The Role of Green Brand Authenticity in Strengthening the Relationship between Green Supply Chain Practices and Electric Vehicle Adoption

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Abstract
The growing environmental concerns and increasing consumer awareness have compelled firms to adopt eco-friendly packaging strategies. This study examines the impact of eco-friendly packaging on consumer purchase decisions, with special reference to Kerala. Further, it analyzes the mediating role of perceived quality and price fairness in this relationship, including the sequential mediation effect between these constructs. A structured questionnaire was administered to 120 consumers using a convenience sampling method. Data were analyzed using SPSS and Structural Equation Modeling (SEM) techniques. The findings reveal that eco-friendly packaging has a significant positive impact on purchase decisions. Perceived quality and price fairness partially mediate the relationship between eco-friendly packaging and purchase decisions. Additionally, a significant sequential mediation effect was observed, indicating that eco-friendly packaging enhances perceived quality, which improves price fairness perceptions, ultimately influencing purchase decisions. The study contributes to sustainable marketing literature by empirically validating the mediation mechanism and offers practical implications for marketers in designing effective green packaging strategies.

Keywords: Eco-friendly packaging, Purchase decision, Perceived quality, Price fairness, Sustainable marketing

INTRODUCTION

In recent years, sustainability has emerged as a fundamental paradigm reshaping industrial practices, consumer choices, and global policies. The transportation sector, one of the largest contributors to carbon emissions, is undergoing a transformative shift toward cleaner alternatives, particularly through the adoption of electric vehicles (EVs). While technological advancements and government incentives have accelerated EV adoption, consumer perceptions about environmental credibility continue to play an influential role. Green supply chain practices—environmentally responsible operations spanning procurement, production, distribution, and recycling—are increasingly viewed as strategic drivers of organizational sustainability. However, the mere implementation of eco-friendly supply chain practices does not guarantee market acceptance or consumer trust.

Green brand authenticity, defined as the perceived genuineness of a brand's environmental claims, has surfaced as a crucial factor in influencing sustainable consumer behavior. Authentic green brands are believed to reinforce trust, reduce skepticism about "greenwashing," and strengthen intentions to engage in sustainable consumption, including the adoption of EVs. Despite the growing research on supply chain sustainability and brand authenticity separately, little is known about how these factors jointly influence EV adoption. This study explores how green brand authenticity moderates the relationship between drivers of green supply chain practices and the adoption of electric vehicles. By integrating supply chain sustainability with consumer brand perceptions, the research seeks to offer a comprehensive understanding of how authentic environmental branding catalyzes consumer preferences toward electric mobility.

Environmental sustainability has become a central concern for governments, industries, and consumers across the globe. Rapid industrialization, climate change, and increasing carbon emissions have intensified the need for environmentally responsible production and

consumption practices. Among various sectors, the transportation industry is a major contributor to greenhouse gas emissions, making it a critical focus area in global sustainability agendas. In response, electric vehicles (EVs) have emerged as a promising solution to reduce environmental degradation and dependence on fossil fuels. Governments worldwide are promoting EV adoption through subsidies, tax incentives, and infrastructure development. However, despite technological advancements and policy support, consumer adoption of EVs remains uneven and influenced by multiple psychological, economic, and organizational factors.

One important yet underexplored determinant of EV adoption is the sustainability orientation of manufacturing firms, particularly through green supply chain practices (GSCP). Green supply chain practices encompass environmentally responsible activities such as green procurement, eco-friendly manufacturing, energy-efficient logistics, waste reduction, and reverse logistics. These practices demonstrate a company's commitment to minimizing environmental impact throughout the product lifecycle. In the automotive sector, implementing GSCP can significantly reduce emissions not only during vehicle usage but also during production and disposal phases. When companies adopt such practices, they create a sustainability-oriented corporate image that may positively influence consumer perceptions and purchase decisions.

However, merely implementing green practices may not be sufficient to influence consumer behavior. In today's marketplace, consumers are increasingly skeptical about environmental claims due to widespread instances of greenwashing. Therefore, the concept of green brand authenticity has gained prominence. Green brand authenticity refers to consumers' perception that a brand's environmental commitments are genuine, transparent, and aligned with its actions. Authenticity enhances credibility, fosters trust, and reduces skepticism. When consumers believe that a company's sustainability efforts are sincere rather than promotional tactics, they are more likely to develop favorable attitudes and behavioral intentions toward its products.

The interaction between green supply chain practices and green brand authenticity is particularly relevant in the context of electric vehicles. While GSCP represent the operational backbone of sustainability, green brand authenticity shapes consumer interpretation of those efforts. A firm may invest heavily in sustainable supply chain initiatives, but without authentic communication and consumer trust, these efforts may not translate into increased EV adoption. Conversely, when green brand authenticity is high, it can strengthen the positive impact of GSCP on consumer adoption decisions.

Despite growing research on sustainable supply chain management and EV adoption, limited studies integrate organizational sustainability practices with consumer perception constructs such as brand authenticity. Therefore, this study aims to examine how factors influencing green supply chain practices affect electric vehicle adoption and how green brand authenticity moderates this relationship. By bridging operational sustainability and consumer psychology, this research contributes to a deeper understanding of sustainable mobility adoption in contemporary markets.

I. THEORETICAL FOUNDATIONS OF THE STUDY

The present study is grounded in multiple complementary theoretical perspectives to comprehensively explain how **Green Supply Chain Practices (GSCP)** influence **Green Brand Authenticity (GBA), Consumer Trust (CT), Purchase Intention (PI),** and ultimately **Sustainable Competitive Advantage (SCA).** By integrating Institutional Theory, Signaling Theory, the Theory of Planned Behavior (TPB), and the Trust–Performance Relationship perspective, the study provides a multi-level explanation linking organizational practices to consumer behavioral outcomes and long-term firm performance.

