

RESEARCH ARTICLE

Impact of online advertising on consumer buying behavior in Saudi Arabia: The moderating role of brand image

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Abstract: Online advertising plays a crucial role in shaping consumer buying behavior by influencing awareness, preferences, and purchase decisions. Building on the theory of planned behavior (TPB), this research examined the direct influence of online advertising dimensions of informativeness, credibility, creativity, entertainment, interaction, and integration on consumer buying behavior in Saudi Arabia, emphasizing the moderating impact of brand image. Using a quantitative research method, convenience sampling technique, and a survey questionnaire, 200 valid samples were collected and analyzed to fulfill the research objectives. The structural equation modeling findings showed that informativeness, credibility, creativity, and interaction had a significant influence on consumers buying behavior, while entertainment and integration had no significant impact. The moderating analysis indicated that brand image only strengthens the impact of informativeness, credibility, and interaction on consumer buying behavior. The findings of this research validate the importance of online advertising in influencing consumers' buying behaviors and urge online stores or e-commerce platforms to consider the informativeness, credibility, and interaction dimensions of their online advertising.

Keywords: online advertising, consumer buying behavior, brand image

1 Introduction

The development of e-commerce has caused a paradigm change in shopping from offline to online [1]. As a result, more people are becoming interested in making purchases online. Approximately 64% of the world's population utilizes the internet, and the number of people purchasing online is rising [2]. Online advertising often incorporates social proof elements, such as customer reviews, ratings, and endorsements [3]. Positive feedback and recommendations from others can significantly impact customers' trust and confidence in a product or service, leading to increased purchasing behavior. Online advertising enables customers to make purchases conveniently anywhere and anytime. Customers can explore products, compare prices, read reviews, and purchase online with just a few clicks. This accessibility and convenience play a significant role in influencing customers' purchasing behavior. When a consumer goes through Google or any other search engine, the different organizations advertise similar products simultaneously. Online advertising has a significant relationship with consumer buying behavior as it is very effective in changing the consumer's perception [4].

In the contemporary market, a consumer's perception, experience, feeling, or level of pleasure with a brand-equity product, along with their tastes and preferences, all play a significant role in determining their trends [5]. Dehghani and Tumer (2015) [6] explored the influence of Facebook advertising on consumer purchase intentions. They found that interactive and engaging advertising significantly increased consumers' buying intentions. Their study highlighted that consumers' familiarity with the brand, visual appeal, and interactive elements of Facebook ads positively influenced purchase behavior, suggesting that social media ads can effectively drive purchase intent when encouraging user interaction.

According to Hui and Salman (2023) [7], a customer's inclination to purchase is influenced by how they view a brand. Customers are more likely to interact and make purchases from a brand when they form a favorable association with it. Customers are likelier to stick with a brand after a good experience. Organizations that want to establish a strong brand image should create a favorable impression of their business through marketing initiatives, public relations,

and advertising [8]. As is evident, a brand represents more than just a company's or product name; it also connotes a culture, values, vision, mission, and personality. Another element influencing the company's brand equity is its image [9].

The current study contributes to extant online marketing and consumer behavior literature by examining the impact of online advertising on consumer buying behavior in Saudi Arabia, focusing on how brand image moderates this relationship. This study contributes to the literature by extending the Theory of Planned Behavior (TPB) through the integration of brand image as a moderating variable, offering a deeper understanding of how brand perceptions influence the impact of online advertising on consumer behavior. It enriches the cross-cultural applicability of TPB by focusing on Saudi Arabia, a context with unique cultural, social, and digital advertising dynamics, thereby addressing a gap in non-Western consumer behavior research. The study provides practical insights for marketers by highlighting strategies to optimize online advertising campaigns, emphasizing the importance of building a strong brand image to amplify advertising effectiveness. Additionally, it offers valuable guidance for businesses in emerging markets and informs policymakers on fostering ethical and effective online advertising practices. By exploring the interplay between online advertising, brand image, and consumer behavior, the study delivers theoretical, practical, contextual, and managerial contributions to the field.

