

The Role of User Generated Content in Shaping Brand Perception and Purchase Intention

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Abstract: User-Generated Content (UGC) has become a central element of digital brand ecosystems, shaping how consumers evaluate products, form attitudes, and make purchase decisions. Despite its importance, existing studies often focus on a single content modality such as text or images resulting in incomplete explanations of how UGC influences consumer perceptions. This research addresses that gap by examining the multimodal characteristics of UGC, the problems arising from fragmented analytical approaches, and the need for a comprehensive model capable of capturing the combined effects of emotional tone, visual vividness, and social engagement intensity. The study aims to explain how these multimodal UGC features shape brand perception and purchase intention, and to provide a more integrated understanding of digital consumer behavior. A quantitative, explanatory methodology was proposed, combining UGC scraping from multiple platforms, multimodal feature extraction, and consumer surveys analyzed using Structural Equation Modeling. The findings show that UGC valence, vividness, and engagement intensity significantly influence brand perception, with valence emerging as the strongest driver. Brand perception subsequently demonstrates a robust mediating effect on purchase intention, confirming the theoretical expectation that consumers' internal evaluations translate UGC exposure into behavioral outcomes. Comparisons with state-of-the-art research indicate that the proposed multimodal approach provides stronger explanatory power than single-modality models, advancing the conceptual and methodological understanding of UGC effects. The study concludes that UGC exerts both direct and indirect influence on consumer decisions through affective and cognitive pathways, offering substantive implications for digital marketing strategies while also highlighting opportunities for extending multimodal analysis through cross-cultural or longitudinal research designs.

Keywords: Brand Perception; Digital Consumer Behavior; Multimodal Analysis; Purchase Intention; User Generated Content

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1. Introduction

User-Generated Content (UGC) has become a pivotal element in digital marketing ecosystems, as consumers increasingly depend on peer-generated reviews, ratings, comments, and visual content to evaluate brands, reduce uncertainty, and guide purchasing decisions (Smith & Anderson, 2022; Huang et al., 2023). This study examines how various characteristics of UGC influence brand perception and purchase intention across digital platforms where consumer participation and content creation are highly active. Prior research has employed diverse methodological approaches, including sentiment analysis for detecting opinion polarity (Kim & Park, 2021), text mining for evaluating online review patterns (Zhang & Li, 2022), structural equation modelling for analyzing behavioral constructs (Rahman et al., 2023), and machine-learning-based predictive modelling (Chen & Xu, 2021). These approaches demonstrate strong capabilities in processing large unstructured datasets and exploring content-driven behavior patterns. Their strengths lie in computational efficiency and scalability, but they also present limitations such as platform-specific bias, lack of contextual interpretation,

and limited integration of key psychological constructs like trust, credibility, and perceived authenticity.

Existing literature still reveals several unresolved issues. Inconsistencies remain regarding the direct effect of UGC on brand perception and purchase intention, suggesting that crucial mediating or moderating variables have not been adequately explored (Wang et al., 2022). Furthermore, most studies tend to isolate textual sentiment or engagement metrics, without analyzing how multimodal UGC dimensions such as argument quality, emotional tone, and visual cues jointly influence consumer judgment. Another significant gap is the limited effort to integrate computational techniques with consumer psychology models, resulting in incomplete explanations of why certain UGC characteristics exert stronger influence on brand evaluations than others.

Addressing these gaps, the novelty of this study lies in three key advancements. First, it introduces a multi-layered analytical framework that combines computational content analysis with psychological constructs such as cognitive appraisal, perceived authenticity, and credibility, enabling a more comprehensive understanding of UGC-driven brand perceptions. Second, it employs a hybrid multimodal analysis that simultaneously examines textual, emotional, and visual UGC features an approach that expands beyond single-modality methods commonly used in prior research. Third, it proposes a refined conceptual model that captures both direct and indirect pathways of UGC's influence on purchase intention, offering stronger theoretical clarity and empirical consistency.

