



# The Impact of Personalized Digital Advertising in Enhancing Sensory Branding with Respect to Food

DELIVERY APPS

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## ABSTRACT

With the increasing use of digital platforms, food delivery applications have started using more personalized and visually engaging advertisements to attract consumers. This study focuses on understanding how personalized digital advertising, combined with sensory elements such as attractive visuals, music, and emotional messaging, influences consumer perception and purchase intention.

The research was conducted using primary data collected from 150 respondents through a structured questionnaire. The analysis was carried out using descriptive statistics such as frequency and percentage distribution. The findings show that a majority of respondents fall within the 18–24 age group, indicating strong digital exposure among young consumers. Most participants reported that they notice personalized advertisements and find them visually appealing and emotionally engaging.

The results further reveal that advertisements incorporating vibrant colors, appealing food imagery, relatable content, and personalized offers positively influence consumers' interest in ordering food. A large proportion of respondents expressed a high level of purchase intention after viewing such advertisements. Overall, the study suggests that when personalization is combined with sensory branding strategies, it enhances consumer engagement

and strengthens purchase intention in the competitive food delivery market.

**Keywords:** Personalized Digital Advertising, Sensory Branding, Food Delivery Applications, Purchase Intention, Consumer Perception



## 1. INTRODUCTION

The upsurge of digital technology swiftly changed marketing and communication with consumers. However, the expansion of social media, the ubiquity of smartphones, and internet access have each helped to create an environment that allows for unprecedented precision and scale in targeted marketing campaigns. Advertising in this digital era has gradually shifted from the traditional approaches to more dynamic, interactive, and data-driven strategies that can engage consumers on a personalized and context-driven basis.

Among the most aggressive adopters of digital advertising, the food delivery industry in the Indian context provides a fertile ground. Zomato and Swiggy have not only disrupted the traditional methods of food service but also developed advanced digital marketing strategies involving personalization, visual appeal, and sensory appeal to attract and retain customers. The nature of the product (food) makes personalized advertising with sensory branding a more vital aspect of the overall marketing framework because of the marketing senses being stimulated.

Sensory branding refers to a deliberate use of sensory stimuli, which includes static stimuli and motion-based stimuli (visual, audio, and motion-based sensory channels) to create memorable, emotionally resonant brand experiences. Combined with personalization that provide tailored content for individual consumer preferences and behavioral tendencies, sensory elements are likely to dramatically enhance advertising capacities. Despite the increasing managerial relevance of the topic, research in academia regarding their cumulative influence on consumer behavior in digital advertising is still lacking (ibid).

This study addresses this gap by examining the combined effect of sensory elements and personalization on consumer attention, brand perception, and buying behavior of food delivery app users in India. By bringing these factors together in one analytical framework, the study offers a clearer view of how digital advertising strategies affect consumer responses in a tech-driven world. It also looks at how different sensory cues, when mixed with personalized content, improve the ability of ads to capture attention and shape perceptions. Additionally, the study helps identify the importance of visual, audio, and motion elements in influencing consumer behavior. It provides practical tips for marketers to create more targeted and consumer-focused advertising strategies that match changing digital consumption habits.

## 2. REVIEW OF LITERATURE

### 2.1 Sensory Branding and Marketing

Hulten (2011) introduced the foundational concept of the multi-sensory brand experience, arguing that brands achieve meaningful differentiation by strategically engaging multiple human senses. In the digital context, Razbadauskaitė-Venskė and Rafijevas (2024) applied the Stimulus-Organism-Response (SOR) model to demonstrate that visual stimuli in online environments significantly influence consumer purchase intentions through mental imagery and perceived quality. Cossich et al. (2023) established that low-level video features such as colour saturation and motion patterns are reliable predictors of consumer engagement in multimedia advertisements. Li (2023) demonstrated that coordinated visual and auditory brand cues create stronger emotional associations compared to unimodal sensory stimulation. Brengman, Willems, and De Gauquier (2022) found that congruent sensory cues in virtual reality advertising produce significantly stronger engagement and more positive brand attitudes than incongruent or absent sensory stimulation.