2 Theoretical framework: Theory of planned behavior

This research employs the theory of planned behavior (TPB) to explain the impact of online advertising on consumers' buying behavior in Saudi Arabia, emphasizing the potential role of brand image. According to Kamal et al. (2021) [10], online advertising that resonates with personal values or preferences is particularly effective at increasing positive consumer attitudes, making them more likely to develop an intent to buy. Social media ads and influencer endorsements also serve as subjective norms, influencing consumers by aligning products with perceived social acceptance and popularity [11]. Additionally, perceived behavioral control, or consumers' confidence in their ability to complete online purchases, is heightened through ease-of-access features in online ads, such as simple checkout processes and mobile-friendly interfaces. As George (2004) [12] explains, consumers who feel empowered by the convenience and accessibility of online shopping are more likely to act on purchase intentions. Thus, online advertising effectively aligns with TPB principles to drive consumer buying behavior by addressing attitudes, subjective norms, and perceived control. Consumer purchasing behavior is a collection of mental, emotional, and physical processes people use to choose, acquire, use, and discard goods and experiences to satisfy their needs and desires [13]. For effective advertising, customer behavior needs to be investigated to comprehend why customers behave a certain way in different circumstances [14]. Digital advertising is the most effective technique to reach final consumers since consumers use digital tools and networks more than before [15]. Idow (2023) shows that while commercials greatly influence how consumers behave, such influence is not absolute. Even though ads can influence attitudes, raise awareness, use persuasion, and instill a feeling of urgency, they are not always able to accomplish their intended goals due to several obstacles and constraints [16].

This research argues that TPB provides a robust framework for understanding the impact of online advertising on consumer buying behavior in Saudi Arabia, with brand image as a moderating factor. TPB posits that behavior is influenced by three components: attitude toward the behavior, subjective norms, and perceived behavioral control (PBC), all of which shape behavioral intention and actual behavior. Online advertising can enhance positive attitudes by delivering engaging and informative content, align with subjective norms by leveraging social proof and cultural influences, and improve PBC by addressing barriers such as trust and accessibility. In this context, brand image plays a critical moderating role, amplifying or dampening the influence of these components. A strong brand image can strengthen the effects of attitudes, norms, and PBC on buying intentions, leading to higher purchase likelihood. Integrating TPB into your study offers a culturally relevant framework for analyzing the interplay between online advertising, consumer behavior, and brand image in Saudi Arabia.

3 Hypothesis development

This study predicts that the five dimensions of online advertising: informativeness, credibility, creativity, entertainment, interaction, and integration influence the Saudi consumers' buying behavior. Additionally, this research hypothesizes that positive brand image might strengthen the positive influence of online advertising on consumers' buying behaviors in the Saudi context. In

a rapidly transforming digital market, Saudi consumers may respond uniquely to online ads, and this study sheds light on how a strong brand image could enhance ad effectiveness in this region. This insight provides value for marketers seeking to tailor online advertising strategies to Saudi consumers and researchers looking to expand the TPB in diverse cultural contexts, ultimately supporting more effective, culturally relevant digital marketing strategies. Figure 3.1 visualizes the conceptual framework and hypothetical relationships.

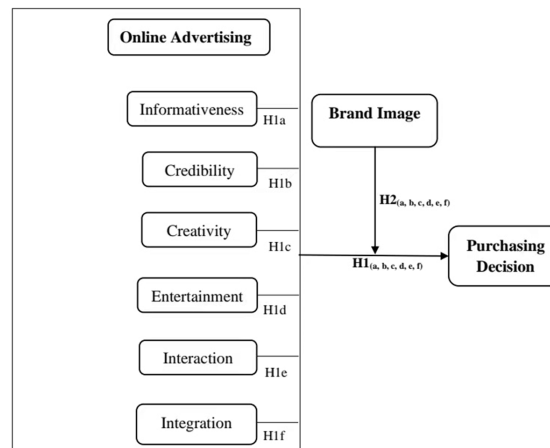


Figure 1 Proposed conceptual framework

3.1 Online advertising dimensions and consumer buying behavior

The ability of online vendors to generate and present creative and beneficial information to customers understandably is referred to as informativeness [17]. In online purchasing behavior, advertisement informativeness relates to how much information about goods and services is timely, relevant, correct, and valuable. It is centered on the educational and informative value of Internet ads for customers when they are making purchases. In their study on the effect of advertising value on user attitudes in Chinese online shopping, Zha et al. (2015) [18] identified informativeness and amusement as the characteristics of advertising value. Hidayat (2022) [19] shows that when consumers are presented with easy-to-access, helpful information about products and services through advertising, they are more inclined to conduct more research and make purchases immediately. Öztürk et al. (2021) [20] put forth a pretty instructive statement regarding product offerings and encouraged customers to purchase the products immediately. According to Malafe et al. (2023) [21], inadequate information could disrupt customers' online buying patterns and prevent them from purchasing impulsively. Consequently, we put up the following hypothesis:

H1a: Informativeness has a positive influence on purchasing decisions among online buyers in Saudi Arabia.