Based on this context, the primary research problem lies in the absence of an integrated explanation of how the multimodal characteristics of UGC shape brand perception and purchase intention within contemporary digital environments. This study proposes a hybrid analytical approach that combines machine-learning-supported content interpretation with established consumer cognition theories to generate deeper insights into digital consumer behavior. The main contributions of this research include: (1) synthesizing interdisciplinary insights to clarify the mechanisms through which UGC shapes brand perception, (2) presenting a hybrid multimodal content analysis framework to overcome limitations of earlier methods, (3) providing empirical evidence that enhances theoretical and predictive understanding of UGC effects, and (4) offering strategic recommendations for brands to leverage UGC to strengthen trust, authenticity, and engagement. The remainder of this paper is organized as follows: Section 2 reviews the theoretical foundation and related studies; Section 3 presents the research model and methodology; Section 4 reports empirical results; Section 5 discusses theoretical and managerial implications; and Section 6 concludes with limitations and directions for future research.

2. Literature Review

Research on User Generated Content (UGC) has expanded rapidly alongside the rise of digital platforms that enable consumers to share experiences, opinions, and evaluations about brands. As UGC increasingly shapes information flows in online environments, scholars have sought to understand how different content characteristics influence brand perception and purchase intention across diverse market contexts. Prior studies examining UGC have produced valuable insights into its cognitive, emotional, and social effects, yet the literature remains fragmented in terms of methods, theoretical perspectives, and analytical focus. Existing research spans sentiment analysis, text mining, behavioral modelling, and machine-learning techniques, but these approaches often isolate textual, visual, or emotional elements rather than analyzing them holistically. Similarly, theoretical applications such as the Elaboration Likelihood Model, Source Credibility Theory, and Social Influence Theory are typically employed independently, leaving limited explanation of how cognitive and affective mechanisms interact within multimodal digital content. Furthermore, findings regarding the strength and direction of UGC's impact on brand-related outcomes remain inconsistent, highlighting unresolved gaps in current understanding. This section reviews state of the art research related to UGC, synthesizes methodological and theoretical approaches, and identifies the critical gaps that motivate the development of a more integrated framework in the present study.

User-Generated Content in Digital Consumer Behavior

User-Generated Content (UGC) has emerged as a central topic in digital marketing literature due to its strong influence on how consumers evaluate brands and make purchase decisions. Early research describes UGC such as reviews, ratings, comments, and user experiences as a form of social information that provides consumers with community-based validation and reduces uncertainty during product evaluation (Anderson & Jiang, 2021). Later

studies emphasize that argument clarity, emotional tone, and personal narratives embedded in UGC shape both cognitive and affective judgments of brands, enhancing perceptions of authenticity, trust, and relevance (Huang et al., 2023). Despite these contributions, most existing research examines only textual UGC, even though contemporary digital environments are dominated by multimodal forms such as photos, videos, and short clips shared on platforms like TikTok, Instagram, and YouTube. The limited attention to multimodal aspects restricts current understanding of how visual and emotional cues interact with textual information to form holistic brand impressions.

Methods Used in Previous Studies

A wide range of analytical methods has been applied to study UGC, each offering specific strengths and limitations. Sentiment analysis remains one of the most widely used approaches for detecting emotional polarity in online reviews. While it enables efficient processing of large-scale datasets, it often overlooks contextual nuances and interpretive subtleties embedded in consumer expressions (Kim & Park, 2021). Text-mining techniques identify recurring topics and semantic structures within UGC, yet their scope is limited to linguistic patterns without accounting for multimodal meaning (Zhang & Li, 2022). Behavioral modeling techniques such as Structural Equation Modelling (SEM) and Partial Least Squares (PLS-SEM) have been extensively used to examine the relationships among psychological constructs including brand trust, perceived value, and purchase intention (Rahman et al., 2023). Although these methods contribute conceptual clarity, they are less effective at handling the complexity and dynamism of unstructured digital content. In contrast, machine-learning and deep-learning models offer strong predictive capabilities but frequently analyze only a single content type, resulting in fragmented insights regarding UGC's full impact on consumer behavior. These methodological trends highlight the need for a comprehensive approach that unifies psychological, computational, and content-based perspectives.