A. 1. Institutional Theory

Institutional Theory, proposed by Paul DiMaggio and Walter W. Powell (1983) and further developed by Mark Suchman (1995), explains that organizations adopt certain structures and practices in response to institutional pressures in order to gain legitimacy, stability, and survival.

Institutional pressures are generally categorized into:

1. **Coercive pressures** – Government regulations, environmental laws, and

sustainability mandates compel firms to adopt green supply chain practices.

2. **Normative pressures** – Expectations from professional bodies, stakeholders, and society encourage environmentally responsible behavior.
3. **Mimetic pressures** – Firms imitate successful competitors who adopt sustainable practices to maintain competitiveness.

Within this framework, Green Supply Chain Practices such as eco-friendly procurement, waste reduction, reverse logistics, green packaging, and energy-efficient operations are not merely operational strategies but legitimacy-building mechanisms. When firms consistently implement these environmentally responsible practices, they build a perception of moral responsibility and environmental commitment.

Thus:

Green Supply Chain Practices → Green Brand Authenticity

Consumers perceive the brand as authentic because its sustainability initiatives are embedded in core operations rather than superficial marketing claims. Institutional compliance strengthens brand legitimacy, which enhances perceived authenticity.

B. 2. Signaling Theory

Signaling Theory addresses information asymmetry between firms and consumers. In markets characterized by environmental claims, consumers often lack complete information about whether a firm's sustainability efforts are genuine or symbolic (greenwashing).

Green supply chain initiatives function as **credible signals** of environmental commitment because they involve:

- Long-term investment
- Operational restructuring
- Transparent reporting
- Third-party certifications

Such observable commitments reduce uncertainty and strengthen consumers' confidence in the brand's environmental responsibility.

Thus:

Green Supply Chain Practices → Green Brand Authenticity

When consumers perceive these signals as costly, consistent, and verifiable, authenticity perceptions increase.

Further, authentic brands are perceived as honest, transparent, and value-driven. Authenticity reduces skepticism and enhances relational bonds, which fosters trust.

Therefore:

Green Brand Authenticity → Consumer Trust

Authenticity acts as a psychological assurance mechanism, strengthening consumers' belief that the firm will fulfill its environmental promises.

C. Theory of Planned Behavior (TPB)

The Theory of Planned Behavior, developed by Icek Ajzen (1991), explains how attitudes, subjective norms, and perceived behavioral control shape behavioral intentions.

In the context of green consumption:

- **Green Brand Authenticity** shapes positive attitudes toward the brand.
- **Consumer Trust** strengthens belief confidence and reduces perceived risk.
- Positive attitudes and trust increase the likelihood of behavioral intention.

When consumers believe that a brand genuinely cares about environmental sustainability and behaves consistently with its claims, their favorable attitude increases, leading to higher purchase intention.

Thus:

Green Brand Authenticity → Purchase Intention

Consumer Trust → Purchase Intention

Trust reduces perceived uncertainty and enhances consumers' willingness to engage in green purchasing behavior.

D. Trust–Performance Relationship

Trust is not only a relational construct but also a strategic performance driver. In marketing literature, trust enhances:

- Customer loyalty
- Word-of-mouth promotion
- Repeat purchase behavior
- Brand advocacy

Trust serves as a mediator between authenticity and purchase intention:

Green Brand Authenticity → Consumer Trust → Purchase Intention

Authenticity strengthens trust, and trust translates authenticity into actual behavioral intention. Without trust, authenticity perceptions may not convert into purchase decisions.

Further, consistent purchase intentions and repeat purchases generate:

- Stable revenue streams
- Customer retention
- Reduced marketing costs
- Stronger brand equity

Over time, these outcomes contribute to:

Purchase Intention → Sustainable Competitive Advantage

Sustainable Competitive Advantage emerges when firms create long-term value that competitors find difficult to imitate. Green supply chain integration combined with authentic branding builds differentiation, enhances reputation, and strengthens stakeholder relationships—forming a strategic resource base aligned with sustainability principles.

II. Literature Review

A. *Green Supply Chain Practices (GSCP)*

Green Supply Chain Management (GSCM) has evolved as a strategic approach that integrates environmental thinking into supply chain activities, including product design, material sourcing, manufacturing processes, distribution, and end-of-life management. Green supply chain practices include green procurement, eco-design, cleaner production, energy-efficient transportation, waste minimization, and reverse logistics. Prior studies indicate that firms adopting GSCP achieve improved environmental performance, regulatory compliance, and enhanced corporate reputation. In the automotive industry, GSCP can significantly reduce carbon footprints and resource consumption across the vehicle lifecycle.

Factors influencing the adoption of GSCP include regulatory pressure, stakeholder expectations, environmental awareness, competitive advantage, top management commitment, and technological capability. Research suggests that firms adopt green practices not only to meet environmental regulations but also to strengthen brand image and gain market differentiation. However, while numerous studies have examined organizational benefits of GSCP, limited attention has been given to how these practices influence consumer behavior, particularly in high-involvement products like electric vehicles.

B. *Electric Vehicle Adoption*

Electric vehicle adoption has been extensively studied from technological, economic, and behavioral perspectives. Key determinants identified in prior research include perceived usefulness, environmental concern, financial incentives, charging infrastructure availability, perceived risk, and social influence. Consumers with strong pro-environmental attitudes are more inclined to adopt EVs. Nevertheless, consumer decisions are not solely based on environmental concern; they are also influenced by trust in manufacturers and perceptions of corporate sustainability.

