

The power of advertising in shaping test drive intentions for chinese electric vehicles: The moderating role of advertising literacy

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Abstract China, as one of the world's leading markets, has witnessed substantial growth in electric vehicle (EV) adoption, fueled by environmental benefits and strong government incentives. However, despite this growth, the transition from traditional internal combustion engine vehicles to EVs has been relatively slow, particularly among domestically produced Chinese brands. This study aims to analyze this marketing issue by investigating the impact of advertising on Chinese consumers' intentions to test drive indigenous EVs—a crucial yet often overlooked step in the consumer decision-making process. The research focuses on three key advertising elements: creativity, informativeness, and emotional appeal, and examines their influence on consumer attitudes toward test driving EVs. By employing the Theory of Reasoned Action (TRA) as the theoretical framework, the study explores how these advertising components directly shape consumer attitudes and drive their intention to test drive EVs. Furthermore, the study delves into the moderating role of advertising literacy, utilizing Inoculation Theory to understand how consumers' ability to critically evaluate advertisements influences their attitudes. The findings reveal that advertising plays a significant role in shaping consumer attitudes and behaviors. Importantly, the study also confirms that advertising literacy acts as a moderator in these effects, with more advertising-literate consumers better equipped to critically assess and respond to the persuasive elements within advertisements. The study suggests that EV companies can more effectively encourage test drives and accelerate the adoption of electric vehicles in China by enhancing the creativity and emotional appeal of their advertisements, while also taking into account the growing advertising literacy among consumers. By doing so, these companies can improve consumer engagement, leading to higher test drive rates and ultimately driving greater sales of domestically produced EVs.

Keywords: advertising literacy, advertising effectiveness, test drive intentions, electric vehicles

1. Introduction

The global automotive industry is promoting sustainability, with electric vehicles (EVs) at the forefront of this transformation. Electric vehicles (EVs) have gained increasing popularity in China because of their environmental benefits and government incentives (Lin & Wu, 2018). According to recent reports, sales of EVs exceeded half of all car sales in China during early April 2024 (Carnewschina, 2024), demonstrating a rapidly growing EV market fuelled by government incentives and increasing consumer interest. Despite this positive trend, compared with traditional vehicles, the adoption of electric vehicles (EVs) in China is still relatively low (Zhang et al., 2024). Convincing consumers to transition from traditional combustion engine vehicles to EVs, particularly those produced domestically by Chinese brands as newcomers to the automotive manufacturing industry, requires a nuanced understanding of consumer motivations and effective marketing strategies.

This study investigates the relationship between advertising and Chinese consumers' intentions to drive indigenous EVs. Previous research has explored general EV adoption factors, such as consumers' intentions toward adoption (Asadi et al., 2021) and purchase intentions (Habich-Sobiegalia et al., 2018; Huang & Ge, 2019; Lashari et al., 2021; Schmalfuß et al., 2017). This study focuses specifically on the often-overlooked stage of the test drive, which is a crucial step in influencing consumer purchase decisions. Furthermore, extant studies have examined various factors that affect consumers' purchase intentions for electric vehicles, such as environmental concerns, economic factors, and technological factors (Asadi et al., 2021; Dilotsotlhe, 2022; Tu & Yang, 2019). However, the effects of marketing strategies, such as advertising, on test drive intentions, particularly in the context of indigenous Chinese EVs, have not been thoroughly explored. By examining how different advertising effectiveness impact tests drive intentions, this research aims to provide valuable insights for both



domestic EV manufacturers and marketing professionals. The key factors to be investigated include creative advertising, informative advertising, emotional advertising, attitudes, and customers' test drive intentions.

Furthermore, over the years, constant exposure to various commercial ads has led people to develop a high level of advertising immunity. As a result, it has become increasingly important to consider the role of consumer advertising literacy when marketing strategies are implemented. While there has been extensive research on advertising literacy (Choma et al., 2007; Livingstone & Helsper, 2006; Rozendaal et al., 2011), few studies have explored how high advertising literacy influences consumer attitudes toward different types of advertising content. This study addresses this gap by introducing advertising literacy as a moderating variable in the relationship between creativity, informativeness, emotional appeal, and consumer attitudes. The goal is to identify which types of ads are more likely to be influenced by advertising literacy, ultimately leading to changes in consumer attitudes.