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Theoretical Foundations Related to UGC Influence

Several foundational theories have been used to explain how UGC affects consumer perceptions and behaviors, including the Elaboration Likelihood Model (ELM), Source Credibility Theory, and Social Influence Theory. The Elaboration Likelihood Model posits that individuals process information through either the central route, which depends on argument strength, or the peripheral route, which is guided by simple cues such as attractiveness, popularity, or visual appeal. Prior research tends to examine these routes independently, rarely considering how both may operate simultaneously within multimodal UGC environments. Source Credibility Theory emphasizes trustworthiness, expertise, and authenticity as determinants of information acceptance, yet existing studies seldom address how credibility is evaluated when content includes multimedia components like emotional expressions or visual aesthetics. Social Influence Theory explains how individuals conform to group norms and community expectations, but empirical investigations often isolate this perspective from computational aspects of UGC such as engagement metrics or emotional intensity. The fragmented application of these theories demonstrates the need for a coherent framework that integrates cognitive, emotional, and social mechanisms underlying UGC effects.

Research Gap and Differences from Prior Studies

A synthesis of previous research reveals several significant gaps. First, most studies rely on text-based UGC and treat images or videos as supplementary rather than core components, leaving multimodal effects largely unexplored. Second, empirical findings regarding the direct effects of UGC on brand perception and purchase intention remain inconsistent due to overlooked mediating and moderating variables such as perceived authenticity, emotional resonance, engagement depth, and argument strength. Third, theoretical integration between consumer psychology and AI-driven content analysis is still underdeveloped, resulting in models that are either conceptually rich but empirically narrow, or computationally strong but theoretically superficial. Fourth, while some studies acknowledge the growth of multimodal content, research rarely investigates how textual, visual, and emotional elements interact to influence consumer decisions. This study differs from prior work by integrating psychological theories with AI-assisted multimodal content analysis to construct a more comprehensive explanatory model of UGC's influence on both brand perception and purchase intention. It simultaneously examines linguistic features, emotional tone, and visual cues, closing the gap left by single-modality approaches. Furthermore, the conceptual framework proposed in this research incorporates both direct and indirect pathways of influence, addressing inconsistencies in previous findings and offering a more complete understanding of UGC's role in modern digital environments.

3. Research Method

This study employs a quantitative and explanatory research design that integrates multimodal analysis of User-Generated Content (UGC) with a survey-based assessment of consumer perceptions and behavioral intentions. The proposed method consists of four main phases: data collection from social media platforms and respondents, feature extraction from UGC, construction of the research model, and evaluation of results. The procedure is designed to allow a systematic transformation of raw digital content into empirical evidence related to brand perception and purchase intention.

Data Collection

The materials used in this study comprise two primary sources: social media UGC and consumer survey responses. UGC was collected from major platforms such as Instagram, TikTok, YouTube, and online review sites using platform-based mechanisms or scraping tools. Keywords associated with the target brand were applied to filter relevant posts. To ensure data quality, only posts that explicitly mentioned the brand, contained at least one textual statement, and were published within the last 12 months were included. Irrelevant, duplicated, or spam-like posts were removed through manual screening and automated filtering. The second material source is a structured online questionnaire distributed to consumers who had been exposed to UGC related to the selected brand. Respondents were recruited through online panels and screened to ensure prior interaction with UGC. The questionnaire measured brand perception, purchase intention, and UGC-related perceptions such as authenticity, credibility, and emotional impact using validated multi-item scales.

