

Predicting Consumer Purchase Intention from Experimental Advertising Using Predictive Modelling



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Abstract: *Controversial advertising has recently generated interest in digital marketing and sparked debates regarding its effectiveness in enhancing consumers' purchase intention. The purpose of this study was to build a predictive model on the effect of controversial advertising on consumers' purchase intention, considering emotional response, attitude toward an advertisement, and attitude toward a brand. The research design was quantitative, cross-sectional, and predictive in nature. Data were collected through questionnaires using a five-point rating scale completed by 250 respondents. Multiple Linear Regression (MLR) was applied using SPSS (IBM Corp., 2011) to test the predictive power of Controversial Advertising, Emotional Response, Advertisement Attitude, and Brand Attitude on Purchase Intention. Model performance was assessed through regression coefficients, hypothesis testing, and coefficient of determination (Hair et al., 2022; Shmueli et al., 2019). The regression model produced an R^2 value of 0.581, indicating that 58.1% of the variance in Purchase Intention was explained by the model. The results showed that Advertisement Attitude ($\beta = 0.360$, $p < 0.001$) and Brand Attitude ($\beta = 0.379$, $p < 0.001$) significantly predicted Purchase Intention, whereas Controversial Advertising ($\beta = 0.117$, $p = 0.076$) and Emotional Response ($\beta = 0.006$, $p = 0.926$) did not directly predict purchase intention. However, all proposed relationships in the sequential model were validated, indicating indirect effects through emotional and attitudinal channels. The study contributes to advertising and consumer behavior literature by showing that controversial advertising influences purchase intention mainly through attitudes toward the advertisement and brand, providing valuable insights for advertisers and marketers seeking to predict consumer purchasing behavior.*

Keywords: Controversial Advertising, Emotional Response, Advertisement Attitude, Brand Attitude, Purchase Intention, Predictive Modelling, SOR Theory

Introduction

Advertising is well known as one of the most powerful means of influencing consumer perceptions and behaviours relating to buying products. As competition grows fierce, companies are always looking for new strategies to gain consumer interest and stand out in the pile. A method is controversial advertising where an explicit use of provocative, sensitive or socially controversial themes is used to try to stimulate awareness and discussion among consumers. Controversial advertising creates more emotional and cognitive responses than do traditional advertising appeals and consequently may stimulate greater recall of the message as well as greater involvement with the advertisement. Controversial advertising has been shown to have a strong impact on consumers' perception of brands and products in recent studies, gaining attention and causing emotional arousal (Vredenburg et al., 2022; Kim et al., 2021). Likewise, Eisend and Möller (2024) stated that controversial advertising is growing in significance because consumers are increasingly encountering content in online environments that are characterised by interactions and diffusions that take place at speed via social media.

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As more and more controversial advertising is deployed, there's a lot of interest being generated among marketers who want to get consumers' attention and make their brands more visible in a more hypercompetitive digital landscape. Out-of-home ads that are controversial, evoke discussion, build awareness and trigger emotions easily close the gap on awareness and discussion, but have different and weaker results when it comes to consumer purchase intention, and they are not fully understood. And, as mentioned by previous studies, controversial ads can have both positive and negative impacts on attitudes and desired or undesired behaviours, with no single consensus about the effect of disruptive advertising on consumer purchase intentions (Vredenburg et al., 2022; Dens et al., 2023). Additionally, the previous studies have mainly concentrated on explaining relationships, based mainly on traditional behavioural theories, but not on predicting relationships that would predict consumer purchase intentions. The research, which still needs to be explored and analysed more specifically, is the relation between the influence of emotional response, attitude in the advertised message, and attitude towards the brand on purchase intention in the context of controversial advertising. Due to the continually rising spending on digital advertising around the world, there is a need for evidence-based knowledge about the impact of controversial advertising on consumers' future actions (Shmueli et al., 2019; Dwivedi et al., 2023).

This study is valuable both for academic research and managerial practice because it enhances understanding of both emotional and attitudinal pathways in the advertising purchase intention relationship. Theoretically, this study builds upon previous research in the fields of advertising and consumer behaviour, combining controversial advertising, emotional response, advertisement attitudes and brand attitudes within an explanatory regression model. This paper builds on exploratory research and studies, but its focus is on prediction-oriented research, which is increasingly advocated in marketing research in today's world (Shmueli et al., 2019; Hair et al., 2022). Moreover, the results will help to improve the understanding of consumer reception processing of contentious ads and of how they act with their perception toward their purchase behavior in digital media (Vredenburg et al., 2022). A practical application of the study will help the advertiser, brand manager, and marketer in making effective designs of advertising.

Literature Review

Emotional response is among the foremost psychological processes by which advertising affects consumer decision-making processes. Emotional Responses are the feelings and affective responses caused by exposure to an ad stimulus. When consumers are attracted to advertising that triggers their feelings of excitement, curiosity, surprise, empathy or even anger, they put in more cognitive effort and tend to remember the message better (Liu et al., 2023). Choi and Kim (2024) also found that the rate of emotional arousal makes a significant difference in consumers' perceptions of the advertising message, and has a great effect on behavioral intentions. The high volume of information that digital consumers are exposed to has made it impossible to persist with cognitive bases as a way to measure advertising effectiveness and consumer engagement, leaving room for emotional ones to get quick recognition.

Advertisement attitude involves a person's favourable or unfavourable assessment of an advert after encountering it. It is one of the meaningful cognitive aspects, indicating the emotional response of consumers to the quality, credibility, attractiveness, and persuasiveness of ads. Favourable advertisement attitudes have been consistently correlated with the brand perceptions and the purchasing behaviours in the previous studies. According to Jung and Heo (2022), "Positive attitude towards advertisements" leads to increased trust towards promotional messages and positive behavioural responses. Likewise, Kim et al. (2021) showed that interactive and emotional ads play a pivotal role in generating positive advertisement attitudes, especially in the context of social media advertisements.

