



Evaluating the Influence of Brand Dimensions on the Performance of Electric Two-Wheelers

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Abstract: This study aims to evaluate the influence of key brand dimensions on the performance of Electric two-wheelers, focusing on how brand personality, brand competence, brand sincerity, and brand equity affect consumer perceptions and market performance. As the electric vehicle (EV) industry rapidly evolves, understanding the role of brand-related factors becomes crucial for manufacturers to gain a competitive edge. The research employs a mixed-methods approach, combining quantitative surveys with Electric users and qualitative interviews with industry experts. Data analysis reveals that brand dimensions significantly impact consumer purchase decisions, customer satisfaction, and overall brand performance. Notably, brand Equity and sincerity emerged as critical drivers of customer retention and advocacy. The findings offer valuable insights for Electric vehicle marketing strategies, highlighting the importance of strengthening brand perception to enhance market share and performance. However, the study is limited by sample size, geographic constraints, and the rapidly changing EV landscape, suggesting the need for ongoing research in this dynamic sector.

Design/Methodology/Approach: The study on "Evaluating the Influence of Brand Dimensions on the Performance of Electric Two-Wheelers" highlights several key findings that underscore the critical role of brand dimensions in driving the company's market success. This study employs a descriptive and causal research design to examine the relationship among independent factors such as brand personality, brand competence, brand sincerity and brand equity and the dependent variable of performance of electric two wheelers. Quantitative data was employed to provide a thorough grasp of the elements affecting performance of electric vehicles in the market.

Findings: The study reveals several key findings that highlight the critical role of brand-related factors in shaping the company's market performance. The findings reveal that all four brand dimensions Brand Personality, Competence, Sincerity, and Equity play a critical role in shaping outcomes like brand performance, loyalty, or consumer behavior. Among them, Brand Equity and Brand Sincerity have the highest impact, suggesting that emotional connection and perceived value are crucial in consumer decision-making. This aligns with previous literature emphasizing the role of brand trust, emotional appeal, and value proposition in consumer-brand relationships. The relatively high R^2 values across all variables demonstrate that the model is effective in explaining the outcome, indicating strong theoretical grounding.

Originality: The originality of the study on "Evaluating the Influence of Brand Dimensions on the Performance of Electric Two-Wheelers" lies in its comprehensive approach to analyzing the interplay between brand-related factors and business performance within the rapidly growing electric vehicle (EV) sector. Unlike traditional studies that focus solely on product performance or market share, this research uniquely examines how key brand dimensions such as brand personality, brand competence, brand sincerity and brand equity which directly influence consumer behavior, purchasing decisions, and financial outcomes for Electric vehicles. By focusing on EV manufacturers in the world's most dynamic markets, the research provides novel insights into how emerging brands can build sustainable competitive advantages through strategic brand management. Furthermore, the study's emphasis on real-time market trends, consumer sentiments, and the competitive landscape of the Indian EV industry adds to its originality, offering fresh perspectives for both academic researchers and industry practitioners seeking to understand the evolving role of brand dimensions in the electric mobility ecosystem.

Key Words: Brand personality, Brand competence, Brand sincerity, Brand equity, Brand performance.

1. INTRODUCTION:

In the context of a rapidly evolving electric vehicle (EV) market, particularly in the two-wheeler segment, brand dimensions have a profound impact on a company's market performance and consumer adoption. The influence of brand dimensions such as brand personality, Brand competence, Brand sincerity, and brand equity on brand performance can provide insights into how effectively the company connects with its target market and differentiates itself in a



competitive environment. These dimensions collectively impact the perceived quality, customer value creation, and ultimately, the adoption and success of electric two-wheelers in the market. The following sections delve into each of these brand dimensions and their influence on electric two-wheelers. Brand personality refers to the human characteristics associated with a brand, which can significantly impact consumer perception and quality dimensions such as ease-of-use and performance (Clemenzen et al., 2012). For electric two-wheelers, a strong brand personality can enhance consumer trust and preference, making the product more appealing (Moons & Pelsmacker, 2016). Competence in a brand is perceived through its ability to deliver reliable and efficient products. This is crucial for electric two-wheelers, where technological advancements and performance are key selling points (Kulkarni et al., 2024). A competent brand is likely to be associated with high-quality and durable products, which can drive consumer adoption (Clemenzen et al., 2012). consumer perceptions and purchase intentions in Electric vehicles are shaped by brand sincerity characterized by authenticity and trustworthiness, that can enhance consumer acceptance and drive adoption rates. Brand image is an outcome of brand sincerity and is evident in the EV market, where brand image plays a crucial role in consumer decision-making processes.

