table 2. While the high Cronbach's Alpha indicates that the items in this scale could be reliable, it also indicates that the items are very closely related to measuring the constructs that they are intended to measure. Thus, the instrument has been deemed suitable for subsequent statistical analysis and hypothesis testing in the context of the proposed research model. While the Cronbach's alpha value demonstrates a high level of reliability, it is still well within the range of an acceptable level for exploratory SEM studies.

Measurement Model

Data were measured and analysed using the SmartPLS software programme, in accordance with established guidelines on the PLS-SEM process of evaluation. In line with this, "evaluation, indicator reliability, internal consistency reliability, convergent validity, and discriminant validity" are evaluated. Thus, the purpose of evaluating these criteria for measurement items is to determine whether the measurement items accurately reflect the respective constructs they are designed to measure. The following is a synopsis of the results from the assessments of reliability and validity used to determine if measurement models are appropriate.

Data Normality:

Table 3: Data Normality of items

Variable	Min	Max	Skewness	CR (Skewness)	Kurtosis	CR (Kurtosis)
SSI1	2	5	0.312	2.21	-1.415	-5.03
SSI2	2	5	-0.047	-0.33	-1.532	-5.45
SSI3	1	5	-0.282	-2.00	-0.584	-2.08
SSI4	1	5	-0.448	-3.18	-1.111	-3.95
SSI5	1	5	-0.551	-3.91	-0.172	-0.61
SSI6	1	5	-0.532	-3.77	-0.696	-2.48
EA1	1	5	-0.341	-2.42	-0.972	-3.46
EA2	2	5	-0.157	-1.11	-1.187	-4.22
EA3	1	5	-0.460	-3.26	-0.293	-1.04
EA4	1	5	-0.399	-2.83	-1.147	-4.08
EA5	1	5	-0.698	-4.95	0.577	2.05
EA6	1	5	-0.787	-5.58	-0.049	-0.17
BB1	1	5	-0.377	-2.67	-0.013	-0.05
BB2	1	5	-0.794	-5.63	0.201	0.72
BB3	1	5	-0.240	-1.70	-0.696	-2.48
BB4	1	5	-0.645	-4.57	0.260	0.93
BB5	2	5	-0.335	-2.38	-1.210	-4.31
BB6	1	5	-0.640	-4.54	-0.666	-2.37
EK1	2	5	0.243	1.72	-0.366	-1.30
EK2	1	5	-0.447	-3.17	-1.243	-4.42
EK3	1	5	-0.242	-1.72	-1.353	-4.82
EK4	2	5	-0.119	-0.84	-1.213	-4.32
EK5	1	5	-0.513	-3.64	-0.441	-1.57
EK6	1	5	-0.820	-5.82	0.264	0.94
PEB1	1	5	-0.618	-4.38	-0.459	-1.63
PEB2	2	5	0.182	1.29	-1.262	-4.49
PEB3	1	5	-0.091	-0.65	-0.356	-1.27
PEB4	1	5	-0.600	-4.26	-0.675	-2.40
PEB5	1	5	-0.386	-2.74	-0.868	-3.09

To evaluate the normality of measurement items in SEM research, important statistics include skewness, kurtosis, and the accompanying critical ratios (CR). Skewness and kurtosis are considered vital in SEM research for assessing data normalcy. Previous studies indicated that kurtosis should be between -10 and +10, while skewness should fall between -3 and +3 (Blanca et al., 2013). Additionally, Hair et al. (2009) recommended thresholds for skewness between -2 and +2, and for kurtosis between -7 and +7. Tabachnick and Fidell (2014) also suggested that skewness values between -2 and +2 indicate adequate normality. In this study, skewness scores for the items ranged from a high of +0.312 for SSI1 to a low of -0.820 for EK6. Overall, it displays a positive or leftward (to the left) deviation from a symmetric distribution (such as an ideally normal distribution). This suggests respondents tend to lean toward sustainability and related constructs linked to electric vehicles. For most items, the skewness ratio exceeds the "±1.96" cutoff used to identify deviations from normality. Overall, the results suggest that kurtosis values mainly indicate a distribution that is platykurtic. Kurtosis values ranged from -1.532 (SSI2) to 0.577 (EA5). A few items exhibited kurtosis greater than ±1.96. Since these items show signs of non-normality, strict normality assumptions are not valid; however, this non-normality is not problematic for the current analysis, as PLS-SEM can handle non-normal data. Thus, the data remain suitable for further analysis with SmartPLS.