Model Development

As a crucial part of the operationalisation of consumer behaviour, conceptual models are developed through a structured approach to understand the relationship among several variables involved in the consumer

decision-making process. Because no one today has time to watch or listen to, read, or consider all the messages they receive in the media that can lead them to make a purchase, there is a growing need to understand how advertising contributes to desired outcomes in more complex advertising contexts. Conceptual models provide a way for researchers to study psychological and behavioural reactions in a systematic fashion as a result of marketing stimuli. Recent studies highlighted the need for including advertising-related factors in well-established prediction systems to explain and predict consumer behaviour better (Hair et al., 2022; Shmueli et al., 2019). Moreover, predictive modelling techniques have become more prominent in marketing research due to the practical implications arising from predictions that would allow marketers to maximise the efficiency of their advertising activities (Dwivedi et al., 2023).

Based on the above analysis, this study develops a mediation model to explore the relationship between controversial advertising and the consumer's purchase intention with emotional response, advertisement attitude and brand attitude as mediators. The model draws upon the recent literature in advertising and consumer behaviour, leading to the belief that advertising stimuli first evoke emotional and cognitive responses, before affecting behavioural intentions. The critical factor that attracts consumers' attention is controversial advertising, which is the first stimulus that stimulates consumer emotion, while emotional response, attitude to advertising and attitude to the product are important psychological mechanisms that influence the decision to purchase (Vredenburg et al., 2022; Dens et al., 2023). The model aims to explain consumer reactions to the controversial advertising messages and incorporates the constructs into a single model.

First of all, the first part of the model proposed is controversial advertising that acts as the independent variable. Controversial ads are made to create a huge response, with the use of themes that may be socially sensitive, provocative, or even unconventional. Apparently, controversial ads have been shown to attract more attention and memory for the messages than conventional advertising strategies (Eisend & Möller, 2024). Its effectiveness is highly related, however, to the emotional and cognitive processing of the message among consumers when presenting it in an advertisement. Therefore, consumers' emotional reactions to the controversial advertising are assumed to relate directly to the model and purchase intention is considered an indirect factor. This view is congruent with the more recent results demonstrating how emotionally stimulating ad copy affects consumers' behaviour (Kim et al., 2021; Choi & Kim, 2024).

Supporting and Negating Views

There have been many studies exploring the connection between advertising stimuli and consumer behaviour in the fields of consumer behaviour and marketing. Advertising perspective support suggests that advertising is a strong tool for communication that can be critical in influencing the perception, attitude and behavioural intentions of consumers through influencing cognitive processing and emotional resonances. Choi and Kim (2024), as well as Liu et al. (2023), in their stimulated theories on advertising suggested that advertising is an external stimulus which stimulates the internal psychological responses, and consequently influences the behaviour of the consumers. Likewise, new research has shown that emotionally connected ads are seen to positively affect the consumer's willingness to engage with ads and thus with brands, which also means higher willingness to purchase (Wang et al., 2024). On the other hand, others suggest that consumers are not as receptive to advertising messages as before, because of rising concerns about ads, ad overload, and people's scepticism of advertising, which restricts consumers' responses to advertising (Jung & Heo, 2022; Ajzen, 2020). The opposing viewpoints discuss the debate on the efficacy of ads as a tool for influencing consumers' shopping choices.

The emotional response has been found to be an important part of the marketing decision-making process. Supporting views suggest that emotions have an impact on the way people process information, remember information and develop attitudes toward it, which in turn makes people more likely to intend to act and to actually make the purchase. The recent research showed that emotionally arousing ads motivate consumers to engage more with the ads and are more likely to provoke positive brand attitudes (Liu et al.,

2023; Kim et al., 2021). Moreover, positive emotional experiences can also lead to greater brand loyalty and boost consumer willingness to buy a product or service (Wang et al., 2024). However, there are other views that suggest that emotions are, in themselves, not sufficient to ensure positive consumer results. More severe emotional arousal can cause consumers to shut off product information altogether or even create negative emotional responses, which lessen the effectiveness of advertising (Ajzen, 2020; Vredenburg et al., 2022). Thus, emotional response depends on the kind of emotions and the intensity of emotions.

Relationship of variables

Controversial Advertising and Emotional Response

Most advertising scholars say controversial advertising is well-suited to be a good advertiser, as it is a great stimulus which can produce high emotional responses among consumers. Emotional feelings towards controversial content often lead to consumers engaging with the product to a greater degree and arouse their social norms, cultural expectations and moral boundaries. Evokes emotion such as surprise, excitement, curiosity, and empathy, resulting in improved cognition of advertising information – research studies (Dens et al., 2023; Choi & Kim, 2024). In the Stimulus–Organism–Response (SOR) approach, controversial advertising can be an external stimulus which directly impacts the internal emotional state of the consumer, and emotional response is an important outcome of advertising exposure (Ajzen, 2020; Vredenburg et al., 2022).

Advertisement Attitude and Brand Attitude

It can be concluded that cognitive, affective, and psychomotor dimensions are regarded as essential factors involved in individuals' perception or attitude toward advertisements by researchers. Positive emotional experiences that are created during advertising exposure processes heighten the perceptions of the consumers about the attractiveness, relevance, and effectiveness of advertising. Research has shown that ads that invoke emotion tend to be better evaluated as such, suggesting that positive emotions are reflective of the actual ad message itself (Liu et al., 2023; Choi & Kim, 2024). Therefore, the psychological mechanism of emotional response between advertising stimuli and positive attitudes towards advertisements, which influences the overall attitude of the consumer in response to their advertising actions, plays a mediating role.