Sincerity involves the brand's authenticity and transparency, which can foster consumer trust and loyalty. In the context of electric two-wheelers, sincerity can be demonstrated through genuine commitments to sustainability and eco-friendly practices. Established brands with strong equity, such as Tesla, benefit from consumer trust, leading to higher adoption rates yu, 2023. The misallocation of charging stations disproportionately affects disadvantaged communities, undermining equity goals and limiting brand reach in these markets (Carlton & sultana 2024). Brand equity refers to the value added to a product by having a well-known brand name. It influences consumer choice and willingness to pay a premium. High brand equity can enhance the perceived value of electric two-wheelers, making them more competitive in the market (Moons & Pelsmacker, 2015). The alignment of brand equity with sustainability initiatives can enhance brand loyalty and performance in the EV market (Mishra et al., 2024) Brand performance is directly linked to the functional benefits and satisfaction derived from the product. For electric two-wheelers, performance metrics such as battery life, speed, and maintenance play a critical role in consumer satisfaction and brand reputation

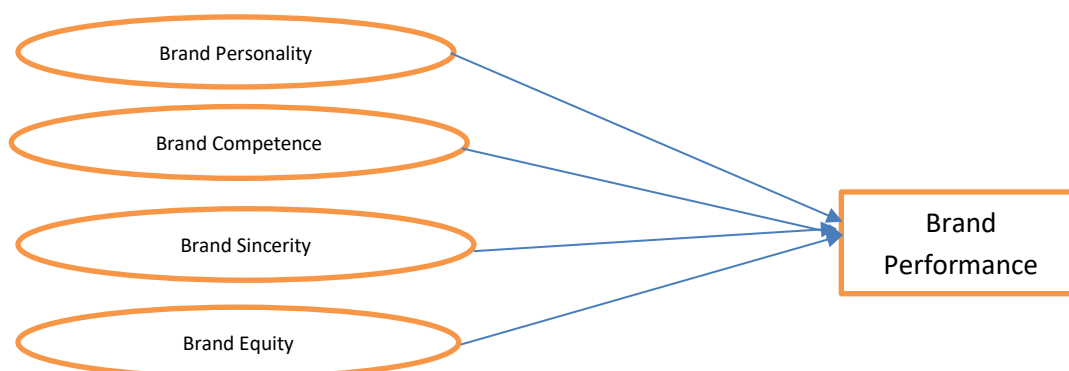
2. IMPORTANCE OF THE STUDY:

The study helps to Identify the key brand dimensions (e.g., brand equity, brand competence) that influence performance of electric vehicle (EV) brands. It explains how brand dimensions contribute to customer trust, satisfaction, and long-term engagement Ola Electric vehicles. Even describes the significance of strong brand performance in the competitive EV market. The findings can be implemented to help marketing managers enhance their branding strategies and customer outreach. The study critically reviews the effectiveness of Electrical vehicle branding strategies in fostering brand loyalty and performance. Helps to develop recommendations for improving brand equity and consumer perception of Electric two-wheelers.

3. OBJECTIVES OF THE STUDY:

- Analyze the impact of brand personality on the performance of Electric two-wheelers.
- Evaluate the role of brand competence in shaping consumer perception and market performance of the Electric two-wheelers.
- To examine the influence of brand sincerity on customer trust, satisfaction, and loyalty towards Electric two-wheelers.
- To assess the relationship between brand equity and the overall market performance of Electric two-wheelers.

4. CONCEPTUAL FRAMEWORK:





5. REVIEW OF LITERATURE & HYPOTHESIS FORMULATION:

Abdul Bashiru JIBRIL, John AMOAH (Examining the influence of brand personality dimension on consumer buying decision: evidence from Ghana) With the advent of innovative marketing, the increasing use of brand personality concepts for the promotion of a brand or product has received scholarly work across the globe. Yet little is known in the literature about the dimensions of brand personality and its applicability in the telecommunication industry. Considering the known link between brand personality and customer purchase intent, this research sought to examine the impact of the brand personality dimension on customer buying decisions in the telecoms sector. Farimah Jafarli, Firouzeh Hajialiakbari, in their paper focused on consumer evaluation of brand image, product attributes and perceived quality in two wheeler markets, but it does not specifically address the influence of brand dimensions on the performance of electric two wheelers or brand personality factors.