Credibility refers to the audience's sense of dependability, integrity, confidence, and trust in advertising. Internet ads' general reliability and influence on customer behavior are called advertisement credibility. It considers how convincing the advertisements are at persuading people to buy things, how credible they are, how effective they are at influencing decisions, and how credible they are at causing impulsive purchases. Prior research [16] has demonstrated that trustworthiness can influence consumers' subsequent actions, which may include obtaining more information and ultimately deciding to purchase [22]. According to Qiu et al. (2021) [23], there is little doubt that the message's believability has the greatest impact on consumers' purchasing decisions.

H1b: Credibility has a positive impact on purchasing decisions among online buyers in Saudi Arabia.

The originality and inventiveness of advertising content that makes it visually appealing, captivating, uncommon, and unexpected is advertising creativity in online buying. Innovative concepts and narrative strategies are used in creative ads to make them stand out and sway impulsive purchases. In addition to meeting consumer demands, well-crafted creative ads provide pertinent information and focused solutions that encourage impulsive purchasing. Numerous more studies [24, 25] have demonstrated that inventive advertising may grab and hold customers' attention, resulting in immediate purchases. Creative advertising with enticing promotional offers pushes internet shoppers to purchase things so they may start enjoying them

right away [26]. Consequently, we put up the following hypothesis:

H1c: Creativity has a positive impact on purchasing decisions among online buyers in Saudi Arabia.

Since online shopping has become a form of entertainment, shopping is a latent kind of entertainment mirrored by the hedonic tendency, shown by heightened stimulation and association [21]. The goal of entertainment through advertising is to maintain viewer interest and elicit positive consumer feelings toward specific goods and services [27]. Zhang et al. (2023) [28] further note that hedonistic internet shoppers seek distinctive experiences that heighten their enjoyment of online buying. As a result, we put up a hypothesis that goes as follows:

H1d: Entertainment has a positive effect on purchasing decisions among online buyers in Saudi Arabia.

The user's involvement in prompt conversation with mediated others is known as interactivity. In the context of online purchasing behavior, "advertising interaction" refers to consumers' individualized relationship and interaction with adverts. Customers see advertising as a way to enhance their quality of life, and interactive ads present creative fixes that can raise their living standards. Online communities' participatory environment affects social consciousness and pushes customers to make impulsive, unplanned purchases [29]. As a result, more engagement with online merchants can lead to a happier experience. People are more likely to make impulsive purchases if the online seller brand is highly engaging, according to Gligor and Bozkurt (2021) [30]. Consequently, we put up the following hypothesis:

H1e: interaction has a positive influence on purchasing decisions among online buyers in Saudi Arabia.

In the context of advertising, social integration is the process of incorporating marketing messages into social media platforms and utilizing user-generated content, social media influencers, and other strategies to expand the visibility and impact of those messages. The benefit of this integration is that it may reach a broad and interested audience in a trustworthy and tailored way, increasing brand knowledge and loyalty and eventually driving sales. According to earlier studies, social integration favors advertisement environments [31]. Social integration positively impacts advertising, which influences customers' impulsive purchasing behavior [32]. Thus, given that people view advertising messages as genuine, the following hypothesis is put forth:

H1f: Integration has a positive impact on purchasing decisions among online buyers in Saudi Arabia.

3.2 Moderating role of brand image

The characteristics of a brand that determine its placement in the market and have the potential to influence its performance are its strength, distinctiveness, and quality [33]. The brand image holds that various elements, such as product packaging, product experience, brand awareness, consumer confidence, etc., substantially impact purchasing behavior. A strong and positive brand image acts as a catalyst, reinforcing the credibility of the advertised content and fostering a sense of trust. In such cases, online advertising serves to create awareness and leverage the existing positive associations with the brand, influencing purchasing behavior in a more direct and impactful manner. Conversely, a negative or inconsistent brand image can be a moderator in the opposite direction.

