

Visual Storytelling on Social Media: How Digital Gastronomic Representations Reshape Consumers' Adoption of Homemade Culinary Products

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Abstract

The phantomization of gastronomic culture has established visual storytelling as a core mechanism of digital food communication, reshaping how homemade culinary products are represented, perceived, and adopted by consumers. Grounded in the Stimulus-Organism-Response (S-O-R) framework, this study conceptualizes social media visual storytelling (SMVS) as a second-order reflective construct comprising four dimensions - visual aesthetic appeal, process narrativity, emotional resonance, and situational embodiment - and examines its impact on consumers' adoption intention toward homemade culinary products via the parallel and serial mediation of perceived authenticity and perceived hedonic value. Data were collected from 412 social media users in Nanning, China, and analyzed using partial least squares structural equation modeling (PLS-SEM). The results show that SMVS exerts a significant positive direct effect on adoption intention. Both perceived authenticity and perceived hedonic value partially mediate the relationship, and the serial mediating pathway "SMVS - perceived authenticity - perceived hedonic value - adoption intention" is also statistically supported. This study advances digital gastronomy scholarship by unpacking the cognitive-affective processing mechanism underlying visual food representation, and provides actionable guidance for homemade culinary micro-entrepreneurs on optimizing visual content strategies.

Keywords

Perceived authenticity, Perceived hedonic value, Adoption intention, Homemade culinary products, Stimulus-Organism-Response framework



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Introduction

Research background

Over the past five years, image-centric and short-video social media platforms have fundamentally transformed

the production and circulation of gastronomic discourse. Digital gastronomy, as an interdisciplinary field at the intersection of media studies and food studies, captures

how digital platforms reshape food representation, cultural identity, and market dynamics.

In urban China, platforms such as Douyin and Xiaohongshu have lowered entry barriers for individual culinary practitioners. This enables home-based food micro-entrepreneurs to reach mass audiences without relying on traditional marketing channels [1].

In Nanning, Guangxi Zhuang Autonomous Region, a vibrant local food ecosystem featuring homemade specialties such as old friend rice noodles, Zhuang-style pastries, and traditional sour delicacies has witnessed a rapid digital transition. An increasing number of independent culinary creators showcase their craft through short videos and photo essays, translating online visibility into offline sales, community building, and cultural transmission. In this context, visual storytelling has emerged as the dominant format of digital gastronomic representation. Unlike conventional food advertising that centers on polished product imagery, social media visual storytelling integrates aesthetic presentation, procedural demonstration, emotional expression, and situated context to construct immersive narrative experiences. For homemade culinary products, which often lack formal brand equity and third-party quality certification, visual storytelling serves not only as a marketing tool but also as a medium for authenticity signaling, identity construction, and value co-creation with consumers [2].

Research gaps and questions

Existing literature on food social media has predominantly focused on either platform engagement metrics or general restaurant consumption behavior, with limited attention to homemade culinary products as a distinct research context. Studies that examine consumer adoption intention often treat visual content as a unidimensional stimulus, overlooking its multi-faceted narrative structure. Furthermore, while both authenticity and hedonic value have been identified as important

factors in food consumption, few studies have investigated their sequential mediating role in the relationship between visual representation and behavioral intention, leaving the cognitive-affective processing mechanism under-theorized.

Against this background, this study addresses three core research questions.

- (1) How can social media visual storytelling in the gastronomic domain be conceptualized and operationalized as a multi-dimensional construct?
- (2) To what extent do perceive authenticity and perceived hedonic value mediate the relationship between social media visual storytelling and consumers' adoption intention of homemade culinary products?
- (3) Does a serial mediation pathway exist where visual storytelling fosters perceived authenticity, which in turn enhances perceived hedonic value and ultimately drives adoption intention?

Research contributions

This study makes three primary theoretical contributions. First, it advances digital gastronomy research by conceptualizing SMVS as a second-order construct with four distinct dimensions, providing a robust measurement framework for future studies. Second, it unpacks the cognitive-affective dual pathway underlying visual persuasion by examining both parallel and serial mediation effects, thereby deepening understanding of the psychological mechanisms through which digital gastronomic representations translate into consumer behavior. Third, it extends the applicability of the S-O-R framework to the under-researched domain of homemade food micro-entrepreneurship, responding to calls for more context-specific media and consumer research. Practically, the findings offer actionable insights for homemade culinary practitioners, particularly micro-entrepreneurs in ethnic and regional food contexts, regarding how to design visual content strategies that enhance authenticity perception, deliver hedonic value, and ultimately drive consumer adoption [3].

Literature review and theoretical foundation

Digital gastronomy and visual storytelling on social media

Digital gastronomy refers to the intersection of digital media technologies and culinary culture. It encompasses the production, circulation, and consumption of food-related digital content. It also includes its transformative impact on offline food practices. Recent scholarship has moved beyond framing digital food content as mere advertising. It now recognizes it as a cultural form that shapes taste, identity, and market dynamics. Short-video platforms have democratized gastronomic representation. They allow amateur creators to challenge the authority of professional food critics and institutionalized culinary discourse.

Visual storytelling, as a central mode of digital gastronomic communication, differs from simple food photography in its narrative structure. Visual storytelling in brand social media is defined as the strategic use of visual elements to construct a sequential, emotionally resonant narrative. This narrative persuades audiences through identification rather than explicit argumentation. In the food domain, effective visual storytelling typically involves more than showcasing finished dishes. It captures the process of cooking, the context of daily life, and the personality of the creator [4].