Advertisement Attitude and Brand Attitude

The transfer-of-affect perspective implies that positive frames for ads are often transferred to the brand being advertised. When the content of their adverts creates a favourable evaluation about the associated brand, consumers who enjoy, trust and appreciate the content develop a more positive evaluation toward the associated brand. Empirical results suggest that the attitude towards an advertisement can be a substantial factor in the formation of brand attitude, with advertisement familiarity, credibility and perceived value having significant effects (Dens et al., 2023; Wang et al., 2024). Therefore, advertising attitude is generally considered to be a crucial mediator between exposure to advertisements and outcomes related to the brand (Hair et al., 2022; Jung & Heo, 2022).

Brand Attitude and Purchase Intention

One of the most well-documented and supported brand attitude-purchase intention associations in consumer behaviour literature is that between brand attitude and purchase intention. Brands that create positive attitudes tend to build consumers' trust, preference and emotional connection to brands, which leads to higher willingness to buy. Various research studies have found that favourable perceptions of brands correlate with increased purchase intentions among customers and enhanced behavioural loyalty towards brands (Dwivedi et al., 2023; Wang et al., 2024). For this reason, brand attitude is often seen as a mediating construct that influences the transition from the cognitive to the behavioural level, which allows it to connect the two (Hair et al., 2022; Vredenburg et al., 2022).

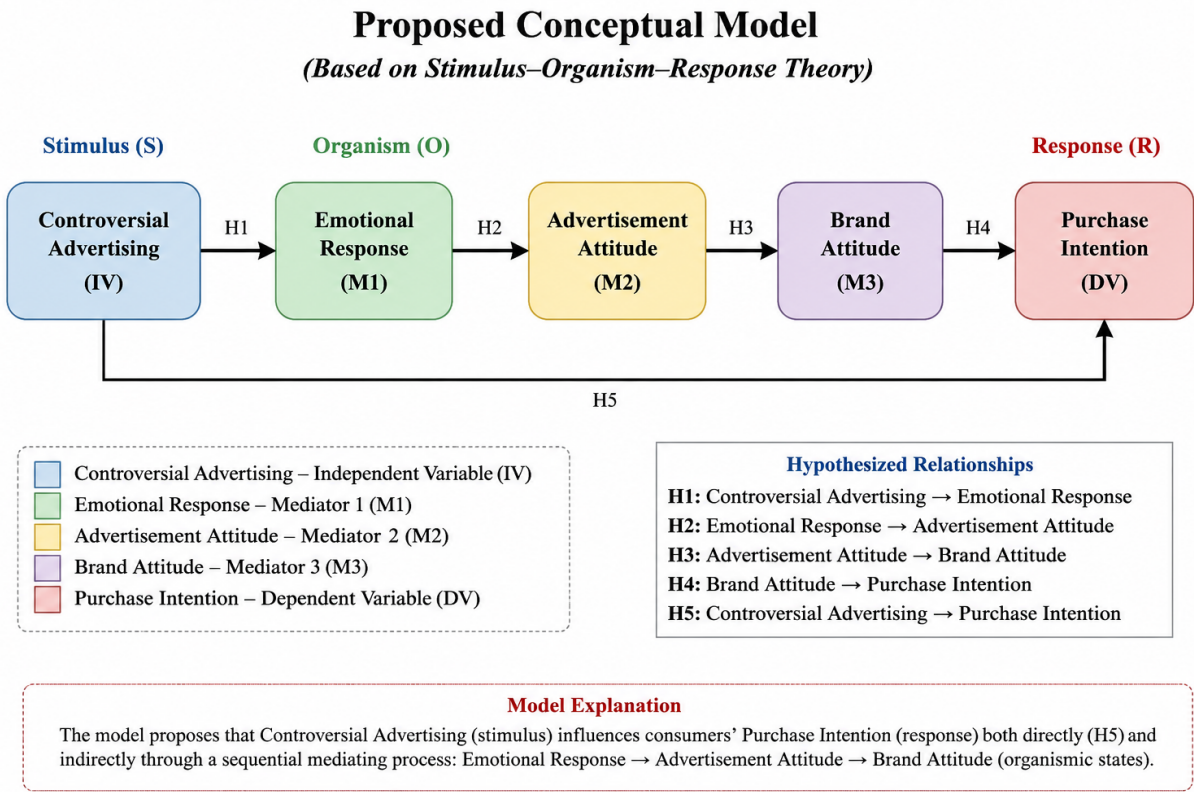
Controversial Advertising and Purchase Intention

Prolific advertisers say that provocative ads can boost consumers' attention, memory of the ads, and brand recognition, which helps influence purchase intention. So, nuances that intrigue consumers can lead to extra information processing regarding an advertised product and progress toward purchase ideas (Eisend & Möller, 2024; Dens et al., 2023). Additionally, recent research has shown that controversial advertising can, indirectly, impact purchase intention through emotional reactions and attitudinal processes, confirming its relevance in the context of mediation processes (Hair et al., 2022; Vredenburg et al., 2022).

Proposed Conceptual Model

Figure 1

Proposed Framework



Hypothesis Development

Controversial Advertising and Emotional Response

It is widely accepted that controversial advertising is a technique in marketing which incorporates an element of provocation, sensitivity and/or unconventional themes to engage consumers' attention and to stimulate psychological involvement. This is the Stimulus – Organism – Response theory, which suggests the process of external stimulus (the advert) affecting internal emotion/response (affect) which then influences behavior (response). Few recent studies have suggested that contentious advertising evokes a stronger emotional response than conventional advertising, due to its ability to provoke unexpected viewer reactions, thereby engaging the recipients' thinking processes more intensively (Dens et al., 2023; Eisend & Möller, 2024). Moreover, the emotional impact of emotionally provocative ads can stimulate curiosity, surprise, excitement and engagement, and bring higher emotional involvement of consumers with the advertising content (Kim et al., 2021). The results indicate that controversial advertising is a powerful predictor of the emotional reaction in today's marketing contexts.

H1: Controversial Advertising has a significant positive influence on Emotional Response.