This study is particularly important because of the unique characteristics of the Chinese market. Nationalism plays a significant role in fostering a strong sense of national pride and superiority, which motivates Chinese consumers to support indigenous industries (Huang et al., 2023). Understanding how advertising can leverage information capacity to address concerns about EV technology and infrastructure is crucial for the success of indigenous EV brands.

This study, grounded in TRA and inoculation theory, aims to explore how advertising effectiveness, such as creativity, informativeness, and emotional appeal, influences consumers' test drive intentions of indigenous electric vehicles in China and the moderating effect of advertising literacy. The underlying relationships among these factors can provide reference ideas for the improvement and optimization of domestic automakers to improve test drive intentions and increase new car sales.

2. Grounded Theories and Research Hypotheses

2.1. Grounded Theories

This study investigates the effects of advertising creativity, informativeness, and emotional appeal on the test drive intention of Chinese indigenous EVs, with attitude as a mediator. The theory of reasoned action (TRA) provides a theoretical framework for understanding these relationships.

Developed by Fishbein and Ajzen (1975), the TRA posits that a person's behavior is determined by their intention to perform the behavior, which is influenced by their attitude toward the behavior and subjective norms. The attitude toward action represents the consumer's attitude toward a specific buying behavior or action. Subjective norms represent the expectations of others, which the consumer may comply with on the basis of perceived social pressures (Fishbein & Ajzen, 1977). In this study, understanding emotional appeal as a subjective norm involves acknowledging the impact of social and cultural influences on individual emotions and leveraging these emotional responses to shape beliefs and behaviors (Bakri, 2023).

Inoculation theory, as one of the main theoretical frameworks explaining advertising literacy education, indicates how an individual's attitudes and beliefs can be protected against persuasion and influence (McGuire, 1964). Inoculation theory, which draws on a biological metaphor, describes a strategic approach to building resistance to persuasive messages. Like a vaccine that introduces a weakened form of a virus to stimulate the immune system, this theory posits that exposing individuals to a weakened counterargument can fortify their existing attitudes toward the future, leading to more persuasive attempts (McGuire & Papageorgis, 1961, 1962). Thus, in the context of advertising, advertising literacy acts as the "vaccine"; as advertising literacy increases, individuals become better at resisting persuasive ads that do not align with their preestablished attitudes.

2.2. Research Hypotheses

2.2.1. Advertising creativity and attitudes

Creativity plays a central role in the advertising business process (Till & Baack, 2005). Advertising creativity refers to the degree to which an advertisement is original and unexpected (Haberland & Dacin, 1992). Creative messages capture more attention and foster positive attitudes of potential consumers toward the featured products (Reinartz & Saffert, 2013). Therefore, the following hypothesis is proposed:

H1: Advertising creativity is positively related to attitudes.

2.2.2. Advertising Informativeness and Attitude

Informativeness refers to the ability to provide viewers with product information, enabling them to make choices that yield the highest value (Lee & Hong, 2016). Ducoffe (1995) identified informativeness as a crucial factor in consumer evaluations of advertisements. It shapes attitudes toward and beliefs about the advertiser, the advertised product type, or specific execution elements. Further research indicates that when consumers are provided with useful information, they tend

to develop positive attitudes toward informative advertisements (De Vries et al., 2012). Hence, the following hypothesis is proposed:

H2: Advertising informativeness is positively related to attitudes.

2.2.3. Advertising Emotional Appeals and Attitudes

Emotional appeal is a persuasive advertising method that aims to evoke an emotional response through content such as a horror movie, a poignant story, or uplifting music (Lee & Hong, 2016). Geuens et al. (2011) reported that emotional advertising leads to a more favorable attitude toward hedonic products than toward utilitarian products. Most advertisements feature relevant emotions, and emotional ads significantly affect attitudes. Previous discussions have shown that emotion-evoking advertising influences attitudes toward a brand by transferring the emotional impact from the advertisement to the brand (Holbrook & O'Shaughnessy, 1984; Machleit & Wilson, 1988; Mitchell, 1986). Hence, the following hypothesis is proposed:

H3: Advertising emotional appeal is positively related to attitude.