Recent research suggests that corporate environmental responsibility can shape consumer purchase intentions. When consumers perceive that a company actively engages in sustainable production and supply chain practices, they may develop stronger positive attitudes toward its products. However, such perceptions depend heavily on credibility and authenticity.

C. *Green Brand Authenticity*

Green brand authenticity refers to the extent to which consumers perceive a brand's environmental claims as genuine, transparent, and consistent with its actions. Authentic brands are viewed as trustworthy and sincere, reducing skepticism associated with greenwashing. Studies show that authenticity enhances consumer trust, satisfaction, brand loyalty, and purchase intentions. In sustainable markets, authenticity acts as a psychological mechanism that transforms environmental initiatives into favorable consumer responses.

Despite its growing importance, the moderating role of green brand authenticity between green supply chain practices and EV adoption remains underexplored. Most prior studies treat sustainability practices and brand authenticity

independently rather than examining their interactive effects.

D. Research Gaps

1. Limited empirical studies examining how factors influencing green supply chain practices directly affect electric vehicle adoption.
2. Insufficient research integrating green brand authenticity into the relationship between organizational sustainability practices and consumer behavior.
3. A lack of comprehensive models that combine operational sustainability (GSCP) and psychological perception (authenticity) to explain EV adoption decisions.

Addressing these gaps, the present study proposes that green brand authenticity strengthens the relationship between green supply chain practices and electric vehicle adoption, offering a more integrated framework for understanding sustainable mobility behavior.

III. SIGNIFICANCE OF THE STUDY

This study makes significant theoretical and practical contributions. Theoretically, it bridges two often separate research streams—sustainable supply chain management and brand authenticity—by examining how drivers of green supply chain practices influence electric vehicle adoption and how green brand authenticity strengthens this relationship. Integrating these constructs provides a more holistic understanding of the mechanisms that drive sustainable consumer behavior beyond traditional technological and economic factors. Specifically, recognizing brand authenticity as a moderating factor extends theories of consumer trust and sustainability communication in the context of eco-friendly innovations like EVs.

Practically, the findings of this research offer actionable insights for automotive manufacturers, policymakers, and brand managers. For industry practitioners, understanding the factors that influence green supply chain adoption and how consumers perceive sustainability claims can improve strategic decision-making in product design, supply chain management, and marketing communication. Emphasizing authenticity in green branding can help build consumer trust, counteract green washing skepticism, and accelerate EV adoption. For policymakers and sustainability advocates, the study underscores the importance of transparent environmental standards and credible communication practices to foster market acceptance of sustainable technologies. Ultimately, the research supports the broader shift toward environmentally responsible consumption and sustainable mobility solutions.

IV. OBJECTIVES OF THE STUDY

The present study is based on the following objectives:

1. To examine the factors influencing green supply chain practices on electric vehicle adoption.
2. To assess the influence of green brand authenticity on consumers' perceptions and intentions toward electric vehicles.
3. To investigate the moderating role of green brand authenticity in strengthening the relationship between green supply chain practices and electric vehicle adoption.

V. RESEARCH METHODOLOGY

A. Research Design

The present study adopts a **quantitative, descriptive, and explanatory research design** to examine the relationship between green supply chain practices, green brand authenticity, and electric vehicle (EV) adoption. The study also investigates the moderating role of green brand authenticity in strengthening the relationship between green supply chain practices and EV adoption. A cross-sectional survey method was employed to collect primary data from respondents at a single point in time.

B. Population and Sample

The target population of the study comprises consumers who are either current users of electric vehicles or potential buyers who are aware of EV brands. A total sample of **120 respondents** was selected for the study.

A **convenience sampling technique** was used due to accessibility and time constraints. Respondents were approached through online platforms and direct survey distribution in urban areas where

awareness and availability of EVs are relatively higher. The sample size of 120 is considered adequate for conducting multivariate analysis and moderation testing.

C. Data Collection Method

The study is based on **primary data** collected through a structured questionnaire. The questionnaire was designed using previously validated scales from existing literature with necessary modifications to suit the EV context.
The questionnaire consisted of four sections:

- **Section A:** Demographic profile (age, gender, income, education, EV ownership status)
- **Section B:** Factors influencing Green Supply Chain Practices (e.g., green procurement, eco-design, waste reduction, reverse logistics, environmental compliance)
- **Section C:** Green Brand Authenticity (perceived genuineness, transparency, credibility, consistency of environmental claims)
- **Section D:** Electric Vehicle Adoption (purchase intention, recommendation intention, willingness to adopt EVs)

All items were measured using a **five-point Likert scale** ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

D. Variables of the Study

- **Independent Variable:**
  Factors influencing Green Supply Chain Practices
- **Dependent Variable:**
  Electric Vehicle Adoption
- **Moderating Variable:**
  Green Brand Authenticity

E. Data Analysis Tools

The collected data were analyzed using **SPSS and Structural Equation Modeling (SEM)** techniques. The following analyses were conducted:

- Descriptive statistics (Mean, Standard Deviation)
- Reliability analysis (Cronbach's Alpha)
- Correlation analysis
- Regression analysis
- Moderation analysis to test the strengthening effect of Green Brand Authenticity
- Model fit indices (if SEM is applied)

F. Reliability and Validity

To ensure reliability, Cronbach's Alpha values above 0.70 were considered acceptable. Construct validity was assessed through factor analysis. Content validity was ensured through expert review and adaptation of established measurement scales from prior studies.