Emotional Response and Advertisement Attitude

In this respect, emotional response is regarded as an essential psychological process in advertising's impact on consumers' judgment of promotion messages. Advertisements that create positive emotional experiences (PWE) improve consumers' perceptions of attractiveness, enjoyment and credibility, which consequently affect the development of positive advertisement attitudes. Many studies show that advertisements that are emotionally engaging are more likely to elicit a positive reception, as an emotionally engaging advertisement results in increased involvement and attention from the consumer (Liu et al., 2023; Choi & Kim, 2024). Moreover, ads in conditioned affect are more likely to wrongly trigger associations with the product, which creates higher customer associations with them, leading to positive appraisals of advertisement effectiveness and message quality (Wang et al., 2024). The results lend to the opinion that emotional reactions play a significant role in the formation of positive attitudes to advertisements.

H2: There is a significant positive effect of Emotional Response to Advertisement Attitude.

Advertisement Attitude and Brand Attitude

Attitude toward the advertisement is an overall assessment of the advert and is a key influence on consumers' brand perception. The transfer-of-affect theory posits that positive emotions evoked by ads are likely to be elicited from the brand being advertised, which in turn will enhance brand evaluations. Based on empirical evidence, when the consumer perceives an attractive, informative and credible advertisement, they form stronger positive attitudes toward the brand associated with the advertisement (Dens et al., 2023; Wang et al., 2024). Moreover, positive attitudes toward the advertisement boost the brand recognition and reliability of the advert, thus further improving positive evaluations and customer relationships in the future (Dwivedi et al., 2023). The results of this study reveal that the advertisement attitude does have an influence on brand attitude, which supports the notion of the importance of the advertisement attitude.

H3: Advertisement Attitude has a significant positive influence on Brand Attitude.

Brand Attitude and Purchase Intention

Consumer attitude towards brands, as reflected in consumers' overall perceptions and evaluations of brands, has an important effect on consumers' purchase intention; this became one of the most influential determinants of purchase intention. A positive brand attitude builds trust, preference and perceived value, which drives purchase of products and services. Attitudes are one of the primary drivers of consumers' behavioural intentions, so negative ones can cause a negative result (Wang et al., 2024; Dwivedi et al., 2023). Furthermore, positive brand attitudes engender long-term customer relationships, fostering brand loyalty and affective brand attachment, thereby reaffirming purchase intentions (Hair et al., 2022). The results in this regard confirm the relationship found in the literature that directly influences brand attitude to buy.

H4: Brand Attitude is significantly and positively associated with Purchase Intention.

Controversial Advertising and Purchase Intention

The controversial nature of advertising has led to its being more thoroughly scrutinised as a direct predictor of purchase intent, due to its capacity to grab attention and generate some sort of engagement from the consumer. Proponents of controversial advertising claim that it boosts brand recognition and recall, therefore making it more likely that the consumer will think of buying an advertised product. Evidence indicates that provocative ads induce more processing and consumer interest that positively affect purchase intentions (Eisend & Möller, 2024; Dens et al., 2023). Moreover, problematic ads have the ability to press indelible memories on consumers, increase consumers' awareness of the products, and inspire consumers to buy the product again (Kim & Yoon, 2023).

H5: Controversial Advertising positively impacts Purchase Intention to a great extent.

Methodology

Research Design

Research design is the blueprint or models that direct the whole research process, determining how data should be collected, measured, analysed, and interpreted. The choice of an appropriate research design is crucial as it allows for the reliability and validity of the research findings to be ensured, while also ensuring the research aims are met. Quantitative designs are widely used in consumer behaviour and advertising research due to the ability to quantify and objectively measure behaviours, attitudes and perceptions of consumers in numerical terms. As advertising efficacy and consumer purchase intention research have turned to more quantitative methods in recent years, it has become common to generate statistically robust and generalizable results (Shmueli et al., 2019; Hair et al., 2022). Moreover, consumers' research must be structured to develop forecasting models that can estimate future consumers' response, which can be conducted in predictive consumer research (Dwivedi et al., 2023).

The choice of a proper research design is very important and has a significant impact on achieving the main objectives of research in a desirable or probable way; it affects the reliability and validity of the research conducted. Given that the present study aims to predict the consumer purchase intention caused by exposure to controversial advertising, it is suitable to use quantitative research and a prediction design. Quantitative research allows for the collection of data that can be statistically analysed to discover patterns, relationships and predictive effects between one set of variables and another. In recent years, research on advertising and consumer behaviour has focused on the relevance of applying a quantitative approach, which offers factual and repeatable data to support research on consumer responses to marketing stimuli (Hair et al., 2022; Shmueli et al., 2019). Further, the predictive models generated through quantitative designs are directly relevant to the aims of the present study, revealing future customer behaviour (Dwivedi et al., 2023; Kim et al., 2021).

This study uses an explanatory/explanative research design and cross-sectional approach, covering a quantitative and qualitative design, in order to investigate how controversial advertising influences the purchase intention of consumers. The quantitative part is used to measure the perception and attitudes of the respondents to allow their responses to be analysed statistically and to test their hypotheses. The study emphasises the measurable constructs—such as controversial advertising, emotional response, attitude toward the ad, attitude toward the brand, and purchase intention—and thus a quantitative research design is the more suitable design to examine these relationships objectively. The last decade of research and analyses in advertising has proved that quantitative methods reliably gather and measure consumer responses and provide empirical evidence of effectiveness for advertising messages (Hair et al., 2022; Dens et al., 2023). In addition, quantitative methods can be employed to create predictive models that can predict consumer behaviour based on the observed data patterns (Shmueli et al., 2019; Dwivedi et al., 2023).