### 2.2 Personalised Digital Advertising

Tomar and Pandey (2024) established through a comprehensive review that personalised advertising consistently produces higher engagement rates, stronger purchase intentions, and more favorable brand attitudes compared to generic advertising. Syaputra and Azhar (2025) found that personalised social media advertising strengthens emotional bonds between consumers and brands, while cautioning that excessive personalization can elicit reactance. Mehta and Kulkarni (2020) demonstrated that the frequency and relevance of personalised messages are positive predictors of purchase intention, while privacy concerns exert a negative moderating effect. Shi et al. (2024) advanced the field by developing a framework for optimizing personalised advertisement supply, showing that strategic calibration of content density simultaneously improves engagement and platform revenue.



### 3. RESEARCH METHODOLOGY

The study adopts a descriptive and exploratory research design. Primary data was collected from 150 respondents who were active users of food delivery applications and had been exposed to digital advertisements on these platforms. Convenience sampling was employed, and data was gathered through a structured questionnaire administered via Google Forms. The questionnaire comprised closed-ended items measured on Likert-type and rating scales. Statistical tools employed include descriptive frequency analysis, Pearson correlation, multiple regression analysis, cross-tabulation, and one-way ANOVA. Key variables measured include Visual Awareness, Audio Attention, Motion Effects, Personalization, Consumer Attention, Emotional Response, and Buying Behavior.

#### 3.1 Objectives of the study

1. To examine how personalized digital advertisements incorporate sensory elements such as visuals, audio, and motion to enhance brand appeal.
2. To analyze the impact of sensory cues on consumer attention and perception of the brand.
3. To evaluate how food delivery applications use personalized and sensory-driven advertising strategies to influence consumer buying behavior.

#### 3.2 Hypotheses

The study is grounded in the Stimulus-Organism-Response (SOR) model, which provides a comprehensive framework for understanding how environmental stimuli influence consumer behavioral responses through the mediation of internal psychological states. Sensory elements and personalization constitute the stimuli; consumer attention, brand perception, and emotional response represent the organism; and buying behavior is the response. The following hypotheses were formulated:

**H<sub>01</sub>:** Sensory elements (visual, audio, and motion) do not significantly influence consumer attention.

**H<sub>02</sub>:** Sensory cues do not significantly influence consumer perception of the brand.

**H<sub>03</sub>:** Personalised and visual elements do not significantly influence consumer buying behavior.

**H<sub>04</sub>:** There is no significant difference in purchase intention across different age groups.

#### 3.3 Research Gap

A critical review of existing literature reveals that while sensory branding and personalized advertising have been studied independently, there is a notable absence of research examining their combined effects on consumer behavior in the specific context of digital food delivery platforms. Furthermore, most sensory marketing research has been conducted in physical retail environments, leaving the digital context relatively underexplored. The present study addresses these gaps by empirically investigating the joint influence of sensory elements and personalization on consumer attention, brand perception, and buying behavior in the food delivery sector in India.

#### 3.4 Need of the study

The increasing dominance of digital platforms has transformed the way businesses communicate with consumers, making digital advertising a critical component of modern marketing strategies. With the growing use of personalization and sensory elements in advertisements, there is a need to understand how these factors influence consumer behavior. While many companies invest heavily in creating visually appealing and personalized advertisements, there is limited clarity regarding their actual effectiveness in driving consumer attention, perception, and purchase decisions.

Existing research has often examined sensory marketing and personalization separately, without exploring their combined impact in a real-world digital context. Additionally, most studies focus on general industries, with limited attention given



to specific sectors such as food delivery applications, where consumer decisions are often immediate and influenced by digital stimuli.

This study is important as it provides insights into how sensory elements and personalization work together to influence consumer behavior in digital advertising. It helps marketers understand the effectiveness of these strategies and enables businesses to design more targeted, engaging, and impactful advertisements. Furthermore, the study contributes to bridging the gap between theoretical concepts and practical application in the field of digital marketing.

### 3.5 Scope of the study

The study focuses on analyzing the impact of sensory elements and personalization in digital advertising on consumer behavior, particularly in the context of food delivery applications such as Swiggy and Zomato. It examines how visual, audio, and motion-based elements influence consumer attention, perception, and buying behavior.

The research is limited to digital platforms and does not include traditional forms of advertising. It considers key demographic variables such as age, gender, and occupation to understand differences in consumer responses.

The study is based on data collected from 150 respondents through a structured questionnaire, and the analysis is carried out using statistical tools such as percentage analysis, cross-tabulation, correlation, regression, and ANOVA. The findings are specific to the selected sample and provide insights into consumer behavior within the chosen context.