Nonetheless, if the customer feels that the brand image is consistent with their self-idea, they will have a more positive perception of the brand in whatever context [7]. Businesses can assess how brand image affects customer satisfaction by comparing the views of current and prospective customers. Customer satisfaction highly depends on brand image in the grocery shop, bank, landline, mobile, and electronic banking industries. The study confirmed the dominating value of the brand image in predicting consumer contentment in the hotel business. The four components of store image were classified as shop infrastructure, convenience, store service, and sales activities [34].

According to a brand image study, customers think highly of how a business displays itself to the public. Grocery stores must have a good reputation to draw in and keep consumers. E-commerce companies' surveys have verified that customer loyalty to a brand, even when shopping online, is correlated with how consumers perceive that brand [5]. A product's image among consumers is influenced by its advertising. Because advertising presents a positive or negative impression of a product and is the most effective marketing technique, it significantly impacts customer purchases [35]. Online advertising efforts that consistently align with and

reinforce the established brand image help create a sense of stability and reliability for consumers. This stability can moderate the impact of external factors on purchasing behavior, as consumers may be more likely to rely on their perceptions of the brand, shaped by a consistent brand image when making purchase decisions.

According to Guliyef (2023) [36], brand image greatly influences customers' purchasing decisions and behaviors. Azerbaijani consumers, particularly the younger generation, strongly prefer branded products due to their awareness of their social position, which also greatly influences their brand perception and shopping habits. The perception that a certain group has of a product, brand, policy, business, or event nation is the focus of the brand image [37]. Brand image is the foundation for more informed strategic marketing decisions concerning a product's positioning and market segmentation.

This study argues that brand image can play a moderating role in online advertising and consumer behavior. In conclusion, a positive brand image can enhance the effectiveness of online advertising by influencing consumer perceptions, attitudes, and behaviors. It acts as a filter through which consumers interpret and respond to advertising messages, ultimately shaping their actions and decisions. Based on the above argumentations, this study intends to empirically test the following sub-hypotheses:

H2a: brand image has a positive moderating influence on the relationship between advertising informativeness and purchasing decisions.

H2b: brand image has a positive moderating influence on the relationship between advertising credibility and purchasing decisions.

H2c: brand image has a positive moderating influence on the relationship between advertising creativity and purchasing decisions.

H2d: brand image has a positive moderating influence on the relationship between advertising entertainment and purchasing decisions.

H2e: brand image has a positive moderating influence on the relationship between advertising interaction and purchasing decisions.

H2f: brand image has a positive moderating influence on the relationship between advertising integration and purchasing decisions.

4 Methods

This study uses a quantitative research method to examine the direct relationship between online advertising and customer purchasing behavior and the indirect effect of brand image as a moderating variable on this relationship. The data collection will be undertaken using a survey questionnaire with a sample size of 200 customers in Saudi Arabia. Convenience sampling was used to select the research respondents. SPSS will be used to analyze data and report findings using descriptive statistics and regression analysis.

4.1 Target population and sampling approach

Given the main aim of this research, which is to examine the impact of online advertising on consumer purchasing decisions, the target population would typically include individuals exposed to online advertisements. Additionally, the target population would encompass individuals actively engaged with online platforms and exposed to various online advertisements. This group could consist of internet users across different demographics, such as age, gender, income level, geographic location, and online shopping behavior. Researchers would aim to study how online advertising influences the purchasing decisions of this specific group to draw meaningful insights and conclusions.

This study used a convenience sampling technique. When using a convenience sample to examine the impact of online advertising on purchasing decisions, researchers typically opt for a readily available group of participants who are easily accessible or convenient to reach. Convenience sampling can be efficient and cost-effective but may not always represent the broader population accurately. In the context of online advertising impact, a convenience sample could involve individuals accessible through online platforms or social media channels, such as participants from an online community or followers of a specific brand's social media page. This sample consists of 200 consumers who are already active online consumers and regularly interact with digital advertisements. By focusing on this group, researchers can potentially gain insights into how online advertising influences the purchasing decisions of individuals

more inclined to engage with such content. However, the findings may not be generalizable to the broader population as convenience samples often lack diversity and may not adequately represent varying demographics or consumer behaviors.