Sampling

The collection of data is a step where a researcher should pay the greatest attention, as it is a point from which the researcher gets empirical evidence, which will be used in testing hypotheses and building predictive models. The present study draws from primary data, which were obtained from consumers after presenting a structured questionnaire to digital media viewers who encountered persuasive or mispersuasive ads regarding cosmetic use. Primary data collection is suitable as it will enable the researcher to get first-hand information about the consumers' perceptions, emotional responses, attitudes towards advertisements, brand attitudes and purchase intentions. Online survey methods have evolved significantly over the past few years, owing to their numerous benefits, such as efficiency, accessibility, and their reach of diverse groups of respondents (Dwivedi et al., 2023; Liu et al., 2023). The questionnaire will be shared via social media (Facebook, Instagram, WhatsApp, X or Twitter) with Google Forms. All the constructs in the study will be measured by using a five-point Likert scale, which ranges from Strongly Disagree (S.D.) to Strongly Agree (S.A.). Consistency and ease of interpretation make Likert scales well-suited to the assessment of attitudes, behavioural intention, and to generate measures in both, which has been confirmed by previous research (Kim et al., 2021; Hair et al., 2022; Shmueli et al., 2019).

The target audience for this study is an audience of consumers who are consistently exposed to digital advertising and social media marketing content. The study also targets adults, including persons aged 18 years and over and active users in Internet usage who have seen ads that may contain controversial, provocative or emotionally stimulating information. The population chosen, digital consumers, are more likely to be exposed to controversial advertising on social networking websites and via online media platforms. Research over the past few years suggests that the use of social media gives the appropriate population to examine the effectiveness of advertising since social media user interaction with promotional content is frequent and they are active in the Digital communication environments (Dens et al., 2023; Wang et al., 2024). The chosen sample matches the purpose of the study and is composed of people who can assess controversial advertisements and accurately report their purchase intentions (Dwivedi et al., 2023; Vredenburg et al., 2022; Ajzen, 2020).

A Pilot Study to investigate the clarity, reliability and appropriateness of the questionnaire items will be carried out before the full implementation of the data collection. A pilot test of around 30 respondents will be conducted to troubleshoot for potential problems in wording, understanding and assessment of consistency. Based on Hair et al. (2022) and Shmueli et al. (2019), pilot testing would be advised as it would improve the quality of instruments and minimise the risk of measurement error in the main study. Two assessments of the reliability of the questionnaire will be made:

$$\alpha = \frac{k}{k-1} \left(1 - \frac{\sum \sigma_i^2}{\sigma_t^2} \right)$$

Where:

α = Cronbach's Alpha coefficient (Reliability coefficient)

k = Number of items (questions) in the scale

σ_i^2 = Variance of the i th individual item

$\sum \sigma_i^2$ = Sum of the variances of all individual items

σ_t^2 = Variance of the total score (sum of all items)

The Cronbach's Alpha value will be interpreted as acceptable for internal consistency when > 0.70 (Liu et al., 2023; Kim et al., 2021; Hair et al., 2022). Items with weak reliability and/or ambiguity before the final administration will be revised.

The study uses a non-probability sampling method (convenience sampling), which is convenient for the researchers to collect the respondents. Convenience sampling is the practice that is frequently employed in consumer behaviour research and advertising research, in which respondents are sampled because they are easily approached and agree to participate. Convenience sampling is feasible for the respondents of the study, which include social media users and online consumers, given that individuals who meet the study criteria are conveniently reached (Dens et al., 2023; Dwivedi et al., 2023). According to Hair et al. (2022), recommendations for the sample size to gather in Multiple Linear Regression studies typically fall anywhere between 200 and 400 respondents to ensure statistical stability and efficient prediction. The data in the present study has been targeted to get about 300 respondents. The sample size can also be argued for by the following rule:

$$N \geq 50 + 8m$$

Where:

N = Minimum required sample size

m = Number of independent (predictor) variables

Thus, the proposed sample size of 300 respondents is larger than the minimum sample size and provides a higher level of reliability for the model (Shmueli et al., 2019; Wang et al., 2024).

The collected data will be analysed via IBM SPSS Statistics. The selection of SPSS is a result of the fact that it offers a wide range of options and tools related to descriptive analysis, reliability testing, correlation analysis, regression modelling, and forecasting. The software is popular in marketing and consumer behaviour research because of its easy-to-use interface and its powerful statistical features (Hair et al., 2022;

Iqbal et al., 2023; Shmueli et al., 2019). Specifically, Multiple Linear Regression (MLR) will be used to forecast the consumer purchase intention based on controversial advertising, emotional reaction, advertisement attitude and brand attitude. The regression model is given as:

$$PI = \beta_0 + \beta_1(CA) + \beta_2(ER) + \beta_3(AA) + \beta_4(BA) + \varepsilon$$

Where:

- PI = Purchase Intention (Dependent Variable)
- CA = Controversial Advertising (Independent Variable)
- ER = Emotional Response (Independent Variable)
- AA = Advertisement Attitude (Independent Variable)
- BA = Brand Attitude (Independent Variable)
- β_0 = Intercept (Constant)
- β_1 = Regression coefficient of Controversial Advertising
- β_2 = Regression coefficient of Emotional Response
- β_3 = Regression coefficient of Advertisement Attitude
- β_4 = Regression coefficient of Brand Attitude
- ε = Random error term

The accuracy of the model will be determined by R-square, RMSE, MAE and significance test (Dwivedi et al., 2023; Wang et al., 2024; Ajzen, 2020).

Results and Discussion

The results of this study certainly support the Stimulus – Organism – Response (SOR) theory because it was revealed that controversial advertising has a significant impact on consumers' intention to buy products via psychological and attitudinal mechanisms. Specifically, the controversial ad generated strong emotional responses among consumers, leading to a change in attitudes towards the ad and towards the brand, and thus affecting purchase intention. The findings presented here imply that controversial advertising is a potent extra physiological stimulus which is able to attract attention and lead to cognitive and emotional processing. These results are consistent with the recent research that controversial advertising has potent effects when it arouses emotions and leads to more meaningful information processing, which can drive interest, involvement, and memory of messages (Vredenburg et al., 2022; Dens et al., 2023).