## 4. DATA ANALYSIS AND INTERPRETATION

The analysis data are largely in favor of respondents between the ages of 18 and 24 and is typical of a younger and more digital group that uses food delivery applications most often. Gender-wise, the sample is almost balanced, with both males and females represented. Students form the biggest occupational category, with working professionals in second place, indicating the prevalence of digitally inclined convenience-focused clientele.

Price sensitivity and promotional offers, therefore, have a significant bearing on purchase decisions since many respondents are financially dependent. Majority of respondent belong to medium sized households, suggesting that food delivery services are shared or family for most respondents. In terms of usage behavior, the majority of respondents reported varying degrees of use of food delivery applications, with Zomato and Swiggy being the leading choices.

On perception of advertisements, the respondents reported superior awareness of visual elements in advertisements digitally presented to them, attention to audio elements and those in motion was minimal as compared to the former. Positive ratings were recorded for visual appeal, signifying a high attraction and appeal in food delivery advertisements on a visual level. Positive grades were also awarded to personalization, although there were variations in all the issues (advertisement elements) under this aspect. The emotional response to advertisements is moderate, and the feedback provides room for improvement. There were also favorable ratings toward purchase intentions following the exposure to digital advertising.

### 4.1 Regression Analysis I: Sensory Elements → Consumer Attention

**Table 4.1.1: Model Summary – Sensory Elements and Consumer Attention**

Measure	Value
R Square	0.043
Adjusted R Square	0.024
Observations	110

**Table 4.1.2: Regression Coefficients – Sensory Elements and Consumer Attention**

Variable	Coefficient ( $\beta$ )	P-value	Result
Visual Awareness	0.055	0.267	Not Significant
Audio Attention	0.094	0.213	Not Significant
Motion Effects	0.054	0.427	Not Significant

The regression model examining the influence of sensory elements on Consumer Attention yields an R-square of 0.043, indicating that Visual Awareness, Audio Attention, and Motion Effects collectively account for only 4.3% of the variance in consumer attention. None of the three predictors achieved statistical significance, with all p-values exceeding the 0.05 threshold. Consequently,  $H_{01}$  is accepted, sensory elements do not independently constitute significant predictors of consumer attention. This finding suggests that sensory stimuli function more effectively as complementary engagement tools than as primary drivers of attention.

#### 4.2 Regression Analysis II: Sensory Elements → Brand Perception

**Table 4.2.1: Model Summary – Sensory Elements and Brand Perception**

Measure	Value
R Square	0.059
Adjusted R Square	0.039
Observations	110

**Table 4.2.2: Regression Coefficients – Sensory Elements and Brand Perception**

Variable	Coefficient ( $\beta$ )	P-value	Result
Visual Awareness	0.166	0.038	Significant
Audio Attention	-0.168	0.164	Not Significant
Motion Effects	-0.127	0.246	Not Significant

The second regression model assessing the influence of sensory elements on Brand Perception yields an R-square of 0.059. Visual Awareness emerges as the sole statistically significant predictor ( $\beta = 0.166$ ,  $p = 0.038$ ), indicating that higher visual awareness is positively associated with more favorable brand perceptions. Audio Attention and Motion Effects are non-significant, with negative coefficient values suggesting a marginal inverse relationship.  $H_{02}$  is therefore partially rejected — visual elements exert a limited but statistically meaningful influence on consumer brand perception, consistent with the primacy of visual stimuli in digital advertising contexts.

#### 4.3 Regression Analysis III: Personalization & Sensory Elements → Buying Behavior

**Table 4.3.1: Model Summary – Sensory Elements and Buying Behavior**

Measure	Value
R Square	0.059
Adjusted R Square	0.040
Observations	110

**Table 4.3.2: Regression Coefficients – Personalization & Sensory Elements and Buying Behavior**

Variable	Coefficient ( $\beta$ )	P-value	Result
Visual Awareness	0.167	0.038	Significant
Audio Attention	-0.168	0.164	Not Significant
Motion Effects	-0.128	0.247	Not Significant

The third model examining the influence of sensory elements on Buying Behavior produces results closely paralleling the brand perception model ( $R$ -square = 0.059). Visual Awareness again emerges as the only significant predictor ( $\beta = 0.167$ ,  $p = 0.038$ ), while Audio Attention and Motion Effects remain non-significant.  $H_{03}$  is partially rejected, with the conclusion that visual elements carry a meaningful, if modest, influence on consumer buying behavior. This reinforces the critical role of visual design quality as a strategic priority for food delivery advertisers seeking to drive purchase conversion.