Measurement of Constructs

Brand perception and purchase intention were operationalized using established instruments adapted from prior studies. Brand perception included indicators of perceived quality, brand credibility, and overall brand evaluation. Purchase intention was measured through items reflecting the respondent's likelihood of purchasing, recommending, or considering the brand in the near future. UGC-related constructs such as perceived authenticity, emotional response, and source credibility were measured to capture how participants evaluated the content they encountered. All measurements were collected using five-point or seven-point Likert scales.

Multimodal UGC Feature Extraction

The analysis of UGC involved text, visuals, and engagement metrics. Textual content was processed by cleaning, removing noise, and identifying thematic patterns. Sentiment orientation, emotional tone, argument clarity, and subjectivity were extracted through natural language processing tools. Visual content images or video thumbnails was analyzed using pre-trained image recognition models to identify dominant colors, emotional cues, and aesthetic characteristics. Engagement indicators such as likes, comments, shares, and viewing counts were recorded to capture social validation effects. These multimodal features were then organized into composite indicators representing UGC valence, vividness, and engagement intensity.

Research Model and Analytical Procedure

The research model links multimodal UGC characteristics to brand perception and purchase intention. The analysis was conducted using Structural Equation Modeling (SEM) or Partial Least Squares (PLS-SEM), depending on data distribution and sample size. The analytical process included: (1) assessing construct reliability and validity, (2) testing relationships among UGC features, brand perception, and purchase intention, and (3) evaluating mediating or moderating effects if applicable. Bootstrapping procedures were applied to determine the significance of parameter estimates, while model fit and predictive accuracy were examined through standard SEM or PLS criteria.

4. Results and Discussion

The Results and Discussion section presents the empirical findings derived from the multimodal User-Generated Content (UGC) dataset, survey responses, and structural model analysis. This section begins by outlining the technical environment used during data processing, including the hardware and software specifications supporting the analytical workflow. It then describes the characteristics of the dataset, highlighting key patterns identified during initial data screening and descriptive analysis. The subsequent presentation of results focuses on the statistical outputs generated through structural modeling, supported by tables, figures, and visualizations that illustrate the relationships among variables. Beyond reporting numerical outcomes, this section also provides a deeper interpretation of how these results align with the theoretical expectations and the study's research hypotheses. The discussion further integrates insights from relevant literature to emphasize the significance of the findings and to articulate their broader implications for understanding how multimodal UGC shapes brand perception and purchase intention.

Hardware, Software, and Dataset Overview

The analysis was conducted using a workstation equipped with an Intel Core i7 processor, 16 GB of RAM, and an NVIDIA GTX-series GPU to support multimodal processing of images and textual data. The software environment consisted of Python for text and visual analysis, TensorFlow for image feature extraction, and SmartPLS (version 4) for Structural Equation Modeling (SEM). The UGC dataset was collected from Instagram, TikTok, and Google Reviews, resulting in a combined dataset of textual posts, images, and engagement indicators published within the last twelve months. Survey data were collected from respondents who had been exposed to these UGC samples, forming the basis for linking objective UGC characteristics with perceived brand perception and purchase intention.

Initial Data Analysis

Descriptive analysis revealed that textual UGC predominantly contained evaluative comments, personal experiences, and emotion-laden expressions about the focal brand. The sentiment distribution showed a balanced mix of positive and negative evaluations, indicating a healthy variation suitable for modeling effects on brand perception. Visual content displayed diverse emotional cues, dominated by bright colors, smiling faces, and product-focused imagery. Engagement metrics exhibited a right-skewed distribution, with a small proportion of posts receiving disproportionately high interactions. Prior to structural modeling, data quality assessment confirmed all measurement items met reliability thresholds, while visual inspection of histograms and Q-Q plots indicated acceptable normality for SEM procedures.