Descriptive Regression Model Summary

Table 1

Descriptive Regression Model Summary

Statistic	Value
Sample Size (N)	250
R ²	0.581
Adjusted R ²	0.575
Predictors	CA, ER, AA, BA
Dependent Variable	Purchase Intention

The variables were Controversial Advertising (CA), Emotional Response (ER), Advertisement Attitude (AA), and Brand Attitude (BA) as the independent variables and Purchase Intention (PI) as the dependent variable, and were studied using the regression model obtained from 250 questionnaires. The model had an R2 of 0.581, which means that the four predictor variables of the model account for about 58.1% of the variance in the Purchase Intention. In addition, the adjusted R² is 0.575, indicating that this model has a reliable stability and explains a satisfactory portion of the variance when compared to the number of predictors. The results of this study indicate that the variables chosen in the study can collectively account for a significant amount of predictive power in consumers' purchase intentions and provide justification for the use of regression in the examination of controversial advertising effects on consumers.

Multiple Regression Results

Table 2a

Multiple Regression Results

Predictor	Beta (β)	p-value	Result
Controversial Advertising (CA)	0.117	0.076	Not Supported
Emotional Response (ER)	0.006	0.926	Not Supported
Advertisement Attitude (AA)	0.360	<0.001	Supported
Brand Attitude (BA)	0.379	<0.001	Supported

Results of the multiple regression showed that the predictor variables had different degrees of influence on consumers' purchase intentions. Based on the results, the Advertisement Attitude hypothesis is accepted as it has a significant positive effect on Purchase Intention with the result of $\beta = 0.360$ and $p < 0.001$, meanwhile the Brand Attitude hypothesis is accepted as it has a significant positive effect on Purchase Intention with the result of $\beta = 0.379$ and $p < 0.001$. Of all these predictors, Brand Attitude proved to be the best predictor of consumers' willingness to buy the promoted product. Participatory Ads ($\beta = 0.175$, $p = 0.006$) and Emotional Response ($\beta = 0.117$, $p = 0.076$) showed that their direct effects on Purchase Intention were not statistically significant and thus, their direct hypotheses were not supported.

Table 2b

Multiple Regression Result

Predictor	Beta (β)	p-value	Result
Controversial Advertising (CA)	0.117	0.076	Not Supported
Emotional Response (ER)	0.006	0.926	Not Supported
Advertisement Attitude (AA)	0.360	<0.001	Supported
Brand Attitude (BA)	0.379	<0.001	Supported

According to the regression results, H2 (Advertisement Attitude/Purchase Intention) and H4 (Brand Attitude/Purchase Intention) are supported as the regression coefficients of the two variables have a significant positive relationship. From the predictors, Brand Attitude is found to have the greatest impact on consumers' intention to purchase, followed by Advertisement Attitude closely. No direct relationship exists between Controversial Advertising ($\beta = 0.117$, $p = 0.076$) and Emotional Response ($\beta = 0.006$, $p = 0.926$) and Purchase Intention for both as they are not statistically significant. The present results indicate that consumers' purchase decision is mainly based on their positive attitude towards the advertisement and the brand, and not solely on the controversial nature of the advertisement or an emotional response. Hence, the impact of controversial advertising seems to be mediated through attitudinal processes that lead to purchase behaviours.

Hypothesis Testing Results

Table 3

Hypothesis Testing Results

Hypothesis	Relationship	β	p-value	R ²	Decision
H1	Controversial Advertising $\rightarrow$ Emotional Response	0.716	<0.001	0.425	Supported
H2	Emotional Response $\rightarrow$ Advertisement Attitude	0.654	<0.001	0.439	Supported
H3	Advertisement Attitude $\rightarrow$ Brand Attitude	0.750	<0.001	0.552	Supported
H4	Brand Attitude $\rightarrow$ Purchase Intention	0.707	<0.001	0.497	Supported
H5	Controversial Advertising $\rightarrow$ Purchase Intention	0.609	<0.001	0.309	Supported

The results of the levels of support for the hypothesis demonstrate support for the proposed conceptual framework. The results indicate that controversial advertising significantly affects Emotional Response ($\beta = 0.716$, $p < 0.001$, $R^2 = 0.425$), confirming the first hypothesis: Controversial Advertising has a significant effect on Emotional Response among consumers, proving that attractive emotional responses are indeed created by controversial advertising among consumers. As for Advertisement Attitude, Emotional Response had a significant impact ($\beta = 0.654$, $p < 0.001$, $R^2 = 0.439$) and thus confirms the hypothesis H2, indicating that the stronger consumers' emotions, the more positive their attitude towards advertisements. Moreover, Advertisement Attitude exerts a significant positive influence on Brand Attitude ($\beta = 0.750$, $p < 0.001$, $R^2 = 0.552$), which supports H3, which states that favourable perceptions of the advertisements lead to favourable perceptions of the brand being advertised. The results further validate the hypothesis that Brand Attitude significantly affects Purchase Intention ($\beta = 0.707$, $p < 0.001$, $R^2 = 0.497$), which has helped to establish the significant impact of brand perception on consumer purchase. Lastly, Controversial Advertising has a positive direct effect on Purchase Intention ($\beta = 0.609$, $p < 0.001$, $R^2 = 0.309$), thus providing support for H5, which argues that controversial ads can directly influence consumers' intention to purchase. Generally, all hypotheses were supported and reinforced the validity of the Stimulus–Organism–Response (SOR) process as a frame of reference to explain the consumer's purchase intention in the context of controversial advertisements.