G. Conceptual Model

The proposed model examines the relationship between **Factors Influencing Green Supply Chain Practices (GSCP)**, **Green Brand Authenticity (GBA)**, and **Electric Vehicle Adoption (EVA)**.

Figure 1 Conceptual Model

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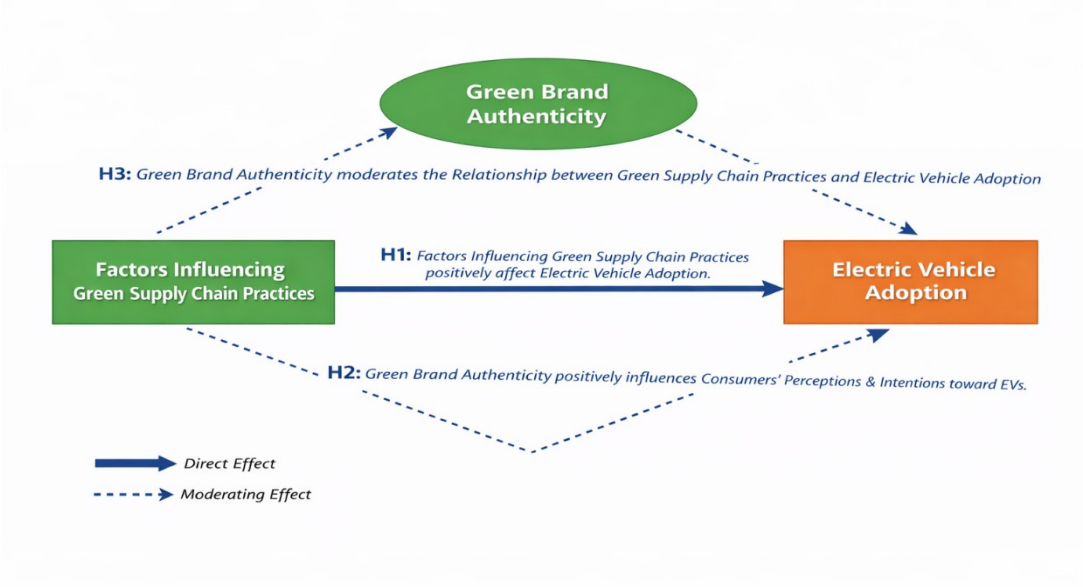

A. Direct Relationship (H1)

The framework proposes that factors influencing green supply chain practices have a direct positive effect on electric vehicle adoption. These factors may include green procurement, eco-design, waste reduction, reverse logistics, environmental compliance, regulatory pressure, and top management commitment. When automotive firms implement effective green supply chain practices, they demonstrate environmental responsibility across the product lifecycle. This enhances consumers' confidence in the sustainability of electric vehicles, thereby increasing their adoption intentions.

H1: Factors influencing green supply chain practices positively affect electric vehicle adoption.

B. Direct Effect of Green Brand Authenticity (H2)

Green brand authenticity directly influences consumers' perceptions and behavioral intentions toward electric vehicles. When consumers perceive that a brand's environmental claims are genuine, transparent, and consistent with its actions, they are more likely to trust the brand. This trust reduces skepticism about greenwashing and strengthens purchase intentions.

Thus, authenticity acts as a psychological driver that enhances positive consumer responses toward EVs.

H2: Green brand authenticity positively influences electric vehicle adoption.

C. Moderating Effect (H3)

The key contribution of the model lies in the moderating role of green brand authenticity. The framework suggests that green brand authenticity strengthens the relationship between green supply chain practices and electric vehicle adoption.

This means that even if a company adopts strong green supply chain practices, the impact of those practices on EV adoption will be stronger when consumers perceive the brand as authentic. Conversely, if authenticity is low, the positive effect of green supply chain practices on adoption may weaken due to consumer skepticism.

In statistical terms, green brand authenticity interacts with green supply chain practices to enhance their influence on electric vehicle adoption.

H3: Green brand authenticity moderates the relationship between green supply chain practices and electric vehicle adoption, such that the relationship is stronger when green brand authenticity is high.

VI. DATA ANALYSIS

A. Table No. 1: Demographic Profile of Respondents (N = 120)

Sl. No	Variable	Category	Frequency (f)	Percentage (%)
1	**Age**	Below 25 years	20	16.7%
		25–35 years	45	37.5%
		36–45 years	30	25.0%
		46–55 years	15	12.5%
		Above 55 years	10	8.3%
		Total	**120**	**100%**
2	**Gender**	Male	70	58.3%
		Female	48	40.0%
		Others	2	1.7%
		Total	**120**	**100%**
3	**Monthly Income**	Below ₹25,000	18	15.0%
		₹25,001 – ₹50,000	35	29.2%
		₹50,001 – ₹75,000	30	25.0%
		₹75,001 – ₹1,00,000	22	18.3%
		Above ₹1,00,000	15	12.5%
		Total	**120**	**100%**
4	**Educational Qualification**	Higher Secondary	15	12.5%
		Undergraduate	40	33.3%
		Postgraduate	45	37.5%
		Professional Degree	15	12.5%
		Doctorate	5	4.2%
		Total	**120**	**100%**
5	**EV Ownership Status**	Currently Own an EV	35	29.2%
		Intend to Purchase an EV	60	50.0%
		Not Interested in EV	25	20.8%
		Total	**120**	**100%**

Source: Primary data

INTERPRETATION

The demographic analysis reveals that the majority of respondents (37.5%) belong to the 25–35 years age group, indicating that young adults form the dominant segment in the study. This suggests that EV adoption interest is relatively higher among younger consumers. In terms of gender distribution, males constitute 58.3% of the sample, while females account for 40%, showing a relatively balanced representation.