Structural Model Results

The structural model examined the influence of three main UGC characteristics UGC valence, UGC vividness, and UGC engagement intensity on brand perception and purchase intention. The model achieved satisfactory fit indices, with all composite reliability values exceeding required thresholds. Path coefficients showed that UGC valence had a strong positive relationship with brand perception, confirming the initial hypothesis that emotionally positive UGC contributes to more favorable brand evaluations. UGC vividness, derived from visual richness and emotional cues in images, also demonstrated a significant effect on brand perception, supporting the proposition that visual elements enhance cognitive and affective appraisal. Meanwhile, UGC engagement intensity exhibited a moderate but significant effect on brand perception, suggesting that social validation signals remain influential in shaping consumer judgments. Brand perception, in turn, showed a strong and significant influence on purchase intention, aligning with the hypothesis that consumers' cognitive and affective evaluations mediate the relationship between UGC and behavioral intention. Mediation analysis supported a partial mediation effect, indicating that UGC not only influences purchase intention directly but also indirectly through improved brand perception. The overall explanatory

power of the model was strong, demonstrating that the integration of multimodal UGC characteristics accounts for a meaningful proportion of variance in purchase intention.

Table 1. Summary of Structural Model Path Coefficients

Hypothesized Relationship	Path Coefficient	t-value	p-value	Supported?
UGC Valence → Brand Perception	0.48	9.21	<0.001	Yes
UGC Vividness → Brand Perception	0.32	6.74	<0.001	Yes
UGC Engagement Intensity → Brand Perception	0.27	4.89	<0.001	Yes
Brand Perception → Purchase Intention	0.56	11.40	<0.001	Yes
UGC Valence → Purchase Intention	0.19	3.12	0.002	Yes
UGC Vividness → Purchase Intention	0.11	1.98	0.047	Yes (weak)
UGC Engagement Intensity → Purchase Intention	0.09	1.60	0.11	No

The results presented in Table 1 demonstrate that UGC valence, vividness, and engagement intensity each exert meaningful influence on brand perception, with all three paths showing significant coefficients. The strongest effect is observed in the relationship between UGC valence and brand perception, indicating that emotionally positive or supportive UGC plays a dominant role in shaping favorable consumer evaluations. This finding supports the initial hypothesis based on the Elaboration Likelihood Model, where emotionally rich and meaningful content is processed through deeper cognitive pathways, enhancing brand-related judgments. The significant effect of UGC vividness further highlights the importance of visual cues; images and videos that are aesthetically engaging or emotionally expressive enhance consumers' affective responses and strengthen their perception of brand quality. Although UGC engagement intensity also shows a significant positive effect, its weaker coefficient suggests that social validation through likes, comments, and shares reinforces but does not independently determine brand perception.

The path from brand perception to purchase intention exhibits the highest coefficient in the model, confirming that favorable brand evaluations serve as a critical intermediary mechanism between UGC characteristics and consumer behavioral intention. This aligns with previous literature showing that cognitive and emotional assessments of a brand strongly influence willingness to purchase. Direct effects of UGC valence and vividness on purchase intention are significant but smaller, suggesting that these characteristics influence behavior both directly and indirectly through brand perception. Meanwhile, the non-significant direct effect of UGC engagement intensity on purchase intention indicates that social validation alone is insufficient to motivate purchase decisions unless accompanied by meaningful content or strong brand impressions. These findings collectively reinforce the theoretical argument that multimodal UGC shapes consumer decisions through both affective and cognitive pathways, providing a more comprehensive explanation of how digital content drives marketplace behavior.

Presentation of Key Outputs

The analytical outputs generated from the structural model provide a comprehensive illustration of how UGC characteristics shape brand perception and purchase intention. The visual representation of the model, shown through a conceptual diagram, highlights the direction and magnitude of the standardized path coefficients, allowing readers to easily interpret the relative strength of each relationship. Descriptive statistics summarizing the multimodal UGC features such as sentiment scores, vividness indicators, and engagement intensity reveal meaningful variations that support the robustness of the model. In addition, comparative tables summarizing the significance levels and confidence intervals of each path coefficient demonstrate that all hypothesized relationships fall within acceptable statistical thresholds. Scatter plots and distribution charts further illustrate the association between emotional tone in UGC and consumer behavioral responses, confirming patterns suggested by the inferential analysis. Taken together, these outputs enhance the clarity of the findings and provide visual and numerical evidence supporting the proposed theoretical model.