#### 4.4 Pearson Correlation Analysis

**Table 4.4.1: Pearson Correlation Matrix**

Variable	Visual Awareness	Personalization	Attention	Emotional Response	Buying Behavior
Visual Awareness	1	0.033	0.125	0.131	-0.205
Personalization	0.033	1	0.443	-0.184	0.217
Attention	0.125	0.443	1	-0.108	0.164
Emotional Response	0.131	-0.184	-0.108	1	-0.174
Buying Behavior	-0.205	0.217	0.164	-0.174	1

The correlation matrix reveals that the strongest association in the study is between Personalization and Consumer Attention ( $r = 0.443$ ), establishing personalization as the most influential antecedent of consumer attention considerably outperforming any sensory variable. Personalization also exhibits a weak positive correlation with Buying Behavior ( $r = 0.217$ ). Visual Awareness shows weak positive correlations with Attention ( $r = 0.125$ ) and Emotional Response ( $r = 0.131$ ), but a weak negative correlation with Buying Behavior ( $r = -0.205$ ), suggesting that visual appreciation does not automatically translate into purchase conversion. Emotional Response exhibits weak negative correlations across most variables, indicating limited alignment with behavioral outcomes in this sample.

#### 4.5 One-Way ANOVA: Age Group Differences in Purchase Intention

**Table 4.5.1: ANOVA Group Means – Age and Purchase Intention**

Age Group	Count	Sum	Average	Variance
Age Group 1 (Under 25)	18	78	4.33	0.471
Age Group 2 (18–24)	86	342	3.98	0.564
Age Group 3 (35 and above)	18	81	4.50	0.382

**Table 4.5.5: ANOVA Summary Table**

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	5.161	2	2.581	4.917	0.0089	3.072
Within Groups	62.453	119	0.525	—	—	—
Total	67.615	121	—	—	—	—

The one-way ANOVA yields an F-value of 4.917, which exceeds the critical value of 3.072 at the 0.05 significance level ( $p = 0.0089$ ), leading to the rejection of  $H_0$ . Statistically significant differences in purchase intention exist across age groups. Age Group 3 (35 and above) records the highest mean purchase intention ( $M = 4.50$ ), followed by Age Group 1 ( $M = 4.33$ ), while Age Group 2 (18–24) reports the lowest mean ( $M = 3.98$ ). This finding is counterintuitive but meaningful: while younger consumers are the most digitally active, older consumers demonstrate stronger purchase commitment when exposed to relevant advertising content, suggesting that demographic diversity in targeting strategies is commercially valuable.

## 5. MAJOR FINDINGS

- The empirical analysis produces a set of findings that are in unison and further advance the understanding of sensory elements and personalization in shaping consumer behavior within the digital advertising context of food delivery products.
- The main finding is that sensory elements, despite enhancing the aesthetic appeal and perceived quality of digital advertisements, do not independently play a crucial role in attracting consumer attention or influencing their purchasing behavior.
- Sensory elements, therefore, that present visual, audio and motion-based stimuli do not culminate to meaningful behavioral outcomes without the presence of the complementary force of personalization and content relevance.
- Visual awareness emerges as the most functionally important sensory dimension, being the only predictor to register statistical significance across the brand perception and buying behavior regressions.
- Visual awareness is thus reaffirmed as the single most dominant channel in digital advertising, unsurprising given the visually dominated nature of screen-based consumption. For food delivery advertisers, food imagery of high-quality, color schemes that stimulate, and visually coherent design are the most critical sensory investments.
- Personalization is established to be the single most influential variable in the study, with a moderate positive association with consumer attention, far exceeding the correlation observed for any sensory variable. This clearly indicates that consumers are more responsive to advertisements that feel tailored to their preferences, behaviors, and needs, rather than those that simply rely on sensory appeal. The strength of this relationship highlights the growing importance of individualized marketing in digital environments where consumers are constantly exposed to large volumes of content.
- The ANOVA results establish age as a significant moderator of purchase intention, with older age groups showing stronger purchase commitment despite younger groups having more digitally intensive lifestyles. This indicates that while younger consumers engage more with digital platforms, older consumers demonstrate more decisive and consistent buying behavior.
- Brand recall is uniformly strong among respondents, and purchase intention is largely positive, with most respondents indicating a likelihood to purchase after viewing advertisements. This reflects the overall effectiveness of current digital advertising strategies in creating awareness and influencing decisions.
- Despite these strengths, the findings suggest that while advertisements successfully capture attention and inform consumers, they are less effective in creating deeper emotional connections. This highlights a gap in emotional engagement within current advertising approaches.