2.2.4. Advertising Emotional Appeals and Testing Drive Intentions

Morris et al. (2005) reported that emotional response is a strong driver of intention and highlighted the effect of emotion on persuasion. Furthermore, advertising can create a strong emotional connection between the consumer and the brand; brands serve as rich sources of sensory, emotional, and cognitive associations; and memorable and meaningful brand experiences directly lead to an increase in test drive intention (Jiang et al., 2023). Hence, the following hypothesis is proposed:

H4: Advertising emotional appeal is positively related to test drive intention.

2.2.5. Attitude and Test Drive Intention

Attitude refers to a consumer's overall evaluation of a product or brand (Fishbein & Ajzen, 1977). MacKenzie et al. (1986) demonstrated that positive attitudes formed through advertising significantly impact behavioral intentions, including the intention to test driving a car. A positive attitude often results from effective marketing strategies that highlight a car's features, benefits, and overall brand image. Hence, the following hypothesis is proposed:

H5: Attitude is positively related to Test Drive Intention.

2.2.6. Moderating Effect of Advertising Literacy

Livingstone & Helsper (2006) described advertising literacy as the ability to analyze, evaluate, and craft persuasive messages. Rozendaal et al. (2011) expanded on this definition, considering that advertising literacy includes not only the ability to identify and understand advertising information but also the ability to use this understanding to critically evaluate messages and maintain a critical attitude toward advertising. Their research suggests that higher advertising literacy can lead to more critical evaluations of ads and potentially less favorable attitudes toward ads perceived as overly persuasive or manipulative. Inoculation theory supports this notion by suggesting that exposing individuals to weakened counterarguments can fortify their existing attitudes against stronger persuasive attempts (McGuire, 1964; McGuire & Papageorgis, 1961, 1962). Therefore, as advertising literacy increases, individuals become better at resisting ads, questioning their validity, and recognizing potential purposes.

This study considers that when consumers possess high advertising literacy, they are more skilled at recognizing and appreciating the complex content in advertisements, such as the innovative features, environmental benefits, nationalism, and technological advancements presented in advertisements for Chinese EVs. They can discern the persuasive intent behind the ad and evaluate its creativity, informativeness, and emotion-evoking elements more critically (Friestad & Wright, 1994). Hence, advertisements that effectively communicate the unique selling propositions of local electric vehicles can be better appreciated by them. This appreciation can enhance the positive effect of advertising on their attitudes toward the ad and the brand (MacKenzie et al., 1986b), aligning with the principles of inoculation theory, which helps in building resistance to misleading persuasive attempts while fostering genuine interest and favorable responses (Figure 1).

H6: Advertising literacy is a positive moderator in the relationship between advertising effectiveness and attitude.

H6a: Advertising literacy is a positive moderator in the relationship between advertising creativity and attitude.

H6b: Advertising literacy is a positive moderator in the relationship between advertising informativeness and attitude.

H6c: Advertising literacy is a positive moderator in the relationship between advertising emotion appeal and attitudes.

3. Methodology

3.1. Research methods

The present study adopts a quantitative approach to achieve the research aim by using Smart PIs 4.1.0.3. To ensure the validity of this study, the items used to measure the constructs were adapted from previous studies and tailored to the context of this research. The items for creativity were adapted from Lee & Hong (Reinartz & Saffert, 2013). The scale of informativeness was adapted from Kujur & Singh (2020). To measure emotional appeal, the items from Lee & Hong (2016) and Chen et al. (2020) were referenced. Kaakeh et al. (2019) provided items concerning attitudes for this study. The items for Test Drive Intention were adapted from Jiang et al. (2023). Finally, according to Rozendaal et al. (2011), the assessment of advertising literacy was divided into the dimensions of conceptual advertising literacy and advertising literacy performance, where conceptual advertising literacy refers to the recognition of advertising and advertising sources, selling intent, intended customers and persuasive intent; advertising literacy performance relates to persuasive tactics, the retrieval of advertising literacy and the application of advertising literacy.