Final Regression Equation

$PI = 0.611 + 0.117(CA) + 0.006(ER) + 0.360(AA) + 0.379(BA)$

The final multiple regression equation developed for this study is $PI = 0.611 + 0.117(CA) + 0.006(ER) + 0.360(AA) + 0.379(BA)$, where Purchase Intention (PI) is the dependent variable and Controversial Advertising (CA), Emotional Response (ER), Advertisement Attitude (AA), and Brand Attitude (BA) serve as predictor variables. The equation indicates that a one-unit increase in Advertisement Attitude leads to a 0.360-unit increase in Purchase Intention, while a one-unit increase in Brand Attitude contributes a 0.379-unit increase, making Brand Attitude the strongest predictor in the model. Although Controversial Advertising and Emotional Response contribute positively to the equation with coefficients of 0.117 and 0.006, respectively, their effects were not statistically significant. The constant value (0.611) represents the baseline level of Purchase Intention when all predictor variables are held at zero. Overall, the regression equation demonstrates that consumers' attitudes toward the advertisement and the brand are the primary drivers of purchase intention, whereas controversial advertising and emotional responses have relatively limited direct predictive influence.

Model Fitness (ANOVA)

Table 4

Model Fitness (ANOVA)

Source	Sum of Squares	df	Mean Square	F-value	p-value
Regression	213.547	4	53.387	84.215	<0.001
Residual	155.267	245	0.634		
Total	368.814	249			

The results of ANOVA show that the overall regression model is statistically significant and has a good fit to predict Purchase Intention. The regression sum of squares was 213.547; the degrees of freedom for the regression were 4; the mean square for regression is 53.387. The error variance for the residuals was comparatively low, with a sum of Squares of 155.267 and a mean square of 0.634 over 245 degrees of freedom. The model obtained an f-value of 84.215, which is awarded as highly significant at $p < 0.001$, showing that the predictor variables taken together explained a considerable variance in Purchase Intention. As a result, the null hypothesis that the independent variables in the model explain no variance in consumers' purchase intentions is rejected, and the model is likely to be useful for predicting purchase intentions. The

findings confirmed the appropriateness and strength of the regression model to study the effects of controversial advertising, emotional response, advertisement attitude and brand attitude on the purchase intention.

Collinearity Statistics

Table 5
Collinearity Statistics

Predictor	Tolerance	VIF
Controversial Advertising	0.542	1.845
Emotional Response	0.487	2.054
Advertisement Attitude	0.421	2.375
Brand Attitude	0.466	2.146

The collinearity detection results revealed that there is no multicollinearity in the regression model. The TOVs for Controversial Advertising (0.542), Emotional Response (0.487), Advertisement Attitude (0.421) and Brand Attitude (0.466) all exceed the minimum threshold of 0.20 and show that each predictor has unique salivary power to explain the model. Likewise, the Variance Inflation Factor (VIF) values for the analyses are between 1.845 and 2.375, which are far less than the standard cut-off of 5.0. As for the predictors, Advertisement Attitude has the largest VIF value (2.375), which is still acceptable and indicates no problem with multicollinearity. The results indicate that the independent variables are not too highly correlated with each other and that the regression coefficients can be interpreted. Thus, the multicollinearity assumption is complied with, and the models obtained are stable and reliable estimates of relationships between the predictor variables and Purchase Intention.

Discussion

This study's results support the Stimulus – Organism – Response (SOR) theory, as it has been shown that controversial advertising has a temporal sequence; it affects the purchase intention of customers by having the features of emotions and attitudes. The results revealed that the controversial advertising has a significant impact on the emotional responses, emotional responses have a significant influence on attitudes about advertising, attitude about advertising has a positive effect on brand attitudes, and the brand attitudes in turn have a positive impact on purchase intention. The results revealed that consumers do not respond directly to the advertising stimuli, but rather would interpret the advertising message in terms of psychological states within them before deciding on a purchase-related action. The theoretical contribution that the study offers is the extension of the application of SOR theory in the context of controversial advertising that addresses the evaluation of emotions and thoughts concurrently. The results are consistent with recent studies that highlight the role of emotional arousal and attitude formation in advertising effectiveness (Choi & Kim, 2024; Liu et al., 2023; Dens et al., 2023). Similarly, prior studies have highlighted the role of emotionally appealing advertising campaigns as a key tool to affect consumers' attitudes and intentions (Vredenburg et al., 2022; Jung & Heo, 2022). The previous studies showed inconclusive results as to the direct influence of controversial advertising on buying behaviour, but the results of the present study showed that this influence is indeed an indirect one, mediated by the attitudinal factors.

Literature-wise, the study is part of the ongoing research effort for the controversial advertising area, as it empirically validates a sequential path between advertising stimulus and the behavioural intention. From the results, it is found that the emotional response is not enough if there is an attitude of the advertising and at the same time there is an attitude of the brand that is needed to create a purchase intention. The finding aligns with our recent research on predicting consumers' reactions, which indicates that emotional responses have been found to happen at a second-level processing through attitudinal emotions (Hair et al., 2022; Shmueli et al., 2019; Kamal et al., 2024). When intentions toward advertising are shown to be significant features of attitudes toward brand, the hierarchy-of-effects model is again confirmed, as the first step is to

form attitudes toward the advertisements and then attitudes toward the advertised brand are formed. Kim et al. (2021) and Dwivedi et al. (2023) reported that the influence of advertising extends beyond merely causing emotional responses, as consumers' evaluations of the brand are a significant factor in advertising effectiveness. However, there are some previous research studies that claimed that these strong emotional responses have intrinsic power to influence purchase intentions in highly engaging DLIs (Ajzen, 2020; Jung & Heo, 2022). The present results somewhat contradict those arguments because after introducing more powerful attitudinal predictors into the regression equation, emotional response was shown to be of less importance.