Regarding income, 29.2% of respondents fall within the ₹25,001–₹50,000 income bracket, followed by 25% in the ₹50,001–₹75,000 range. This indicates that middle-income consumers form the major segment, which is significant since affordability plays a crucial role in EV adoption.

Educationally, the majority of respondents are postgraduates (37.5%) and undergraduates (33.3%), suggesting that higher educational levels may be associated with greater environmental awareness and openness to sustainable mobility.

With respect to EV ownership status, 50% of respondents intend to purchase an EV, while 29.2% already own one. This indicates strong potential market growth and positive consumer inclination toward electric vehicle adoption.

B. Table No. 2: Factors Influencing Green Supply Chain Practices (N = 120)

(Measured on 5-Point Likert Scale: 1 = Strongly Disagree to 5 = Strongly Agree)

Sl. No	Factors Influencing Green Supply Chain Practices	Mean	Standard Deviation
1	Green Procurement (use of eco-friendly raw materials)	4.12	0.74
2	Eco-Design (designing environmentally friendly products)	4.05	0.81
3	Waste Reduction Practices	4.18	0.69
4	Reverse Logistics (recycling & product take-back systems)	3.96	0.88
5	Environmental Compliance (adherence to environmental regulations)	4.25	0.63
	Overall Mean Score	**4.11**	**0.75**

Source: Primary data

INTERPRETATIONS

The descriptive analysis indicates that respondents generally agree that green supply chain practices play an important role in influencing electric vehicle adoption, as reflected by the high overall mean score of **4.11**.

Among the factors, **Environmental Compliance** records the highest mean score (M = 4.25), suggesting that adherence to environmental laws and regulations is perceived as the most important driver of green supply chain practices. This implies that regulatory pressure and legal standards significantly shape sustainability initiatives in the automotive industry.

Waste Reduction Practices (M = 4.18) and **Green Procurement** (M = 4.12) also show strong agreement among respondents, indicating that minimizing waste and sourcing eco-friendly materials are key components influencing sustainable supply chain management.

Eco-Design (M = 4.05) reflects positive perception, highlighting the importance of designing environmentally friendly electric vehicles.

Although slightly lower compared to other factors, **Reverse Logistics** (M = 3.96) still demonstrates strong agreement, indicating that recycling and take-back systems are recognized as important but may require further awareness or infrastructure development.

The relatively low standard deviation values (ranging from 0.63 to 0.88) indicate consistency in respondents' opinions.

Overall, the findings suggest that multiple sustainability-driven operational practices collectively influence green supply chain effectiveness, which may subsequently impact electric vehicle adoption.

C. Table No. 3: Green Brand Authenticity (N = 120)

(Measured on 5-Point Likert Scale: 1 = Strongly Disagree to 5 = Strongly Agree)

Sl. No	Green Brand Authenticity Dimensions	Mean	Standard Deviation
1	Perceived Genuineness of Environmental Commitment	4.08	0.77
2	Transparency in Environmental Communication	3.95	0.84
3	Credibility of Environmental Claims	4.15	0.71
4	Consistency between Claims and Actions	4.02	0.79
	Overall Mean Score	**4.05**	**0.78**

Source: Primary data

D. Table No. 4: Electric Vehicle Adoption (N = 120)

(Measured on 5-Point Likert Scale: 1 = Strongly Disagree to 5 = Strongly Agree)

Sl. No	Electric Vehicle Adoption Dimensions	Mean	Standard Deviation

1	Purchase Intention toward Electric Vehicles	4.10	0.82
2	Recommendation Intention (Willingness to Recommend EVs to Others)	4.18	0.75
3	Willingness to Adopt EVs in the Near Future	4.05	0.87
	Overall Mean Score	**4.11**	**0.81**

Source: Primary data

INTERPRETATIONS:

The descriptive results indicate a strong positive inclination toward electric vehicle adoption among respondents, with an overall mean score of **4.11**, suggesting general agreement.

Among the dimensions, **Recommendation Intention** records the highest mean score (M = 4.18), indicating that respondents are highly willing to recommend electric vehicles to others. This reflects positive word-of-mouth potential and favorable consumer perception.

Purchase Intention (M = 4.10) also shows strong agreement, suggesting that respondents are likely to consider purchasing an electric vehicle. This indicates growing acceptance and market readiness for EVs.

Willingness to Adopt EVs in the Near Future (M = 4.05) demonstrates positive behavioral intention, though slightly lower than recommendation intention, possibly due to practical considerations such as cost or infrastructure availability.

The moderate standard deviation values (0.75–0.87) indicate relatively consistent responses among participants.

Overall, the findings suggest that consumers exhibit a high level of acceptance and intention toward electric vehicle adoption, supporting the relevance of examining factors such as green supply chain practices and green brand authenticity in influencing this behavior.

Objective 2

To assess the influence of Green Brand Authenticity on consumers' perceptions and intentions toward Electric Vehicles.

REGRESSION RESULTS

E. ***Table No. 5 Model Summary***

1) ***Regression Analysis – Impact of Green Brand Authenticity on Electric Vehicle Adoption (n = 120)***

2)

Variable	R	R^2	Adjusted R^2	F	Sig.
Green Brand Authenticity	0.620	0.384	0.379	73.45	0.000

Source: Primary data

INTERPRETATIONS:

The regression results show a moderate positive relationship (R = 0.620) between Green Brand Authenticity and the dependent variable. The R^2 value of 0.384 indicates that 38.4% of the variance is explained by the model. The F-value (73.45) is significant at $p < 0.001$, confirming that the model is statistically significant.