Table 4: Correlation Analysis

Variables	SSITOTAL	EATOTAL	EVBBTL	EKTOTL	PEBTOTAL
SSITOTAL	1	.912**	.878**	.901**	.903**
EATOTAL	.912**	1	.919**	.865**	.874**
EVBBTL	.878**	.919**	1	.871**	.895**
EKTOTL	.901**	.865**	.871**	1	.901**
PEBTOTAL	.903**	.874**	.895**	.901**	1
**. Correlation is significant at the 0.01 level (2-tailed).					

The correlation matrix in Table 4 indicates that, at a significance level of 0.01 (two-tailed), there was evidence that there were highly significant correlations across all variables. The following variables exhibited a very strong positive correlation to Sustainable Social Media Influencers (SSITOTAL): Environmental Attitudes (EATOTAL) (r = .912), Electric Vehicle Buying Behaviors (EBBTL) (r = .878), Environmental Knowledge (EKTOTL) (r = .901), and Pro-Environmental Behaviors (PEBTOTAL) (r = .903). Environmental Attitudes (EATOTAL) show positive correlations with the dependent variables (EV Buying Behavior (r = 0.919); Environmental Knowledge (r = 0.865); Pro-Environmental Behavior (r = 0.874)). These findings of high correlations indicate that the three independent variables (i.e., EV Buying Behavior, Environmental Knowledge, and Pro-Environmental Behavior) are significant predictors of a consumer's decision to purchase a sustainable product. Furthermore, results also show that there are positive correlations between EV Buying Behavior and Environmental Knowledge (r = 0.871) as well as Pro-Environmental Behavior (r = 0.895). Thus, based on the evidence presented, it can be concluded that consumers who possess knowledge about environmental issues, as well as those who engage in pro-environmental behaviors, are more inclined to purchase electric vehicles. According to the results obtained, there are many positive correlations between variables across different domains, and these correlations are consistently at or below threshold levels indicative of multicollinearity. Thus, supporting the theoretical coherence of the proposed model. Additionally, results indicate that Gen-Z consumers' sustainable purchasing behaviours, perceptions of environmentalism, and influence from influencers are all related to each other.

Table 5: Construct Reliability and Validity

S. No.	Construct	Items	Standardized Loadings	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
1	**Environmental Attitude (EA)**	EA1	0.897	0.869	0.902	0.608
		EA2	0.796			
		EA3	0.740			
		EA4	0.819			
		EA5	0.756			
		EA6	0.647			
2	**Environmental Knowledge (EK)**	EK1	0.783	0.871	0.903	0.609
		EK2	0.834			
		EK3	0.757			
		EK4	0.860			
		EK5	0.762			
		EK6	0.670			

S. No.	Construct	Items	Standardized Loadings	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)
3	**Electric Vehicle Buying Behavior (EVBB)**	EVBB1	0.829	0.842	0.884	0.563
		EVBB2	0.613			
		EVBB3	0.738			
		EVBB4	0.818			
		EVBB5	0.804			
		EVBB6	0.675			
4	**Perceived Environmental Benefits (PEB)**	PEB1	0.757	0.843	0.888	0.613
		PEB2	0.763			
		PEB3	0.769			
		PEB4	0.802			
		PEB5	0.823			
5	**Sustainable Social Media Influencers (SSMI)**	SSI1	0.866	0.918	0.937	0.712
		SSI2	0.937			
		SSI3	0.834			
		SSI4	0.823			
		SSI5	0.786			

To evaluate the measurement model, the indicator loadings, internal consistency reliability, and convergent validity for each construct were examined. The standardized factor loadings for all constructs exceeded the minimum threshold of 0.6, indicating a high level of correspondence between the observed items and the latent variables. The lowest factor loadings for the EA construct (between .647 and .897) demonstrate good reliability of the indicators of EA. Cronbach's alpha (0.869) and composite reliability (0.902) demonstrate an acceptable level of internal consistency. Environmental Knowledge (EK) also has strong measurement qualities with factor loadings between 0.670 and 0.860, a Cronbach's alpha of 0.871, and a Composite Reliability (CR) of 0.903. The Electric Vehicle Buying Behavior (EVBB) dimension shows good reliability based on item loadings (acceptable loadings are .613 to .829), .842 for Cronbach's alpha, and .884 for composite reliability. Besides the above information on the EVBB reliability, the Perceived Environmental Benefits (PEB) reliability is also good as indicated by the standardized loadings ranging from .757 to .823, with good internal consistency for all items measured by α = .843 and CR = .888. Sustainable Social Media Influencers (SSMIs) have excellent measurement quality based on their high factor loadings (0.786–0.937), Cronbach's Alpha of 0.918, and Composite Reliability scores of 0.937. The Average Variance Extracted (AVE) values of all constructs range from 0.563 to 0.712, exceeding the required level of 0.50, thus demonstrating that there is good convergent validity for the constructs. Based on these results, the measurement model has been proven to have sufficient reliability and convergent validity to support the subsequent testing of the structural model.