4.2 Survey questionnaire and data collection procedure

The first part of the questionnaire requested the respondents to reveal their socio-demographic characteristics, such as gender (male or female) and age group (18-25, 26-35, 36-45, Above 45). In addition, education level (high school /diploma, Bachelor's degree, Master's degree, and Doctorate/Ph.D), and occupation (government sector, private sector, and self-employed), as well as monthly income range (Saudi Riyal), (Less than 5000, 5000-10000, 10000-15000, and above 15000). The second part of the questionnaire asked participants to rate their responses based on the five-point Likert Scale (1 Strongly disagree, 2 disagree, 3 neutral, 4 agree, and 5 strongly agree).

Given their widespread use in Saudi Arabia, a total of 319 surveys were distributed using social media tools such as Facebook, WhatsApp, and Instagram. Out of the 319 surveys, 223 were returned. After data cleaning and removing the incomplete questionnaires, a total of 200 samples (response rate 62.6%) were used for data analysis.

4.3 Measures

The construct of online advertising was measured using six dimensions, namely informativeness, credibility, creativity, entertainment, interaction, and integration, developed by Wang and Sun (2010) [38]. Consumer buying behavior was measured using three items designed by Duffett (2015) [39]. Finally, this study adopted the four items of brand image construct developed by Spears and Singh (2004) [40].

5 Findings

5.1 Socio-demographic characteristics

Table 1 lists the socio-demographic characteristics of the respondents. For participant's gender, 74% of the valid sample are males while 26% are females. Such findings indicate that males are more active online shopping than females in Saudi Arabia. For respondents, 36% were aged between 26 and 35 years, followed by 32% aged between 18 and 25. Such findings indicate that the majority of online consumers are categorized as the young generation. For educational background, 73% of the participants hold a bachelor's degree, followed by 15% with a master's degree. For occupation, approximately 63% work in the private sector, while 28% work in the government sector. Finally, 47% of the study sample receives individual income ranging between 10000 and 15000 Saudi riyals, followed by 32% with income levels of 5000 and 10000 Saudi riyals.

Table 1 Socio-demographic characteristics (n = 200)

Characteristics	Categories	Frequency	Percent
Gender	Male	148	74
	Female	52	26
Age	18-25	64	32
	26-35	72	36
	36-45	42	21
	Above 45	22	11
Education Level	High school/ diploma	16	8
	Bachelor's degree	146	73
	Master's degree	30	15
	Doctorate/Ph.D.	8	4
Occupation	Government Sector	56	28
	Private Sector	126	63
	Self-employed	18	9
Monthly income range (Saudi Riyal)*	Less than 5000	16	8
	5000-10000	64	32
	10000-15000	94	47
	More than 15000	26	13

Note: 1 Saudi Riyal = 1.92 Yuan.

5.2 Descriptive and correlations analysis

AMOS 24.0 and SPSS 25 were used for data analysis. The SPSS results for the correlation analysis and descriptive statistics are shown in Table 2. This study used Herman’s one-way test, based on the research of Podsakoff et al. (2012) [41], to investigate the possibility of common method bias. Common method variance and confirmatory factor analysis tests were performed to ensure that the results were unaffected by common method effects, given the self-reported character of the employed measurement scales.

Table 2 Descriptive and correlations analysis

Variables	M	SD	1	2	3	4	5	6	7	8
1. INFR	3.79	1.12	–							
2. CRDB	3.88	1.14	0.037	–						
3. CRTV	3.72	1.023	0.016	0.218	–					
4. ENTR	3.77	1.072	0.050	0.104	0.429	–				
5. INTR	4.01	1.524	0.077	0.077	0.080	0.104	–			
6. INTG	3.84	0.984	0.099	0.036	0.102	0.077	0.080	–		
7. BRIM	3.69	1.373	0.106	0.439**	0.328**	0.036	0.102	0.079	–	
8. PRBH	3.75	1.129	0.226**	0.329**	0.226**	0.439**	0.228**	0.193*	0.211**	–

Note: n = 200. INFR = informativeness, CRDB = credibility, CRTV = creativity, ENTR = entertainment, INTR = interaction, INTG = integration, BRIM = brand image, and PRBH = purchasing behavior. * p < 0.05, ** p < 0.01, *** p < 0.001.