The original items were in English and translated into Chinese via a back-translation method. The Chinese version was reviewed by three professors, and the questionnaire was modified on the basis of their feedback. All the items were measured via five-point Likert scales ranging from "strongly disagree" to "strongly agree."

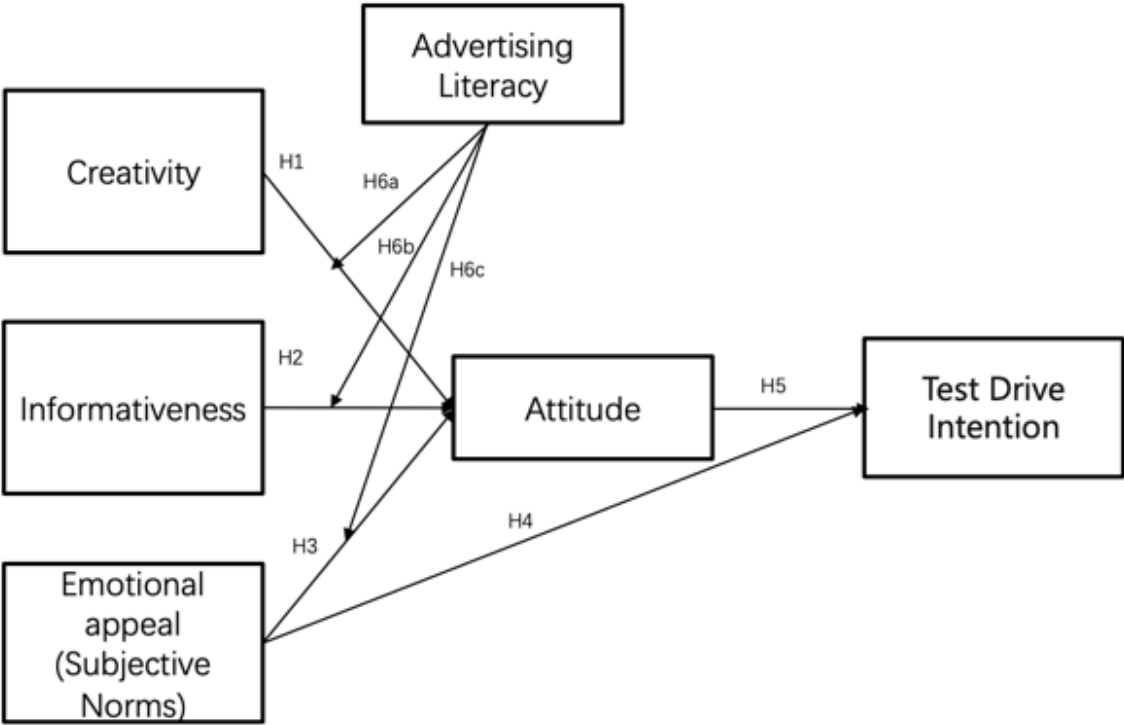


Figure 1 Conceptual Model.

3.2. Data collection

The survey for this study was conducted from January 2024 to April 2024 in Guangzhou, China. The research targeted indigenous brands, including NIO, Xiaopeng Motors, BYD, GAC MOTOR, and Xiaomi. Potential consumers who visited one of the 4S stores of these automobile brands were invited to participate in the survey. The respondents who had viewed any form of advertising for these brands were given a QR code to access the questionnaire.

The minimum sample size was determined via G*Power software (Faul et al., 2009). The effect size was set to 0.5 with a required power of 0.95 and an alpha level of 0.05; thus, the calculation results showed that 42 questionnaires should be included. Ultimately, 283 participants were included in this study.

4. Results

4.1. Profile of Respondents

As illustrated in Table 1, the main findings indicate that within Generation Y, male respondents (67.13%) outnumbered female respondents (32.86%). In terms of education, the majority held a college degree (60.42%), followed by those with a bachelor's degree (31.09%). With respect to occupation, the largest group was staff members, accounting for 72.79% of the respondents. The predominant monthly income range for Generation Y was 5001--15000 RMB, encompassing 87.98% of the sample.