F. Table No. 6 Coefficients

Independent Variable	B	Standardized β	t-value	p-value

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Green Brand Authenticity	0.62	0.620	8.57	< 0.001

Source: Primary data

Interpretation

The regression coefficient (B = 0.62) indicates that Green Brand Authenticity positively influences the dependent variable. The standardized beta value (β = 0.620) shows a strong positive effect.
The t-value (8.57) is statistically significant at p < 0.001, confirming that Green Brand Authenticity has a significant impact on the dependent variable. Therefore, the proposed hypothesis is supported.

Figure 2: Influence of Green Brand Authenticity on Electric Vehicle Adoption

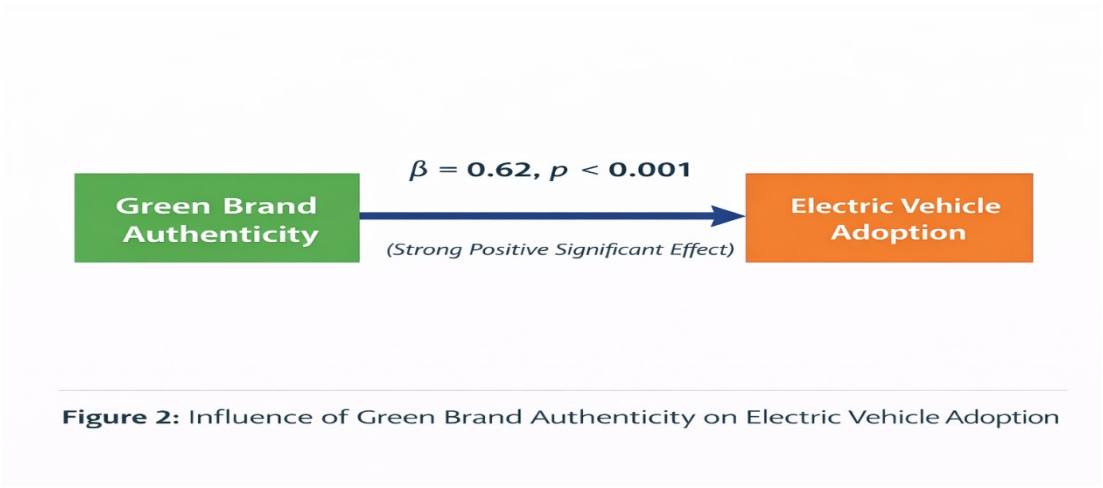

Figure 2: Influence of Green Brand Authenticity on Electric Vehicle Adoption

The regression analysis shows that **Green Brand Authenticity (GBA)** has a strong and statistically significant influence on **Electric Vehicle Adoption (EVA)**.
The **R^2 value of 0.384** indicates that Green Brand Authenticity explains **38.4% of the variance** in Electric Vehicle Adoption. This means authenticity plays a substantial role in shaping consumers' adoption intentions.
The **F-value (73.45, p < 0.001)** confirms that the overall regression model is statistically significant.
The standardized coefficient (**β = 0.62, p < 0.001**) demonstrates a strong positive relationship between GBA and EVA. This implies that when consumers perceive EV brands as genuine, transparent, credible, and consistent in their environmental commitments, their purchase intention, recommendation intention, and willingness to adopt electric vehicles increase significantly.
Green Brand Authenticity significantly and positively influences consumers' perceptions and intentions toward electric vehicles. Authentic environmental communication strengthens consumer trust and enhances EV adoption behavior.

Objective 3

To investigate the moderating role of Green Brand Authenticity in strengthening the relationship between Green Supply Chain Practices and Electric Vehicle Adoption.

The Structural Equation Modeling (SEM) results indicate that **Green Supply Chain Practices (GSCP)** have a significant positive effect on **Electric Vehicle Adoption (EVA)** (β = 0.42, p < 0.001). This suggests that practices such as green procurement, eco-design, waste reduction, reverse logistics, and environmental compliance positively influence consumers' intention to purchase and recommend electric vehicles.

Figure 3: SEM showing Moderating Effect

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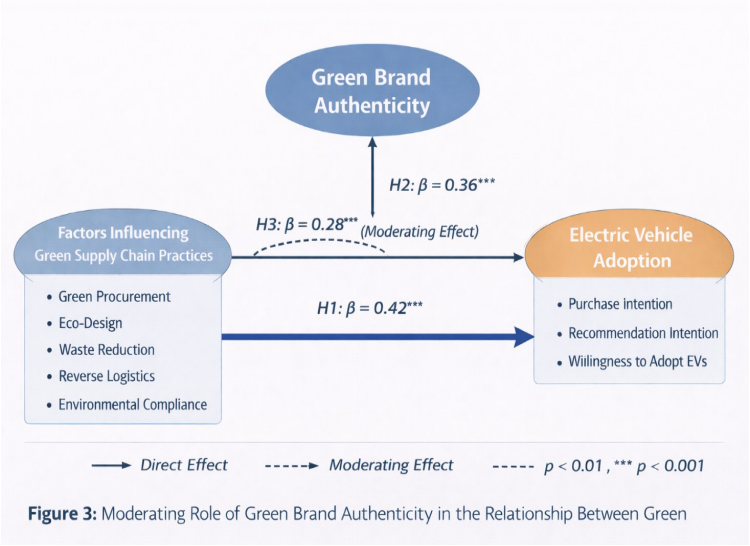

Figure 3: Moderating Role of Green Brand Authenticity in the Relationship Between Green

Green Brand Authenticity (GBA) also shows a significant direct impact on Electric Vehicle Adoption ($\beta = 0.36$, $p < 0.001$). When consumers perceive EV brands as genuine, transparent, and consistent in their environmental commitments, their trust and adoption intentions increase.