AMOS 24.0 was used to design and test the structural equation model, in which the dependent variable was the consumer purchasing decision, and the independent variables were informativeness (INFR), credibility (CRDB), creativity (CRTV), entertainment (ENTR), interaction (INTR), and integration (INTG). Finally, the moderating variable is the brand image. The results of the correlation, standard deviation, and mean scores are summarized in Table 3. According to correlation analysis, consumer purchasing decision was positively associated with informativeness (r = 0.226, p < 0.01), credibility (r = 0.329, p < 0.001), creativity (r = 0.226, p < 0.01), entertainment (r = 0.228, p < 0.01), interaction (r = 0.193, p < 0.05), and integration (r = 0.211, p < 0.01).

5.3 Confirmatory factor analysis

To investigate the discriminant validity between the constructs and the associated measurement parameters of each construct, CFA was carried out using AMOS 24.0. Accordingly, major fit indices such as RMSEA, IFI, TLI, and CFI were used to compare the model fits of various models [42]. The one-way Herman test was used to perform the confirmatory factor analysis.

Table 3 Results of confirmatory factor analysis

Model	x ²	df	x ² /df	RMSEA	IFI	TLI	CFI
Three-factor model	1,738	344	5.052	0.124	0.764	0.749	0.761
Two-factor model	2,209	347	6.366	0.149	0.631	0.618	0.643
One-factor model	3,258	351	9.282	0.175	0.472	0.456	0.485

According to the findings, the six factors had eigenvalues greater than 1, and their cumulative variance was 69.271%. Furthermore, the first factor’s reported cumulative variance was 29.825%, less than the crucial figure of 40%. Thus, our study did not contain the common technique bias. The six constructs are empirically distinct, according to the CFA results displayed in Table 3. Additionally, the three-factor model’s results better fit the data when compared to alternative models (X² = 1.738, df = 344, RMSEA = 0.124, IFI = 0.764, TLI = 0.749, CFI = 0.761).

5.4 Hypothesis testing

AMOS 24.0 version was used to conduct path analysis to test research hypotheses. The H1a hypothesis predicted that informativeness positively influences consumers’ purchasing decisions in Saudi Arabia. Structural equation modeling findings shown in Table 4 indicated that informativeness significantly influences consumer purchasing decisions (b = 0.262, p < 0.001). Hence, H1a is accepted. The H1b hypothesis suggested that credibility positively affects consumers’ purchasing decisions in Saudi Arabia. SEM results indicated that credibility had a significant positive impact on consumer purchasing decisions (b = 0.418, p < 0.001); therefore, H1b is approved. The H1c hypothesis predicted that creativity positively impacts consumers’ purchasing decisions in Saudi Arabia. The SEM findings revealed that creativity

significantly impacted consumer purchasing decisions ($b = 0.217, p < 0.001$). Such finding leads to accepting hypothesis H1c. The H1d hypothesis predicted that entertainment positively affects consumers' purchasing decisions in Saudi Arabia. SEM findings showed that entertainment was not significantly influencing consumer purchasing decisions ($b = 0.103, p < 0.218$), and therefore, H1d declined.

Table 4 Results of the hypotheses testing

Path relationship	Coeff	SE	t	P-value	Results
INFR → PRBH	0.356***	0.078	4.761	0.000	Supported
CRDB → PRBH	0.418***	0.088	5.216	0.000	Supported
CRTV → PRBH	0.217***	0.131	2.447	0.002	Supported
ENTR → PRBH	0.103	0.678	1.261	0.218	Declined
INTR → PRBH	0.315***	0.139	3.418	0.000	Supported
INTG → PRBH	0.097	0.886	0.956	0.317	Declined

Note: n = 200. INFR = informativeness, CRDB = credibility, CRTV = creativity, ENTR = entertainment, INTR = interaction, INTG = integration, and PRBH = purchasing behavior. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

H1e hypothesis suggested that interaction has a positive influence on the purchasing decisions of consumers in Saudi Arabia. SEM findings (see Table 5) reported that interaction had a significant positive impact on consumer purchasing decisions ($b = 0.315, p < 0.001$), and therefore, H1e is accepted. The H1f hypothesis predicted that integration positively impacts the consumers purchasing decisions in Saudi Arabia. The SEM findings revealed that integration had no significant on consumer purchasing decisions ($b = 0.097, p < 0.317$). This leads to rejecting hypothesis H1f.