Table 1 Demographic profile (N = 283).

	Categories	Percentage	Frequency
Gender	Male	67.13	190
	Female	32.86	93
Educational level	College	60.42	171
	Bachelor	31.09	88
	Master	6.360	18
	Ph.D	21.20	6
	Staffs	72.79	206
	CivilServants/Teachers/Doctors	5.300	15
Income (Monthly)	Self-owned business	13.07	37
	Others	8.833	25
	0-5000	5.300	15
	5001-15000	87.98	249
	15001-25000	3.886	11
	25000+	2.2826	8

4.2. Common Method Variance

Common method variance (CMV) can arise when data are collected via self-report questionnaires from a single source simultaneously (Chang et al., 2020; Tehseen et al., 2017). To address this in the context of predicting customers' test drive intention of indigenous electric vehicles in China, a full collinearity test was conducted. A dummy variable with random numbers was created and regressed on all the variables, including advertising creativity, informativeness, emotional appeal, attitude, and test drive intention. According to (Kock, 2015), if all variance inflation factors (VIFs) are 3.3 or less, CMV is not a concern. In this study, all the VIFs were less than 3.3, indicating that there was no CMV issue.

4.3. Measurement Model Assessment

The measurement model was evaluated for reliability and validity. The reliability of the constructs was determined via Cronbach's α , outer factor loadings, average variance extracted (AVE), and composite reliability (CR). As illustrated in Table 2, the Cronbach's alpha values for the constructs ranged from 0.820--0.900, the CR coefficients were all above 0.824, and the AVEs ranged from 0.625--0.740. These values exceed the 0.70 threshold, and the AVE values should surpass 0.5 (Fornell & Larcker, 1981; Hair et al., 2019), indicating that the constructs used in this study exhibit acceptable reliability.

Next, discriminant validity was assessed. According to Henseler et al. (2015), acceptable heterotrait-monotrait (HTMT) values should be less than 0.85 or 0.9; in this study, we applied the more rigorous threshold of 0.85. As indicated in Table 3, the HTMT values were less than 0.85, demonstrating that discriminant validity was acceptable across the data for this study.

4.4. Structural Model Assessment

Collinearity was assessed via variance inflation factor (VIF) values prior to testing the hypotheses. Ideally, the VIF values should be close to 3 or lower (Hair et al., 2019). As shown in Table 2, the VIF values for all the constructs were under 3, indicating that collinearity was not a concern in this study.

As shown in Table 4, the proposed model presents the results of the structural model analysis, including significant standardized path coefficients. All structural paths yielded significant results.

The results revealed that types of advertising, such as creativity, informativeness and emotional appeal, have a positive influence on the test drive intention through consumers' attitudes, whereas emotional appeal has a direct effect on the dependent variable. Specifically, creative informativeness and emotional appeal had positive effects on attitudes ($\beta = 0.364$, $p < 0.05$, $t = 8.02$; $\beta = 0.293$, $p < 0.05$, $t = 6.609$; $\beta = 0.264$, $p < 0.05$, $t = 5.501$). Thus, H1, H2 and H3 were supported. These results underscore the significant role of creativity, informativeness, and emotional appeal in shaping consumers' attitudes toward test-driven intentions. Furthermore, emotional appeal and attitude were significantly related to intention to test drive ($\beta = 0.285$, $p < 0.05$, $t = 4.925$; $\beta = 0.518$, $p < 0.05$, $t = 10.06$), supporting H4 and H5. This implies that consumers' intention to test drive is influenced by the emotional appeal expressed in advertising and their resultant attitudes. R^2 revealed that 60.3% of the variance in attitudes toward test-driven intentions was explained by a combination of creativity, informativeness and emotional appeal. Additionally, emotional appeal and attitude together explain 49.9% of the variance in test drive intention. The effect size f^2 of attitude to test drive intention is large, at 0.4, followed by medium effects of both creativity and informativeness on attitude, at 0.239 and 0.166, respectively. The effects of emotional appeal on both attitudes and test-driven intentions were small, below 0.15, on the basis of Cohen's thumb (1988). All the Q^2 values were above zero, indicating a high predictive ability (Geisser, 1974).