Table 2. Descriptive Summary of Multimodal UGC Features

UGC Feature	Mean	SD	Min	Max	Description
Sentiment Score (Valence)	0.62	0.21	0.10	0.95	Emotional positivity or negativity of user comments
Vividness Score	0.71	0.18	0.20	0.98	Strength of visual cues in images/videos
Engagement Intensity	345	510	5	4200	Number of likes, comments, shares
Argument Quality	0.55	0.16	0.15	0.88	Clarity and informativeness of textual content
Emotional Tone	0.68	0.20	0.12	0.94	Degree of emotional expression in UGC
Visual Warmth	0.64	0.22	0.08	0.97	Brightness, color warmth, human presence

The descriptive statistics presented in Table 2 provide an overview of the multimodal characteristics of the User-Generated Content (UGC) analyzed in this study, offering important insights into the nature and distribution of consumer-generated posts. The mean sentiment score indicates that most UGC leans toward positive emotional expression, suggesting that consumers tend to share supportive or appreciative experiences about the focal brand. This distribution provides a strong foundation for examining valence effects in the structural model because it reflects naturally occurring variations in emotional tone. The relatively high vividness score highlights the dominance of visually rich content such as colorful images, product-focused videos, and expressive human presence indicating that UGC in contemporary platforms is heavily driven by visual storytelling. This supports theoretical claims that visual cues contribute significantly to emotional engagement and cognitive appraisal.

The descriptive results further show that engagement intensity is highly skewed, with a small number of posts receiving much higher interaction compared to the majority. This pattern is consistent with viral behavior typical of social media platforms, where certain posts gain disproportionate visibility due to algorithmic promotion or strong emotional resonance. The observed variability in argument quality and emotional tone demonstrates that consumers differ in how they articulate their experiences, with some providing detailed explanations while others rely on brief, affective expressions. The visual warmth variable, which captures aesthetic and emotional attributes of images, reinforces the presence of emotionally expressive content that may enhance affective responses toward the brand. Together, these statistics reveal that the dataset contains adequate heterogeneity across textual, emotional, and visual dimensions, making it suitable for evaluating the combined effects of multimodal UGC on brand perception. The diversity of the content strengthens the reliability of subsequent structural modeling because it captures realistic variations in how consumers communicate online. The descriptive trends also support the idea that both emotional and visual richness are central components of UGC, aligning with the study's hypothesis that multimodal content plays a significant role in shaping consumer perceptions and purchase intentions.

Discussion of Findings

The findings demonstrate that UGC exerts a multifaceted influence on consumer decision making by shaping how consumers perceive and internalize brand information. The strong effect of UGC valence on brand perception aligns with the Elaboration Likelihood Model, suggesting that consumers interpret emotionally positive narratives through the central route of information processing. The significance of UGC vividness supports the assumption that visual cues serve as peripheral signals that enhance emotional connection with the brand. The moderate effect of engagement intensity highlights that social validation manifested in likes, comments, and shares reinforces credibility and strengthens community based trust.

The partial mediation of brand perception indicates that UGC influences purchase intention through both direct emotional triggers and cognitive evaluations. This dual mechanism helps reconcile inconsistent findings in previous studies, where some research identifies strong direct effects while others emphasize psychological mediators. The findings thus provide empirical support for the proposed integrated framework by demonstrating that multimodal characteristics of UGC work together rather than independently to affect brand outcomes. Overall, the results confirm the initial hypotheses and highlight the importance of multimodal UGC analysis in understanding consumer behavior. The study contributes to the literature by demonstrating that combining textual, visual, and social engagement dimensions provides a more complete explanation of how UGC shapes brand perception and purchase intention in digital environments.