Indirect path analysis was employed to investigate the moderating effect of brand image. According to Hypotheses H2a, H2b, H2c, H2d, H2e, and H2f, the degree of evaluating the importance of brand image determines the strength of the impact of online advertising dimensions on the consumer's purchase decision in the Saudi context. The moderating effect of brand image was computed based on 95% confidence intervals and 5,000 bootstraps. The findings showed brand image strengthens the impact of that informativeness, credibility, and interaction on consumer purchase decisions (effect value = 0.228, with a 95% confidence interval of LLCI value 0.115 and ULCI 0.322), (effect value = 0.351, with a 95% confidence interval of LLCI value 0.179 and ULCI 0.406), (effect value = 0.234, with a 95% confidence interval of LLCI value 0.192 and ULCI 0.462) respectively.

Table 5 Results of testing the hypotheses (moderating effects)

Path relationships	SE	Effect	P-value	Bootstrapping 95% CI		Result
				LLCI	ULCI	
INFR * BRIM® PRBH	0.069	0.228	0.002	0.115	0.322	Supported
CRDB * BRIM → PRBH	0.084	0.351	0.000	0.179	0.406	Supported
CRTV * BRIM → PRBH	0.058	0.672	0.438	-0.046	-0.037	Declined
ENTR * BRIM → PRBH	0.172	1.425	0.087	-0.013	-0.018	Declined
INTR * BRIM → PRBH	0.195	0.234	0.026	0.192	0.462	Supported
INTG * BRIM → PRBH	0.058	0.583	0.283	-0.067	-0.043	Declined

Note: n = 200. INFR = informativeness, CRDB = credibility, CRTV = creativity, ENTR = entertainment, INTR = interaction, INTG = integration, and PRBH = purchasing behavior. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

On the other hand, the bootstrapping results indicated that brand image had no significant influence on the relationship between creativity, entertainment, and integration; and consumer purchasing decision (effect value = 0.672, with a 95% confidence interval of LLCI value -0.046 and ULCI -0.037), (effect value = 1.425, with a 95% confidence interval of LLCI value -0.013 and ULCI -0.018), (effect value = 0.583, with a 95% confidence interval of LLCI value -0.067 and ULCI -0.043) respectively.

6 Discussion

The empirical findings showed that informativeness, credibility, creativity, and interaction positively impacted purchasing decisions among online buyers in Saudi Arabia. In contrast, entertainment and integration dimensions had no influence. The important role of online advertising creativity in driving customer purchasing decisions is well recognized in the extant literature [24–26]. The findings of the positive impact of informativeness on consumers purchasing decisions are consistent with extant literature [18–20,39]. Similarly, the positive influence of

the credibility of online advertising on consumer purchasing decisions is well established in the academic literature [16, 22, 23]. Credibility and creativity are two characteristics of advertising value that academics have included in their studies of how advertising value affects impulsive purchasing [21].

Surprisingly, the entertainment of online advertising had no significant influence on purchasing decisions. This finding is incompatible with the relevant studies that advocate the importance of entertainment [21, 28]. Similarly, integration had no significant effect on purchasing decisions in Saudi Arabia. This finding contradicts existing literature [31, 32]. Finally, the interaction dimension of online advertising influences customers' purchasing decisions. These results are consistent and similar to current studies [29, 30]. According to Feng et al. (2023) [43], Chinese consumers' online buying behavior is favorably influenced by informativeness, credibility, creativity, entertainment, integration, and the desire to make an online purchase. These factors also significantly impact the impulse to make an online purchase. Advertisers must balance engaging their audience and respecting their privacy to maintain a positive user experience. As the digital landscape evolves, staying informed about emerging trends and technologies is crucial for advertisers to adapt and stay competitive in the dynamic online advertising space. According to Emuobosa et al. (2023) [44], consumers are aware of the several types of digital advertising available, including pay-per-click, social media, email, pop-up, and search engine optimization. Hence, we may argue that online advertising has revolutionized how businesses connect with their target audience.