Table 2 Construct reliability and validity.

Constructs (Cronbach's α)	Measurement Items	Loadings	AVE	CR	VIF
Creativity (0.874)	The EVs' ad is unique.(CRE1)	0.819	0.727	0.877	1.861
	The EVs' ad is truly out of ordinary. (CRE2)	0.865			2.477
	The EVs' ad is intriguing. (CRE3)	0.896			2.875
	The EVs' ad is surprising. (CRE4)	0.828			1.989
Informativeness (0.831)	The EVs' ad is valuable.(INF1)	0.837	0.664	0.834	1.900
	I would learn a lot from EVs' ads. (INF2).	0.841			2.015
	The EVs' ad provides relevant product information and price news. (INF3)	0.785			1.673
	The EVs' advertisement helps me stay informed about the products available in the marketplace. (INF4)	0.794			1.631
Emotional Appeal (0.829)	After watching the ad, I have intense feelings. (EA1)	0.775	0.660	0.835	1.658
	I am emotionally attracted by the content of the EVs' ad. (EA2)	0.821			1.817
	The content of EVs' ad provides emotional peak s to me. (EA3)	0.827			1.806
	The content of EVs' ad made me feel emotionally involved. (EA3)	0.826			1.772
Attitude (0.824)	I feel that choosing EVs is a wise idea. (ATT1)	0.855	0.740	0.826	2.109
	I feel that choosing EVs is a good idea(ATT2)	0.866			1.632
	I like to choose EVs. (ATT3)	0.852			2.045
	There is a high likelihood that I will test drive an EV. (TDI1)	0.913			1.867
Test Drive Intention (0.820)	If I have the time, I would test drive an EV. (TDI2)	0.869	0.735	0.824	1.791
	I have the intention to drive an EV in the near future. (TDI3)	0.813			1.848
	I can distinguish advertising from other media content. (AL1)	0.833			2.192
	I can understand that the advertising tries to promote product sells. (AL2)	0.797			2.060
Advertising Literacy (0.900)	I can understand who funds advertising messages. (AL3)	0.776	0.625	0.910	1.919
	I can grasp the concepts of audience targeting and segmentation. (AL4)	0.791			2.063
	I can understand that advertising aims to influence consumers' behavior by altering their mental states, such as attitudes and perceptions about goods. (AL5)	0.804			2.161
	I can recall relevant advertising-related knowledge while processing an advertising message. (AL6)	0.762			1.864
	I can apply recalled advertising-related knowledge to an advertising message, including constructing defensive responses while processing the message. (AL7)	0.769			2.005

Table 3 Discriminant Validity (HTMT Ratios).

	AL	ATT	CRE	EA	INF	TDI	AL x CRE	AL x INF	AL x EA
AL									
ATT	0.348								
CRE	0.265	0.646							
EA	0.281	0.604	0.550						
INF	0.251	0.614	0.451	0.499					
TDI	0.427	0.802	0.558	0.655	0.547				
AL x CRE	0.139	0.138	0.175	0.245	0.181	0.059			
AL x INF	0.162	0.182	0.177	0.155	0.125	0.088	0.363		
AL x EA	0.165	0.136	0.233	0.218	0.152	0.032	0.570	0.431	

Table 4 Hypothesis testing.