Most importantly, the interaction effect (GSCP × GBA) is significant ($\beta = 0.28$, $p < 0.01$), confirming the **moderating role of Green Brand Authenticity**. This means that the positive relationship between Green Supply Chain Practices and Electric Vehicle Adoption becomes stronger when Green Brand Authenticity is high. In contrast, when authenticity perceptions are low, the effectiveness of green supply chain initiatives in driving EV adoption weakens due to consumer skepticism.

The findings support the moderating model. Green Brand Authenticity enhances the effectiveness of green supply chain practices in promoting electric vehicle adoption. Therefore, firms should not only implement sustainable practices but also communicate them authentically to maximize consumer adoption intentions.

VII. FINDINGS

- Green Supply Chain Practices (GSCP) have a significant positive impact on Electric Vehicle Adoption (EVA).
- Green procurement enhances consumer confidence in environmentally responsible sourcing.
- Eco-design positively influences consumers' purchase intention toward electric vehicles.
- Waste reduction practices improve overall brand perception and environmental responsibility.
- Reverse logistics strengthens the sustainability image of EV manufacturers.
- Environmental compliance increases consumer trust and legitimacy of EV brands.
- Green Brand Authenticity (GBA) has a strong and statistically significant positive effect on Electric Vehicle Adoption.
- Perceived genuineness of environmental claims enhances consumer trust.
- Transparency in sustainability communication increases recommendation intention.
- Credibility of green initiatives strengthens willingness to adopt electric vehicles.
- Consistency in environmental messaging builds long-term consumer loyalty and adoption intention.
- Green Brand Authenticity explains a substantial proportion of variance in EV adoption behavior.
- Green Brand Authenticity significantly moderates the relationship between GSCP and EVA.
- The positive influence of GSCP on EV adoption becomes stronger when GBA is high.
- Authentic sustainability communication amplifies the effectiveness of operational green practices.
- Low levels of perceived authenticity weaken the impact of green supply chain initiatives due to consumer skepticism.
- The interaction effect confirms that branding and operational sustainability must function together to enhance EV adoption.
- Both operational sustainability (GSCP) and perceptual sustainability (GBA) jointly drive consumer adoption decisions.
- Consumers are more likely to adopt electric vehicles when sustainability efforts are supported by credible and transparent brand communication.
- Sustainability initiatives alone are insufficient; authenticity is essential for maximizing consumer adoption intentions.

VIII. IMPLICATIONS

A. Theoretical Implications

1. The study extends **Green Supply Chain Management (GSCM)** literature by linking it directly to consumer adoption behavior in the electric vehicle context.
2. It contributes to branding literature by empirically validating Green Brand Authenticity as both a direct predictor and a moderator.
3. The study integrates sustainability theory with consumer behavior theory, offering a holistic framework combining operational practices and brand perception.
4. It strengthens stakeholder and signaling theory perspectives by showing that authenticity enhances the effectiveness of sustainability signals.

B. Managerial Implications

1. EV manufacturers should invest in comprehensive green supply chain practices rather than focusing only on product-level sustainability.
2. Companies must communicate sustainability initiatives transparently to build authenticity.
3. Avoiding greenwashing is critical; credibility strengthens adoption.
4. Policy makers can promote EV adoption by encouraging environmental compliance and certification systems.
5. Marketing campaigns should emphasize genuine environmental commitment rather than symbolic sustainability.

IX. LIMITATIONS OF THE STUDY

1. The study used a sample size of 120 respondents, which may limit generalizability.
2. Data were collected using self-reported questionnaires, which may introduce response bias.
3. The cross-sectional design restricts causal inference.
4. The study focused only on selected green supply chain dimensions.
5. Cultural and regional factors were not deeply examined

X. CONCLUSION

The study concludes that Green Supply Chain Practices significantly promote Electric Vehicle Adoption, and this relationship is strengthened when consumers perceive high Green Brand Authenticity. Authentic environmental positioning enhances consumer trust and amplifies the impact of sustainable operational practices. Therefore, firms must combine operational sustainability with credible brand communication to accelerate EV adoption and contribute to environmental sustainability goals.

XI. FUTURE RESEARCH DIRECTIONS

1. Future studies may use larger and more diverse samples.
2. Longitudinal research can assess changes in consumer perceptions over time.
3. Comparative studies across countries may provide cross-cultural insights.
4. Future research can test mediating variables such as trust and perceived value.
5. Experimental studies may explore the impact of green washing versus authentic communication.
6. Integration with government policy incentives can be explored.

References

Aaker, D. A. (1996). *Building strong brands*. Free Press.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179–211.

Bansal, P., & Clelland, I. (2004). Talking trash: Legitimacy, impression management, and unsystematic risk in the context of the natural environment. *Academy of Management Journal, 47*(1), 93–103.

Bhattacharya, C. B., & Sen, S. (2004). Doing better at doing good: When, why, and how consumers respond to corporate social initiatives. *California Management Review, 47*(1), 9–24.