Wang and Sun (2010) [38] examined consumer attitudes toward online advertising across the U.S., China, and Romania to assess how beliefs and cultural differences affect behavior. They found that consumers in different countries respond uniquely to online ads based on their cultural and social attitudes. Positive attitudes toward online advertising were associated with an increased likelihood of buying behavior, while negative beliefs about ad intrusiveness or dishonesty reduced ads' effect on buying decisions. Boateng and Okoe (2015) [45] investigated consumer attitudes towards social media advertising and its impact on buying behavior. They found that consumers who viewed social media ads as informative and credible were likelier to respond positively and consider purchasing.

The moderating analysis underlined that brand image strengthens the positive impact of informativeness, credibility and interaction on the purchasing decisions among online buyers in Saudi Arabia. Different studies acknowledged the importance of brand image in positively influencing customers' decision-making [7, 33, 35, 36]. Hence, this study validates the positive moderating impact of brand image on the relationship between online advertising and customer purchasing decisions.

7 Implications

The structural equation modelling results revealed that consumer behavior is positively associated with the four dimensions of online advertising: informativeness, credibility, creativity, and interaction. Hence, online stores or e-commerce platforms need to enhance informativeness by providing detailed product information, specifications, and reviews to help customers make informed purchase decisions. In addition, build Credibility by Showcasing customer testimonials, reviews, and ratings to establish trustworthiness. Further, foster creativity by designing an engaging, visually appealing website layout that reflects your brand identity. Moreover, encourage interaction by providing multiple channels for customer support, including live chat, email, and social media, to address queries and concerns promptly. Finally, online stores or e-commerce platforms need to consider the importance of brand image as perceived by the customer and acknowledge its importance in driving their purchase decisions. Therefore, firms must ensure that your brand message is clear, cohesive, and consistent across all communication channels, including website content, social media, advertising, and customer interactions. Firms can strengthen the image of their brands by monitoring online reviews, feedback, and social media mentions to address any negative feedback promptly and maintain a positive brand reputation. In sum, online stores need to engage with your audience through interactive and personalized experiences, such as social media contests, user-generated content campaigns, and loyalty programs.

The study concludes that online advertising presents most of the consumer's buying behavior and is a significant factor in predicting consumer behavior. This implies that companies should invest more in online advertising to increase their market share and conduct market research on the different markets in various countries to ensure that the online advertisement initiatives being implemented suit the targeted markets to improve product purchases. By focusing on

these recommendations and continuously improving the informativeness, credibility, creativity, and interaction aspects of your e-commerce platform, you can effectively influence purchasing decisions among online buyers in Saudi Arabia and enhance their overall shopping experience.

8 Limitations and future research

This study uses convenience sampling that restricts the generalization of the results. Future studies using random sampling will reveal a realistic scenario for the phenomenon. More demographic characteristics of the sample may be included in future research. In addition, choices regarding media preferences and purchasing practices can be a new avenue for further research. A potential limitation of this study is its focus on consumer buying behavior in Saudi Arabia, which may limit the generalizability of the findings to other cultural or regional contexts with different consumer dynamics and digital advertising trends. Additionally, the study primarily examines the moderating role of brand image, potentially overlooking other influential factors such as consumer trust, product quality, or price sensitivity that could mediate or moderate the relationship between online advertising and buying behavior. Future research could explore these additional variables to provide a more comprehensive understanding of consumer responses to online advertising. Moreover, cross-cultural comparative studies could assess whether the proposed model holds across different regions or industries, offering broader insights into the effectiveness of online advertising in diverse market environments.

9 Conclusion

This research examined the direct impact of online advertising dimensions of informativeness, credibility, creativity, entertainment, interaction, and integration on the Saudi consumer buying behavior with an emphasis on the potential moderating role of brand image. Building on a quantitative research method, convenience sampling technique and use of survey questionnaires, a total of 200 valid surveys were collected and analyzed to fulfill the research objectives. The structural equation modeling was used to report the findings of this research. Empirical findings revealed that four dimensions of online advertising namely informativeness, credibility, creativity, and interaction had a significant positive impact on consumers buying behavior, while entertainment and integration had no significant impact. In addition, the moderating analysis indicated that brand image only strengthens the impact of three dimensions of online advertising: informativeness, credibility, and interaction on consumer buying behavior. The findings of this research validate the importance of online advertising in influencing consumers' buying behaviors and urge online stores or platforms to consider the informativeness, credibility, and interaction dimensions of their online advertising.

Conflicts of interest

The author declares there is no conflict of interest.

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