Table 6: Discriminant Validity

Construct	EA	EK	EVBB	PEB	SSMI
EA	**0.780**				
EK	0.868	**0.780**			
EVBB	0.901	0.863	**0.751**		
PEB	0.873	0.891	0.874	**0.783**	
SSMI	0.918	0.882	0.874	0.891	**0.844**

Table 6 presents the determination of the discriminant validity of the constructs based on the Fornell-Larcker method. The discriminatory validity is established when the AVE for each construct is found to be greater than the correlations with any other construct in the model, indicating that adequate construct distinction exists. In all cases, the inter-construct correlation values are less than the diagonals, which are EA, 0.780; EK, 0.780; EVBB, 0.751; PEB, 0.783; and SSMI, 0.844. The Fornell-Larcker criterion is fully satisfied, regardless of the magnitude of the positive relationships between constructs. This further demonstrates that they are theorized to be related and contextually related in the area of sustainability/consumer behaviour. The results of the ableconstruct account for more variance in its own indicators than it does for any of the other constructs. Thus, this proves that the constructs are empirically distinct from each other, thus supporting the sufficiency and endurance of the proposed research framework. The Fornell–Larcker criterion is met despite high inter-construct correlations, suggesting sufficient discriminant validity and reflecting the theoretical relatedness of sustainability constructs.

Table 7: KMO and Bartlett Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.845
Bartlett's Test of Sphericity	Approx. Chi-Square	11618.214
	df	406
	Sig.	.000

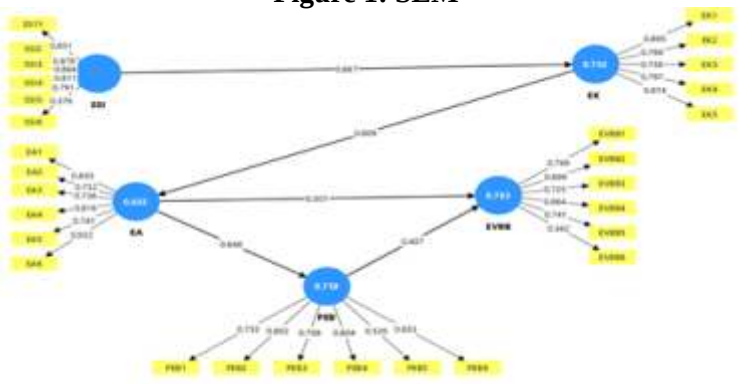
The sample size of this study is considered more than sufficient based on the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy, which produced a value of 0.845, well above the recommended minimum threshold of 0.60. Therefore, it is concluded that the data can be used to determine underlying factors, as there is sufficient shared variance among the variables. Additionally, Bartlett's Test of Sphericity was found to be statistically significant (χ^2 = 11618.214, df = 406, $p < 0.001$), confirming that there are significant relationships among the variables, and thus the matrix of correlations is not an identity matrix. Together, these results show that the dataset satisfies the prerequisites for factor analysis, enabling the extraction of trustworthy and comprehensible factors for further examination.

Table 8: Model fit

	Saturated model	**Estimated model**
SRMR	0.104	0.122
d_ULS	4.726	6.483
d_G	5.105	5.474
Chi-square	1857.228	1930.480
NFI	0.509	0.490

The suitability of the suggested measurement structure was assessed by looking at the model fit indices for both the estimated and saturated models. A modest degree of residual discrepancies between the observed and projected correlations is indicated by the Standardized Root Mean Square Residual (SRMR) values for the saturated model (0.104) and the estimated model (0.122), which are marginally above the generally recommended cut-off. After parameter estimation, the discrepancy measures, d_ULS and d_G, increase from the saturated model (d_ULS = 4.726; d_G = 5.105) to the estimated model (d_ULS = 6.483; d_G = 5.474), indicating more divergence between the empirical and model-implied covariance matrices. Furthermore, both models' chi-square values (1930.480 for the estimated model and 1857.228 for the saturated model) indicate sensitivity to sample size, which is typical in big datasets. In line with recommendations for variance-based PLS-SEM, model evaluation primarily focused on predictive accuracy and path significance rather than global goodness-of-fit indices. Although SRMR values marginally exceeded conventional thresholds, such deviations are acceptable for complex mediation models and do not undermine the explanatory validity of the proposed framework (Hair et al., 2019).