	Relations	β	t Value	f^2	$R^2 (Q^2)$	Result
H1	CRE -> ATT	0.364 (0.000)	8.02	0.239	0.603 (0.564)	Supported
H2	INF -> ATT	0.293 (0.000)	6.609	0.166		Supported
H3	EA -> ATT	0.264 (0.000)	5.501	0.121		Supported
H4	EA -> TDI	0.285 (0.000)	4.925	0.121	0.499 (0.459)	Supported
H5	ATT -> TDI	0.518 (0.000)	10.06	0.4		Supported

4.5. Moderated Mediation Analysis

Table 5 illustrates the significant moderating impact of advertising literacy on the relationships among creativity, informativeness, emotional appeal, and test drive intention through attitude. The results indicate that advertising literacy positively moderates these relationships. Specifically, the interaction effect between creativity and attitude is strengthened with higher advertising literacy ($\beta = 0.102$, $t = 2.85$, $p = 0.004$). Similarly, the relationships between informativeness and attitude ($\beta = 0.135$, $t = 4.065$, $p = 0.000$) and between emotional appeal and attitude ($\beta = 0.093$, $t = 2.622$, $p = 0.009$) are both significantly moderated by advertising literacy. These findings support hypotheses H6, H7, and H8, implying that increased advertising literacy enhances the effects of creativity, informativeness, and emotional appeal on test drive intention through attitude.

Table 5 Moderated Mediation Analysis.

	Relations	β (p value)	T Value	Result
H6a	AL x CRE -> ATT -> TDI	0.102(0.004)	2.85	Supported
H6b	AL x INF -> ATT -> TDI	0.135(0.000)	4.065	Supported
H6c	AL x EA -> ATT -> TDI	0.093(0.009)	2.622	Supported
	CRE -> ATT -> TDI	0.241(0.000)	7.162	
	EA -> ATT -> TDI	0.174(0.000)	5.007	
	INF -> ATT -> TDI	0.194(0.000)	6.226	

5. Discussion

This study aimed to understand how creativity, informativeness, and emotional appeal in advertisements influence consumer intentions through the mediating role of attitude, with advertising literacy acting as a moderator. The integration of the theory of reasoned action and inoculation theory was considered in the present study to propose a more detailed framework. The findings of this study provide significant insights into the dynamics of advertising effectiveness and consumer behavior in the context of the domestic electric vehicle (EV) market in China.

First, the results revealed that creativity ($\beta = 0.364$, $p < 0.05$, $t = 8.02$), informativeness ($\beta = 0.293$, $p < 0.05$, $t = 6.609$), and emotional appeal ($\beta = 0.264$, $p < 0.05$, $t = 5.501$) in advertisements positively influence consumers' attitudes toward tests driving electric vehicles. These findings align with previous research by Kujur & Singh (2020) and Lee & Hong (2016), who highlighted the significant role of advertising elements in shaping consumer attitudes. According to Ang et al. (2007), novel and creative advertisements enhance ad recall, which is crucial for building positive consumer attitudes. Smith et al. (2007) further emphasized that creativity in advertising increases the perceived value and appeal of a product, leading to more favorable consumer attitudes. With respect to informativeness in ads, MacKenzie & Lutz (1989) demonstrated that providing detailed and relevant information helps consumers make informed decisions, reduces uncertainty, and increases confidence in the product. Similarly, Ducoffe (1995) reported that informativeness in advertising enhances consumers' perceptions of the ad's value, thereby positively influencing their attitudes. Furthermore, emotional appeals resonate deeply with consumers, creating strong associations with positive feelings such as excitement, which enhance the overall perception of the product (Holbrook & O'Shaughnessy, 1984). In the present study, creativity is considered the most effective advertising strategy in the context of electric vehicles.

Second, the results showed that emotional appeal has both direct and indirect positive effects on test-driven intentions, which implies that crafting emotionally resonant advertisements can be an effective strategy not only to improve how consumers feel about the product but also to directly encourage them to take action (Holbrook & O'Shaughnessy, 1984). These findings align with previous research, which underscores the persuasive power of emotional appeals in advertising (Chen & Tsai, 2007; Hamelin et al., 2017). Furthermore, attitude positively relates to test drive intention ($\beta = 0.518$, $p < 0.05$, $t = 10.6$), which implies that favorable evaluation of products can lead to behavioral intention. As mentioned above, emotional appeal, as a type of subjective norm (Bakri, 2023), cooperates with attitude to affect test drive intention. Therefore, the TRA, as a grounded theory, provides a theoretical framework for predicting the relationships of the current work.