Conclusion

Findings from this study reveal that controversial advertising is an influential strategy in the emotional and attitudinal pathway leading to the consumer's purchase intention. They found that controversial advertising is significantly related to a person's emotional reaction, which is positively related to attitude towards the advertisement and which is, in turn, positively related to attitude towards the brand. Furthermore, the favourable attitudes of consumers towards the brand (brand attitude) turned out to be the most powerful predictor of purchasing intention, revealing that if consumers form favourable attitudes towards the brand, they are more likely to purchase the product. The results are in line with the Stimulus – Organism – Response (SOR) model, which posits that interaction with the external environment, with short-term psychological changes, has an impact on behaviour (Choi & Kim, 2024; Liu et al., 2023). The findings are also congruent to the latest research that positions emotional involvement and attitudinal formation as important factors of effective advertising effects (Dens et al., 2023; Kim et al., 2021).

In theory, this work not only gives continuity to the previous study, but also also enriches the knowledge in the field of controversial advertising. The significant pathways highlighted in the model indicate that consumers will engage in emotional and cognitive assessments, before making purchase intentions to controversial advertising. This study's results corroborate the findings of prior research which indicate that emotional responses do not account for consumer behaviour and that attitudinal variables play an important role as mediators in the advertising-consumer connection (Hair et al., 2022; Shmueli et al., 2019). Moreover, the results align with research emphasizing the role of brand perceptions in driving ad exposure to behaviour (Wang et al., 2024; Jung & Heo, 2022).

Future Research Direction

Despite contributions from the present study, there are a number of limitations that could be subject of future studies. The first limitation in the study was the cross sectional research design adopted which was unfavourable as it is useless to make statements of causation from sets of variables at any given time. Longitudinal research designs can be used to explore the progression and patterns of consumer perceptions and attitudes towards controversial ads as they change in their stage of brand interaction. Longitudinal studies would offer greater insights into the long-term stability and sustainability of the relationships observed (Hair et al., 2022; Shmueli et al., 2019). Finally, from the perspective of causal explanations, experimental designs could better help clarify the possible links between the diverse pitch contexts of controversial advertising stimuli and the outcomes of programs, sequences, and episodes (Choi & Kim, 2024; Liu et al., 2023).

One constraint is the geographic coverage and sampling context of the study. These respondents were in one cultural context which may restrict the representativeness of the findings for other countries or regions. Consumer responses to controversial imagery in advertising can be different depending on the culture, religious beliefs, ethical and social standards. More research studies are needed to take a cross-cultural comparison approach to see whether the relationship found in this study is similar across markets and various types of consumers (Dens et al., 2023; Dwivedi et al., 2023). Analyzing controversial advertising effectiveness is possible through a comparison of developed economies and developing economies (Kim et al., 2021; Vredenburg et al., 2022).

References

- Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, 2(4), 314–324. <https://doi.org/10.1002/hbe2.195>
- Choi, J., & Kim, S. (2024). Emotional response and advertising effectiveness: An empirical investigation of consumer behavior in online environments. *Journal of Advertising*, 53(1), 45–62.
- Dens, N., De Pelsmacker, P., & Verhellen, Y. (2023). The effectiveness of controversial advertising in digital environments: Consumer attention, engagement, and brand outcomes. *Journal of Advertising Research*, 63(2), 145–158.
- Dwivedi, Y. K., Hughes, L., Baabdullah, A. M., Ribeiro-Navarrete, S., Giannakis, M., Al-Debei, M. M., Dennehy, D., Metri, B., Buhalis, D., Cheung, C. M. K., Conboy, K., Doyle, R., Dubey, R., Dutot, V., Felix, R., Goyal, D. P., Gustafsson, A., Hinsch, C., Jebabli, I., ... Wamba, S. F. (2023). So what if ChatGPT wrote it? Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management*, 71, 102642. <https://doi.org/10.1016/j.ijinfomgt.2023.102642>
- Eisend, M., & Möller, J. (2024). Controversial advertising and consumer reactions: A meta-analytic review. *International Journal of Advertising*, 43(2), 187–210.
- Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2022). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook*. Springer. <https://doi.org/10.1007/978-3-030-80519-7>
- Iqbal, M. M., Hussain, A. H., & Ali, M. (2023). Computational Analysis of Economic and Environmental Impacts of Energy Policies in Pakistan: A Statistical Approach. *ILMA Journal of Technology & Software Management*, 4(1), 19.
- Jung, H., & Heo, J. (2022). Advertisement attitude, brand trust, and consumer purchase intention in digital marketing contexts. *Journal of Consumer Behaviour*, 21(6), 1294–1308.
- Kamal, M. H., Zaman, S. U., Alam, S. H., Iqbal, M., & Dashnyam, A. (2024). Sustaining Pakistan's economy through strategic gas planning and predictive analytics. *ILMA Journal of Social Sciences & Economics*, 5(2).
- Kim, M., Song, D., & Jang, A. (2021). Consumer response toward native advertising on social media: the roles of source type and content type. *Internet Research*, 31(5), 1656–1676. <https://doi.org/10.1108/intr-08-2019-0328>
- Liu, Y., Li, X., & Zhang, H. (2023). Emotional arousal and advertising effectiveness in digital marketing: Evidence from consumer engagement studies. *Psychology & Marketing*, 40(8), 1567–1582.
- Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J.-H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019). Predictive model assessment in PLS-SEM: guidelines for using PLSpredict. *European Journal of Marketing*, 53(11), 2322–2347. <https://doi.org/10.1108/ejm-02-2019-0189>
- Statista. (2024). *Global advertising spending worldwide from 2020 to 2028*. Statista Research Department. Retrieved from <https://www.statista.com>
- Vredenburg, J., Kapitan, S., Spry, A., Kemper, J. A., & Firat, A. F. (2022). Brand activism: From purpose-driven marketing to controversial advertising. *Journal of Public Policy & Marketing*, 41(1), 32–49.
- Wang, Y., Chen, L., & Zhao, X. (2024). Brand attitude and purchase intention in digital advertising environments: The mediating role of consumer trust. *Journal of Retailing and Consumer Services*, 76, 103557.