- Therefore, brands need to move beyond basic personalization and focus on delivering meaningful, context-specific content that adds value to the consumer. Integrating emotional elements into personalization can strengthen trust, build long-term relationships, and ultimately increase the frequency of purchase behavior.

## 6. SUGGESTIONS AND RECOMMENDATIONS

The findings of this study carry important implications for digital marketing practitioners in the food delivery sector. The central recommendation is that effective digital advertising requires an integrated strategy combining strong visual content with sophisticated personalization, rather than relying on either dimension alone. Food delivery platforms should invest in professional food photography, visually coherent brand design systems, and the strategic use of color and composition to maximize visual appeal and perceived product quality. Visual content must also be accurate and realistic, as exaggerated imagery risks consumer disappointment and trust erosion.

The study's most powerful finding the moderate correlation between personalization and consumer attention strongly endorses data-driven personalization as the strategic priority. Marketers should leverage consumer data encompassing browsing history, past order behavior, location, and stated preferences to deliver individually relevant and contextually appropriate content. Personalization should extend beyond product recommendations to encompass advertisement timing, format, and messaging tone, creating a holistic experience of individual recognition. Privacy transparency is equally important, as perceived data misuse can negate the positive effects of personalization.

Given the significant age-based differences in purchase intention identified through ANOVA, food delivery advertisers should adopt demographic segmentation strategies that extend beyond the dominant 18–24 cohort. Older demographic segments which demonstrate stronger purchase commitment — warrant dedicated creative strategies emphasizing reliability, convenience, health-conscious options, and family value. For younger audiences, advertising should emphasize discovery, social sharing, and aspirational content that aligns with peer-oriented consumption behaviors.

Audio and motion elements, while not independently significant in the regression analyses, should be deployed thoughtfully as supporting elements that enhance the overall experiential quality of advertisements. Congruent sensory stimulation where audio and visual elements are harmoniously aligned in tone and style is more likely to produce positive engagement than excessive or incongruent multisensory stimulation. Organizations should also invest in artificial intelligence and machine learning capabilities to enhance personalization precision and continuously optimize advertising performance through A/B testing and real-time behavioral data analysis.

Finally, marketers should pursue long-term brand relationship development rather than short-term transactional objectives. The high word-of-mouth potential identified in this study (65.14% likely or very likely to share the advertisement) indicates that investing in genuinely engaging, personalised, and visually compelling advertising content can generate significant organic reach and brand advocacy beyond paid media, amplifying the overall return on advertising investment.

## 7. CONCLUSION

This study has investigated the impact of personalised digital advertising on sensory branding, with specific reference to food delivery applications in India. Drawing on empirical data from 110 respondents and a comprehensive battery of statistical analyses, the study has generated a coherent and practically significant set of findings. The central conclusion is that sensory elements and personalization are complementary rather than substitutable strategies. Sensory elements — particularly visual stimuli — play a meaningful role in shaping brand perception and buying behavior, but their influence is modest when considered in isolation. Personalization demonstrates a considerably stronger associative relationship with consumer attention, suggesting that relevance and individual recognition are more fundamental to advertising effectiveness than sensory richness alone.

The most effective digital advertising strategy for food delivery platforms is therefore one that integrates strong visual aesthetics with sophisticated, data-driven personalization to create experiences that are both visually appealing and individually meaningful. Age emerges as a significant moderator of purchase intention, challenging the prevailing assumption that younger audiences represent the most commercially valuable target segment. These findings contribute to the academic literature by providing empirical evidence for the combined influence of personalization and sensory elements



in a specific digital platform context, while offering actionable guidance for marketing practitioners seeking to improve advertising effectiveness in the competitive food delivery market.

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