H₁: The Brand personality positively impacts the performance of the Electric Vehicles.

What does Tesla mean to car buyers? Exploring the role of automotive brand in perceptions of battery electric vehicles by Joe long et al., Nov 2029, in the article highlighted that brand perceptions significantly shape consumer attitudes towards battery electric vehicles (BEVs), with Tesla being associated with innovation and environmental benefits. This suggests that strong brand competence can enhance consumer interest in BEVs, as evidenced by the positive associations respondents have with Tesla, which may influence their purchasing decisions. Further studies would be needed to directly assess brand competence's impact on performance. Christian Linder and Sven Seidenstricker (2013) in their book chapter Changing Consumer Perception of Electronic Vehicles Through Branded Technical Components, it emphasized the importance of strategic brand alliances between car producers and component suppliers to improve consumer perception and adoption of e-cars. This suggests that brand competence in critical components directly influences the overall performance and market acceptance of electric vehicles.

H₂: There is a significant positive impact of Brand competence on the Performance of electric vehicles.

Supitchaya Pruksarungruang (2022) studied The electric vehicle (EV) market in Bangkok that has evolved and driven by environmental concerns, urban congestion, government incentives, charging infrastructure development, and consumer preferences, making it a promising contributor to a cleaner and sustainable urban mobility landscape. This research explores the dynamics of technological acceptance, innovation, brand image, and decision-making in the context of electric vehicle (EV) adoption. Therefore, this research can be used as a guideline for policymakers, marketers, and industry stakeholders aiming to promote sustainable and technologically advanced transportation solutions. it highlights the importance of brand image in the adoption of electric vehicles, indicating that a positive brand image significantly affects decision-making regarding EV purchases.

H₃: The Brand Sincerity positively impacts the performance of the Electric Vehicles.

Hala Alshahapy et al (Jan, 2025), The automotive industry's shift to electric vehicles (EVs) faces persistent barriers in pricing, financing, and charging infrastructure, particularly affecting low-income and disadvantaged individuals. These hurdles pose challenges to achieving US decarbonization goals and hinder the development of a sustainable and electrified transportation sector. Proposing a systemic equity framework, the authors advocated for the simultaneous and effective administration of resources, policies, and cultural considerations for systematically marginalized communities. This holistic approach aims to navigate the complexities of the EV supply chain, fostering a future marked by equitable transport electrification. The intersection of equity issues with supply chain challenges emphasizes the timeliness and importance of this academic examination. Our contribution to the ongoing discourse on achieving a sustainable and inclusive transition to EVs delves into the dynamics of these challenges, highlighting the need for comprehensive solutions

H₄: The Brand Equity with its endowed value positively impacts the performance of the Electric Vehicles.

6. SCOPE OF THE STUDY:

The study focuses on identifying the key brand dimensions like brand personality, brand equity etc., relevant to Electric two-wheelers & understanding the theoretical frameworks related to performance measurement. The study explains how each brand dimension influences consumer perception and behavior by analyzing theories of brand performance. The focus is on differentiating between various factors influencing brand performance and branding strategies in driving customer engagement. Concentration is on implementing appropriate statistical tools to measure the relationship between brand dimensions' competence and performance and Compare the effect of different brand dimensions on customer preferences and purchase decisions. The study critically reviews the customer feedback and performance data to determine brand strengths and weaknesses & develop recommendations for enhancing brand equity.

7. LIMITATIONS OF THE STUDY:

- A small number of respondents may not accurately reflect the broader customer base.



- If the sample lacks diversity in terms of age, location, income, or other factors, the results may not be generalizable.
- Customer perceptions and attitudes may be biased due to social desirability or recall bias.
- A limited time frame might not capture long-term trends or seasonal variations in brand performance.
- The electric vehicle market evolves quickly; findings might become outdated as new models and technologies emerge.

8. RESEARCH METHODS:

Research Design

This study employs a descriptive and causal research design to examine the relationship among independent factors such as brand personality, brand competence, brand sincerity and brand equity and the dependent variable of performance of electric two wheelers. Quantitative data was employed to provide a thorough grasp of the elements affecting performance of electric vehicles in the market.