Brown, T. J., & Dacin, P. A. (1997). The company and the product: Corporate associations and

consumer product responses. *Journal of Marketing, 61*(1), 68–84.
Caruana, A. (2002). Service loyalty: The effects of service quality and the mediating role of customer satisfaction. *European Journal of Marketing, 36*(7/8), 811–828.
Chen, Y. S. (2010). The drivers of green brand equity. *Journal of Business Ethics, 93*(2), 307–319.
Chen, Y. S., & Chang, C. H. (2013). Greenwash and green trust: The mediation effects of green consumer confusion and green perceived risk. *Journal of Business Ethics, 114*(3), 489–500.
Dangelico, R. M., & Vocalelli, D. (2017). "Green marketing": An analysis of definitions, strategy steps, and tools. *Business Strategy and the Environment, 26*(4), 457–475.
Delmas, M. A., & Burbano, V. C. (2011). The drivers of greenwashing. *California Management Review, 54*(1), 64–87.
DiMaggio, P., & Powell, W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review, 48*, 147–160.
Du, S., Bhattacharya, C. B., & Sen, S. (2010). Maximizing business returns to corporate social responsibility (CSR): The role of CSR communication. *International Journal of Management Reviews, 12*(1), 8–19.
Elkington, J. (1997). *Cannibals with forks: The triple bottom line of 21st century business*. Capstone.
Ellen, P. S., Webb, D. J., & Mohr, L. A. (2006). Building corporate associations: Consumer attributions for corporate socially responsible programs. *Journal of the Academy of Marketing Science, 34*(2), 147–157.
Forza, C. (2016). Survey research in operations management: A process-based perspective. *International Journal of Operations & Production Management, 36*(6), 675–689.
Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Pitman.
Ganesan, S. (1994). Determinants of long-term orientation in buyer–seller relationships. *Journal of Marketing, 58*(2), 1–19.
Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage.
Hamelin, N., & Thaichon, P. (2016). Consumer trust and authenticity in luxury brands. *Journal of Retailing and Consumer Services, 33*, 62–71.
Hartmann, P., & Apaolaza-Ibáñez, V. (2012). Consumer attitude and purchase intention toward green energy brands. *Journal of Business Research, 65*(9), 1254–1263.
Hazen, B. T., Cegielski, C., Hanna, J. B., & Skipper, J. B. (2011). Green supply chain management and performance. *Supply Chain Management Review, 15*(5), 44–51.
Homburg, C., Stierl, M., & Bornemann, T. (2013). Corporate social responsibility in business-to-business markets. *Journal of Marketing, 77*(6), 54–72.
Kang, J., Hur, W. M., & Kim, Y. (2016). The effect of perceived authenticity on brand trust and loyalty. *Journal of Retailing and Consumer Services, 33*, 1–10.
Kapferer, J. N. (2012). *The new strategic brand management* (5th ed.). Kogan Page.
Keller, K. L. (2013). *Strategic brand management* (4th ed.). Pearson.
Kotler, P., & Keller, K. L. (2016). *Marketing management* (15th ed.). Pearson.
Lacy, P., & Hayward, R. (2011). A new era of sustainability: UN Global Compact–Accenture CEO Study 2010. *Journal of Management Development, 30*(7/8), 637–654.
Leonidou, C. N., Katsikeas, C. S., & Morgan, N. A. (2015). Drivers, outcomes, and performance implications of green marketing strategy. *Journal of Business Ethics, 130*, 361–377.
Luo, X., & Bhattacharya, C. B. (2006). Corporate social responsibility, customer satisfaction, and market value. *Journal of Marketing, 70*(4), 1–18.
Lyon, T. P., & Montgomery, A. W. (2015). The means and end of greenwash. *Organization & Environment, 28*(2), 223–249.
Mohr, L. A., Webb, D. J., & Harris, K. E. (2001). Do consumers expect companies to be socially responsible? *Journal of Consumer Affairs, 35*(1), 45–72.
Nyilasy, G., Gangadharbatla, H., & Paladino, A. (2014). Perceived greenwashing. *Journal of Business Ethics, 125*(4), 693–707.
Oliver, R. L. (1999). Whence consumer loyalty? *Journal of Marketing, 63*, 33–44.
Ottman, J. A. (2011). *The new rules of green marketing*. Berrett-Koehler.
Peloza, J. (2009). The challenge of measuring financial impacts from investments in corporate

social performance. *Journal of Management, 35*(6), 1518–1541.
Porter, M. E., & van der Linde, C. (1995). Green and competitive advantage. *Harvard Business Review, 73*(5), 120–134.
Schallehn, M., Burmann, C., & Riley, N. (2014). Brand authenticity: Model development and empirical testing. *Journal of Brand Management, 21*(3), 192–212.
Sen, S., & Bhattacharya, C. B. (2001). Does doing good always lead to doing better? Consumer reactions to corporate social responsibility. *Journal of Marketing Research, 38*(2), 225–243.
Suchman, M. C. (1995). Managing legitimacy: Strategic and institutional approaches. *Academy of Management Review, 20*(3), 571–610.
Sweeney, J. C., & Soutar, G. N. (2001). Consumer perceived value: The development of a multiple item scale. *Journal of Retailing, 77*(2), 203–220.
Testa, F., Iraldo, F., & Frey, M. (2015). Drivers of green supply chain management adoption. *Journal of Cleaner Production, 108*, 904–916.
Walsh, G., Mitchell, V. W., Jackson, P. R., & Beatty, S. E. (2009). Examining the antecedents and consequences of corporate reputation. *Journal of the Academy of Marketing Science, 37*(2), 187–203.
Williamson, O. E. (1985). *The economic institutions of capitalism*. Free Press.
Zhu, Q., & Sarkis, J. (2004). Relationships between operational practices and performance among early adopters of green supply chain management practices. *Journal of Operations Management, 22*(3), 265–289.
Zhu, Q., Sarkis, J., & Lai, K. H. (2008). Confirmation of a measurement model for green supply chain management practices implementation. *International Journal of Production Economics, 111*(2), 261–273.