The most significant contribution is that advertising literacy acts as a moderator among the relationships of creative ($\beta = 0.102$, $p < 0.05$, $t = 2.85$), informative ($\beta = 0.135$, $p < 0.05$, $t = 4.065$), emotional appeal ($\beta = 0.093$, $p < 0.05$, $t = 2.622$), and attitude, influencing how consumers perceive advertising messages, especially informative advertising, which implies that overall advertising literacy affects how consumers form their attitudes toward ads. According to Rozendaal et al. (2011), advertising literacy involves not only the ability to identify and understand advertising information but also the capacity to critically evaluate these messages and maintain a discerning attitude toward them. Those with higher advertising literacy are likely to have a more critical and discerning attitude, recognizing both the persuasive intent and the potential biases in advertising messages (Obermiller & Spangenberg, 1998). Consumers with higher advertising literacy are more adept at understanding and analyzing advertising content. They can distinguish between different types of appeals and are more critical of the information presented, especially in ads that rely on factual or informative content (Wright, 1973). This critical evaluation may lead them to form more informed and potentially skeptical attitudes toward the ads they encounter (Rozendaal et al.,

2011). This aligns with McGuire's (1964) inoculation theory, which suggests that exposure to certain advertising techniques and an understanding of their persuasive intent help consumers build resistance to being easily influenced, thereby shaping their attitudes more critically. In today's dynamic commercial environment, where marketing strategies are constantly evolving, consumers have developed sophisticated tastes through exposure to various ads. Consequently, high-quality advertisements are more likely to be appreciated, leading to more favorable evaluations, as supported by the findings of Wedel & Pieters (2017).

6. Conclusions

6.1. Theoretical Implications

This study aims to explore the interactive relationships among advertising effectiveness, test drive intention, and advertising literacy, making significant contributions to research in the electric vehicle (EV) industry. By conducting the theory of reasoned action (TRA), this study provides insights into how creativity, informativeness, and emotional appeal in ads shape consumer attitudes and tests drive intentions for EVs in China, thereby extending the applicability of the TRA in this rapidly developing market.

Moreover, the study applies inoculation theory to examine the moderating role of advertising literacy, demonstrating that exposure to weaker forms of persuasive arguments builds resistance in consumers, making them less susceptible to poor persuasive attempts.

By combining TRA and inoculation theory, this study offers a nuanced understanding of how advertisements influence consumer behavior and how advertising literacy amplifies this effect, thereby providing a robust framework for optimizing advertising strategies in the EV market.

6.2. Practical Implications

The study advises EV marketers in China to focus on creativity, informativeness, and emotional appeal in their ads. Effective campaigns should capture attention and provide relevant, engaging content to shape consumer attitudes and encourage test drives. The study highlights that emotional appeal significantly influences test drive intentions. Marketers should use emotional storytelling and imagery to connect deeply with consumers, encouraging actions such as scheduling test drives. This finding supports existing research on the effectiveness of emotional appeal in advertising. (Chen & Tsai, 2007; Hamelin et al., 2017). Additionally, the study highlights the importance of advertising literacy in enhancing ad effectiveness, suggesting that well-crafted advertisements can improve consumers' positive evaluations of a brand. These findings offer actionable insights for EV manufacturers and dealers in China, helping them design more effective marketing strategies that resonate with their target audience, ultimately leading to increased engagement, higher test drive rates, and greater sales of domestic electric vehicles.

6.3. Limitations and Future Research

Although they provide valuable insights into this specific market, the findings may not be generalizable to other cultural or geographical contexts. Future research should consider cross-cultural studies to validate these findings in different markets.

Second, although advertising literacy is included as a moderator, its measurement was based on self-reported data, which can be prone to bias. Future studies might incorporate more objective measures or experimental designs to assess advertising literacy more accurately.

The study primarily assesses immediate intentions to test drive EVs. It does not account for long-term behavior or actual purchase decisions. Longitudinal studies could provide deeper insights into how advertising influences long-term consumer behavior and actual purchasing patterns.

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Ethical considerations

The respondents who had viewed any form of advertising for these brands were given a QR code to access the questionnaire.

Conflict of interest

The authors declare that they have no conflicts of interest.

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