Population and Sampling

Population: The target population comprises customers who are using electric two wheelers or experienced driving the electric vehicles. As the questionnaire is floated online, there is no authenticated geographical location of the consumers.

Instruments

The questions were designed from various research articles like Ajit Vinayak et al., 2024 & Jeevan Nagarkar et al., 2024 etc., and also involved self designed questions to gather the responses. A structured questionnaire with Likert scale was administered to the individuals

Sampling Technique: The respondents were chosen using convenience sampling procedure with well-educated background and are tech savvy as data was collected through online & it reflects varied demographic groupings.

Sample Size: A sample of 200 respondents were selected to guarantee the statistical validity and reliability of the results based on the article “determining sample size for research activity.” (Krejcie & Morgan, 1970).

Data Analysis Techniques

Mean and standard deviation is used for demographic variables. All the independent variables were tested for their reliability through Cronbach alpha & statistical technique of regression analysis was used for knowing the impact of independent variables on dependent variable of performance of Electric vehicles.

Data Interpretation & Discussion:

Descriptive Statics

	Mean	Std. Deviation
AGE	1.21	.463
GENDER	1.57	.497
EDUCATION	3.15	.634
OCCUPATION	1.70	.970
INCOME	1.13	.467
Brand Personality	23.5194	3.18642
Brand Competence	11.8204	1.78661
Brand Sincerity	19.5291	3.20162
Brand Equity	15.6602	2.74281
Brand Performance	24.0874	3.96843

The average age group is around category 1 (possibly younger age group), with low variation among respondents. The mean suggests a slightly higher representation of one gender (likely coded as 1 = Male, 2 = Female or vice versa). Respondents mostly fall into the 3rd level of education (e.g., Bachelor's degree), with moderate variation. The occupation category average is between 1 and 2, indicating a mix of two categories with relatively higher variation. Most participants fall into the lowest income category (coded as 1), with low variability. Respondents generally perceive the brand as having a strong and consistent personality. The brand is seen as capable and skillful, with little variability in responses. The brand is considered sincere and honest, with moderate variation. The brand holds a relatively high value in the eyes of the consumers. The brand is perceived to perform well in delivering its promises, with the highest mean and standard deviation among all brand variables.



Table-1 Reliability Analysis

Variables	Numbers of Items	Composite Reliability
Brand Personality	6	0.802
Brand Competence	3	0.764
Brand Sincerity	5	0.825
Brand Equity	4	0.832
Brand Performance	6	0.882

Interpretation of Composite Reliability Values:

Composite Reliability (CR) is a measure used to assess the internal consistency of a set of items in a latent construct. It is considered more robust than Cronbach's Alpha, especially in structural equation modeling (SEM). A CR value above 0.7 is generally considered acceptable, indicating good reliability. Brand Personality (CR = 0.802, 6 items) demonstrates strong internal consistency. The reliability value exceeds the threshold, suggesting the items used effectively measure brand personality. Brand Competence (CR = 0.764, 3 items) also shows acceptable reliability. Although the number of items is fewer, the CR value is above the acceptable limit, indicating the items are adequate in assessing brand competence. Brand Sincerity (CR = 0.825, 5 items) shows good internal consistency, implying the items are well aligned to measure sincerity in branding. Brand Equity (CR = 0.832, 4 items) exhibits strong reliability, suggesting that the items used provide a consistent measure of brand equity. Brand Performance (CR = 0.882, 6 items) variable has the highest composite reliability, indicating excellent internal consistency and suggesting that the items used are highly effective in capturing brand performance. The composite reliability values for all constructs in the study exceeded the threshold of 0.70, indicating acceptable to excellent internal consistency across all measured variables. Among the constructs, *Brand Performance* showed the highest reliability (CR = 0.882), followed closely by *Brand Equity* (CR = 0.832) and *Brand Sincerity* (CR = 0.825). These findings confirm the reliability of the measurement scales and support the validity of subsequent analysis.

Table -2 Hypothesis Testing Using Regression

Hypothesis	Variables	Beta Coefficient	R ²	P-Value	Result
H1	Brand Personality	.732a	.536	.000	Significant
H2	Brand Competence	.682a	.465	.000	Significant
H3	Brand Sincerity	.748a	.560	.000	Significant
H4	Brand Equity	.757a	.572	.000	Significant

The table presents the results of four hypotheses (H1 to H4) that examine the impact of brand-related variables on a dependent outcome Brand Performance and the interpretation is as follows:

H1: The Brand personality has significant positive impact on the performance of the Electric Vehicles.