Figure 1: SEM



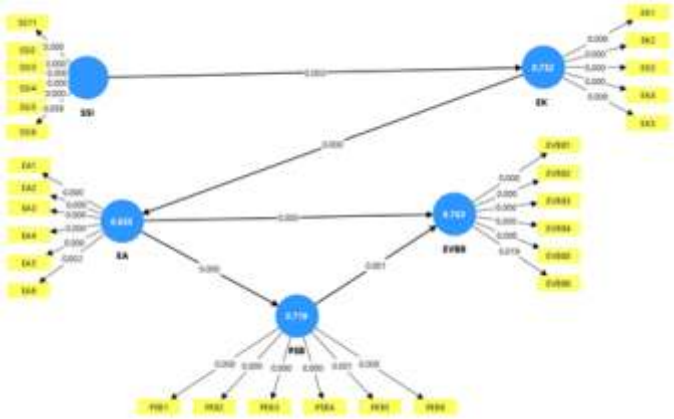
Hypothesis Testing

Table 9: Hypothesis Testing

S. No.	Hypothesis Testing	Standardized Estimates	t-value	p-value	Results
1	H1: Sustainable social media influencers ? Environmental knowledge	0.867	41.763	0.000	Supported
2	H2: Environmental knowledge ? Environmental attitudes	0.809	25.289	0.000	Supported
3	H3: Environmental attitudes ? EV buying behaviour	0.501	4.121	0.000	Supported
4	H4: Environmental attitudes ? Perceived environmental benefits	0.848	38.423	0.000	Supported
5	H5: Perceived environmental benefits ? EV buying behaviour	0.407	3.346	0.001	Supported
6	H6: Environmental knowledge and environmental attitudes seque ntially mediate the relationship between sustainable social media influencers and EV buying behaviour	0.352	3.736	0.000	Supported

The data in Table 9 is statistically significant, meaning it is considered to have an association between either the adoption of electric vehicles or Sustainable Social Media Influencers ($p < 0.05$). Hypothesis H1 indicates that Sustainable Social Media Influencers significantly contribute positively toward Environmental Knowledge ($\beta = 0.867$, $t = 41.763$). Therefore, this supports Hypothesis H1 that Sustainable Social Media Influencers significantly raised environmental knowledge in relation to Electric Vehicle (EV) awareness. Furthermore, Environmental Knowledge is predicted to increase Environmental Attitudes as demonstrated through Hypothesis H2 ($\beta = 0.809$, $t = 25.289$) and therefore further supports and enhances the predictivity of Hypothesis H2. Finally, the third hypothesis demonstrates how Environmental Beliefs significantly contribute toward influencing purchasing behaviour for EVs (H3) ($\beta = 0.501$, $t = 4.121$). In addition, environmental attitudes significantly positively affected perceived environmental benefits (H4), Supporting hypothesis H4 ($\beta = 0.848$, $t = 38.423$) indicates that when consumers hold positive sentiments regarding the environment, they also view greater benefits; utilizing this sentiment to influence perceived environmental benefits is a key factor influencing purchase decisions regarding electric vehicles, as seen in hypothesis H5 ($\beta = 0.407$, $t = 3.346$). The sequentially mediated relationship (H6) between environmental knowledge, attitudes, and the influence of sustainable social media has a strong positive effect on the purchase behaviour of Gen Z through their engagement with a sustainable influencer network. The findings indicate that influencer marketing in sustainability is extremely beneficial for informing Gen Z about their attitudes towards sustainability, as well as encouraging pro-environmental purchasing.