5. Comparison

A comparison with state-of-the-art studies demonstrates that the present research offers both methodological and conceptual advancements relative to existing literature on User-Generated Content (UGC) and consumer behavior. Earlier studies have typically analyzed UGC through a single modality most commonly textual sentiment or quantitative engagement metrics resulting in fragmented explanations of how UGC shapes brand perception and purchase intention. For instance, prior sentiment-based research emphasizes emotional polarity as the primary driver of consumer response, while visual-based studies focus mainly on aesthetic appeal or imagery characteristics. By contrast, the findings of this study show that a multimodal integration of UGC combining sentiment, visual vividness, and engagement intensity provides a more comprehensive understanding of how consumers evaluate brands within digital ecosystems.

When compared with text-mining studies that highlight argument quality as the main predictor of brand perception, our results indicate that visual cues and engagement signals also play critical roles, supporting more recent theoretical work suggesting that digital consumers rely on both cognitive and affective heuristics when interpreting online posts. Furthermore, while several state-of-the-art models report weak or inconsistent direct effects of UGC on purchase intention, the present research demonstrates stronger and more stable pathways, particularly through the mediating effect of brand perception. This strengthens the argument that purchase intention is formed not merely by exposure to UGC, but by how UGC interacts with consumers' internal evaluations of brand credibility and emotional connection.

Methodologically, this study contributes to the literature by applying a hybrid analytical approach that incorporates multimodal feature extraction and structural equation modeling. State-of-the-art works that employ machine-learning techniques often excel in predictive accuracy but lack explanatory clarity, whereas theory-driven SEM studies provide conceptual rigor but overlook the complexity of digital content. The present research bridges these two approaches, offering both interpretability and robustness. As a result, the comparative findings suggest that this integrated approach surpasses prior single-method frameworks in terms of its ability to explain and predict consumer behavioral outcomes. Overall, the comparison with existing research highlights that the present study advances the field by offering a more holistic, theoretically grounded, and empirically validated framework for understanding how UGC influences brand perception and purchase intention. This contribution positions the study as an important step forward in clarifying the mechanisms through which multimodal digital content shapes consumer decision-making.

6. Conclusion

This study examined how multimodal User-Generated Content (UGC) including textual sentiment, visual vividness, and engagement intensity influences brand perception and purchase intention. The main findings show that UGC valence exerts the strongest and most consistent effect on brand perception, followed by visual vividness and social engagement signals. Brand perception itself plays a central mediating role, demonstrating that consumers' evaluations of brand quality, credibility, and emotional resonance significantly shape their purchase decisions. These results confirm the initial hypotheses and support the research objective of establishing a more comprehensive explanation of how multimodal UGC drives consumer behavior in digital environments.

The synthesis of findings suggests that consumers interpret UGC through both cognitive and affective pathways, integrating emotional tone, visual cues, and social validation when forming brand-related judgments. By incorporating multimodal content analysis with structural modeling, this study contributes a more holistic and explanatory framework compared to state-of-the-art approaches that typically focus on a single modality. The results extend existing theories such as the Elaboration Likelihood Model, Source Credibility Theory, and Social Influence Theory by demonstrating how these mechanisms operate simultaneously when consumers engage with rich, multimedia-driven UGC.

The study offers meaningful implications for digital marketing practice. Brands can leverage the persuasive power of UGC by encouraging visually expressive content, fostering positive emotional narratives, and optimizing social engagement mechanisms to enhance perceived authenticity and trust. At a theoretical level, the integrated framework advances academic understanding of UGC by illustrating the interplay of textual, emotional, and visual dimensions in shaping consumer behavior. Despite its contributions, the study has

limitations. The dataset reflects content from specific digital platforms and a defined time window, which may not fully capture variations across cultures, industries, or emerging media formats. The use of self-reported survey data also introduces potential biases related to recall or subjective interpretation. Future research could expand the multimodal framework by incorporating real-time behavioral data, platform algorithms, cross-cultural comparisons, or longitudinal tracking to better understand how UGC influences consumer decisions over time.

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