Brand Personality Beta Coefficient = 0.732, R² = 0.536, P-Value = 0.000 can be interpreted as Brand Personality has a strong positive influence on the dependent variable, explaining 53.6% of the variance. The effect is statistically significant.

H2: There is a significant positive impact of Brand competence on the Performance of electric vehicles.

Brand Competence Beta Coefficient = 0.682, R² = 0.465, P-Value = 0.000 can be interpreted as Brand Competence also significantly impacts the outcome, accounting for 46.5% of the variance. Brand competence or warmth directly influence the brand trust, purchase intension and ability to achieve corporate goal of sustainability.

H3: The Brand Sincerity positively impacts the performance of the Electric Vehicles.

Brand Sincerity Beta Coefficient = 0.748, R² = 0.560, P-Value = 0.000 can be Interpreted that Brand Sincerity has a strong and significant influence, explaining 56% of the variance. Brand sincerity, a dimension of brand personality that reflects perceived authenticity and genuine concern for customers, can significantly influence brand performance. It fosters trust, builds stronger emotional connections, and ultimately leads to increased loyalty and advocacy, as well as positive brand attitudes and perceptions.

H4: The Brand Equity with its endowed value positively impacts the performance of the Electric Vehicles.

Brand Equity Beta Coefficient = 0.757, R² = 0.572, P-Value = 0.000 can be interpreted as Brand Equity demonstrates the strongest influence among all variables, explaining 57.2% of the variance. Strong brand equity significantly boosts brand performance by enhancing customer loyalty, increasing willingness to pay premiums, and facilitating easier



product launches and market expansions. This positive impact translates to higher sales, increased profit margins, and a stronger market position

All results are statistically significant ($p < 0.001$), indicating robust relationships between the brand constructs and the dependent variable.

9. DISCUSSION:

The findings reveal that all four brand dimensions Brand Personality, Competence, Sincerity, and Equity play a critical role in shaping outcomes like brand performance, loyalty, or consumer behavior. Among them, Brand Equity and Brand Sincerity have the highest impact, suggesting that emotional connection and perceived value are crucial in consumer decision-making. This aligns with previous literature emphasizing the role of brand trust, emotional appeal, and value proposition in consumer-brand relationships. The relatively high R^2 values across all variables demonstrate that the model is effective in explaining the outcome, indicating strong theoretical grounding.

10. FUTURE SCOPE OF STUDY:

The study concentrates only on brand dimensions impact on electric two wheeler industry giving several directions for future research of including mediating constructs like customer satisfaction, brand trust, or perceived quality mediate the relationship between the brand dimensions and brand performance. The study can be done across the industries with comparisons like FMCG vs. Tech vs. Services to examine if the impact of brand personality traits varies by industry type. The longitudinal design can be applied to track the changes in brand perception and performance over time, providing a more dynamic view of brand equity development. There is a scope to investigate whether the impact of these brand dimensions differs between digitally-native brands and traditional offline brands.

11. CONCLUSION:

The present study aimed to evaluate the influence of key brand dimensions—Brand Personality, Brand Competence, Brand Sincerity, and Brand Equity—on the performance of electric two-wheelers. The findings affirm that all four dimensions have a positive and statistically significant impact on performance metrics, as evidenced by strong beta coefficients and high levels of explained variance (R^2 ranging from 0.465 to 0.572). Among the constructs analyzed, Brand Equity and Brand Sincerity emerged as the most influential predictors of performance, highlighting the importance of both emotional engagement and perceived value in shaping consumer behavior within the electric mobility market. Additionally, the composite reliability scores for all variables exceeded the threshold of 0.7, ensuring the internal consistency and reliability of the constructs used. These results underscore the critical role that strategic brand building plays in enhancing the competitive performance of electric two-wheeler brands. As the sector continues to grow amid increasing environmental awareness and policy support, brand differentiation through personality, competence, sincerity, and equity will become even more vital in attracting and retaining customers. In conclusion, the study provides empirical support for the argument that brand strength is not merely a marketing asset but a strategic driver of business performance in the rapidly evolving electric two-wheeler industry

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