Figure 2: SEM



Discussion

It is noted that the social media sector will play an important role in promoting the use of less-harmful products and sustainable practices (Vrontis et al, 2020). The current study examined how Generation Z perceives pro-environment values to influence their intention to purchase electric vehicles. The results were consistent with previous studies indicating that social media has a substantial effect on sustainable consumption-related behaviours, particularly within young consumers (Jain et al, 2021). The current research supports previous studies showing how large a part social media has played in encouraging sustainable consumption/emoting environmentally friendly behaviours (Vrontis et al., 2020). Overall, results are similar to previous work and confirm that social media has a strong influence on sustainable purchase intentions, especially for younger consumers (Jain et al., 2021). Additionally, this research extends the current literature, demonstrating that sustainability-based social media influencers have an indirect effect on electric vehicle purchase intentions in Gen Zs through environmental knowledge and attitudes towards the environment. In line with the previous evidence supporting an association between heightened engagement with social media and a stronger connection between environmental awareness and responsible buying practices (Ghazali et al., 2019; Wang et al., 2022), data reveal that higher amounts of environmental education promote a shift toward more positive environmental thoughts and behaviours, making it possible to view greater advantages from Electric Vehicles and ultimately improve intentions to buy Electric Vehicles. The results demonstrate that Electric Vehicle consumer choices are influenced by a series of interrelated cognitive and attitudinal processes, rather than through direct persuasion alone. Overall, the study contributes to the existing literature by empirically validating a structured pathway through which sustainable influencer communication translates into environmentally conscious purchasing behaviour among Generation Z consumers. The findings of this study show that viewing influencer content correlated positively with a greater level of environmental awareness, developing an improved attitude toward the environment, and subsequently increasing positive perceptions of environmental benefits and intention to adopt electric vehicles (EV). This study provides valuable insight into how the social media presence of sustainable influencers can promote and enhance sustainable consumption. The social media presence of sustainable influencers does this indirectly through enhancing people's awareness and attitude toward variables impacting EV's.

Conclusion

Social Media influences Generation Z's Electric Vehicle Buying Decisions by directly influencing the Purchaser as well as indirectly influencing the Purchaser, through Environmental Knowledge, Environmental Attitudes, Environmental Concern, and Environmental Responsibility, concerning Electric Vehicles. Environmental Knowledge is the strongest of these influences, supporting the notion that Consumers who are Better Informed and More Actively Involved in social media are more likely to Buy Environmentally Friendly Products. The idea that awareness of an environmental issue does not help to motivate behaviour changes has further demonstrated the low influence of environmental concerns on how people act, but cognitive and attitudinal approaches are really needed to increase pro-environmental consumption. Therefore, knowledge about an environmentally relevant topic alone will not produce any behaviour change; there must be digital experiences that are engaging and validated so that the eventual result will be the

knowledge becoming a behavioral change. In addition to contributing to an increasing amount of research into digital sustainability engagement, the results of this investigation reveal the effectiveness of utilizing social media as a means to promote the implementation of sustainable mobility practices and provide motivation to individuals to engage in such practices. As evidenced by this data, the use of influencer marketing can leverage both theoretical and practical information to increase consumer awareness regarding environmental issues and how to become motivated to purchase electric vehicles. Ultimately, this indicates that strategically developing and promoting content related to sustainability via social media will create the necessary framework to support the achievement of environmental sustainability goals and encourage consumers to adopt sustainable technology into their daily lives.

Limitation

This study identifies a number of limitations associated with it, despite the important contributions made in this article. A cross-sectional design does not allow for measuring change over time or identifying cause-and-effect relationships since the individual responses to their opinion/behaviour were collected only once. The lack of a clear distinction between social media platforms most likely resulted in this study failing to capture any differences in customer interaction/impact between these platforms. Additionally, the focus on Generation Z will inhibit applicability to other generations, other cultures, and geographic locations. Furthermore, the potential for social desirability bias has created the potential for inaccuracies in the self-reported data used in the study on respondents' environmental awareness, attitudes, and behaviour intentions. These limitations provide guidance for future research, as well as context for understanding the findings produced by this study.

Future Research Directions

Future investigations regarding how people view the environment and how they accept and use Electric Vehicles (EVs) could provide a longitudinal perspective. Future investigations examining the impact of specific social media platforms, such as Facebook, YouTube, Instagram, and TikTok, on an individual's Environmental Knowledge or Attitude towards EVs, might help us identify which media channels are the most influential in developing Sustainable Consumer Behaviors. The generalizability of the findings of the study could increase with the inclusion of a variety of different demographic groups, including older individuals, members of Generation Z, and individuals from different cultural backgrounds. Future research may provide a better understanding of the underlying mechanisms through which social media content can influence pro-environmental behaviours by exploring how individual difference factors, such as environmental concern, social norms, and trust in influencers, can affect the relationship between social media content and pro-environmental behaviours.

Practical Implications

The findings of this research expand the current literature on sustainable consumption and electric vehicle adoption through the demonstration of the sequential relationship between the effect of environmental attitudes and environmental information on Generation Z's purchasing behaviour regarding electric vehicles. Additionally, by examining social media influencers from a sustainability perspective, it was demonstrated how important they are in developing pro-environmental behaviours and attitudes among young consumers in developing countries such as India. The findings indicate that to increase environmental consciousness and encourage Generation Z consumers to adopt electric vehicles, manufacturers/ marketers/ legislators should work strategically with reputable social media influencers regarding environmental issues.

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