Existing empirical research has identified several key attributes of effective food visual content. Visual properties such as color saturation influence consumer sensory imagery and behavioral intention. Narrative structure significantly impacts consumer engagement with Instagram food content. Process-focused narratives generate higher levels of involvement than product-focused imagery. Building on these insights, this study conceptualizes SMVS as a multi-dimensional construct. It consists of visual aesthetic appeal, process narrativity, emotional resonance, and situational embodiment. This four-dimensional structure captures both the formal-

aesthetic and narrative-contextual properties of gastronomic visual storytelling [5].

Perceived authenticity in homemade food consumption

Authenticity has long been recognized as a pivotal construct in food and tourism studies. For homemade and artisanal food products, authenticity functions as a critical quality signal under conditions of information asymmetry. Consumers cannot easily verify ingredients, production methods, or hygiene standards prior to consumption. Perceived authenticity of homemade food is defined as consumers' subjective judgment regarding the genuineness, originality, and non-commercial nature of the product and its production process [6].

In digital environments, visual cues serve as primary authenticity signals. Food influencers negotiate authenticity through specific visual practices. These include the display of imperfect, "homemade-looking" food, behind-the-scenes footage, and domestic kitchen settings. Perceived authenticity is a strong predictor of consumer willingness to pay a premium for artisanal and homemade food products. However, the role of authenticity as a mediator between digital visual representation and adoption intention remains underexamined. This is particularly true in the context of social media micro-entrepreneurship [7].

Perceived hedonic value in food media experience

Hedonic value refers to the experiential, emotional, and sensory pleasure derived from consumption or media exposure. Unlike utilitarian value, which is functional and goal-oriented, hedonic value stems from enjoyment, aesthetic appreciation, and emotional gratification. In the context of food media, consumers do not only seek product information; they also derive immediate sensory and affective pleasure from viewing appealing food imagery. This pleasure can strengthen emotional engagement and encourage sharing [8].

Gastronomic visual content on short-video platforms generates hedonic utility through mental simulation of taste, texture, and consumption experiences. Research in marketing communications confirms that hedonic value elicited by media content can spill over to product evaluation, a phenomenon known as affect transfer. Visual storytelling enhances affective responses, which in turn increase persuasive effectiveness. Despite these findings, few studies have integrated hedonic value into a comprehensive model alongside cognitive factors such as authenticity. This integration is needed to explain consumer adoption of homemade food products [9].

Stimulus-Organism-Response (S-O-R) framework

The S-O-R paradigm, originally proposed by environmental psychologists, has been widely adopted in digital consumer behavior research to explain how environmental stimuli influence internal psychological states and subsequent behavioral responses. The framework posits that external stimuli (S) trigger cognitive and affective organismic states (O), which in turn drive behavioral responses (R).

In recent food media research, the S-O-R framework has proven useful for modeling the impact of digital content on consumer behavior. It has been applied to examine how visual food content on short-video platforms influences purchase intention, with perceived value and emotional trust as mediating organismic states. The framework has also been extended to food social commerce, identifying customer experience and engagement as key organismic factors [10].

Building on this body of scholarship, this study positions SMVS as the external stimulus (S), perceived authenticity and perceived hedonic value as the cognitive and affective organismic states (O), and adoption intention as the behavioral response (R). The framework is further refined by incorporating a serial mediation pathway, reflecting the sequential nature of cognitive-affective information processing.

Results

Conceptual research model

The proposed research model integrates SMVS as a second-order exogenous construct, perceived authenticity and perceived hedonic value as parallel and serial mediators, and adoption intention as the endogenous construct. Four control variables (gender, age, weekly food content browsing frequency, and prior homemade food purchase experience) are included to account for potential confounding effects. The model posits that visual storytelling influences adoption intention both directly and indirectly through two mediating pathways: a cognitive pathway via perceived authenticity, an affective pathway via perceived hedonic value, and a serial pathway from authenticity to hedonic value.

Hypothesis development

(1) Direct effect of visual storytelling on adoption intention

Visual storytelling facilitates consumer decision-making by reducing information asymmetry and enabling mental simulation of product experience. Narrative visual content allows consumers to imagine the taste, texture, and consumption context of homemade dishes, creating a sense of familiarity and psychological ownership even prior to actual purchase. Moreover, the immersive nature of storytelling enhances content recall and strengthens the association between the product and positive consumption outcomes.

Empirically, visual food content quality exerts a significant direct effect on purchase intention in short-video commerce. Visually appealing food images trigger sensory imagery that directly promotes approach tendencies. For homemade culinary products, which are often experiential in nature, vivid visual narratives can directly stimulate desire and behavioral intention. This pathway may operate independently of deeper cognitive evaluations.

Accordingly, this study proposes the following hypothesis.

Hypothesis 1 (H1): Social media visual storytelling positively and significantly influences consumers' adoption intention of homemade culinary products.

(2) Visual storytelling and perceived authenticity

Authenticity is not an inherent property of a product but a perceptual judgment formed through available cues. Visual storytelling provides multiple layers of authenticity signals that enable consumers to assess the genuineness of homemade food. Process narrativity - showing step-by-step preparation and cooking - offers procedural transparency, allowing viewers to verify production methods and infer craftsmanship. Situational embodiment - depicting domestic kitchens, casual dining settings, and everyday life contexts - signals non-commercial origins and genuine home cooking.

The aesthetic of "authentic food" on Instagram is defined by imperfection, spontaneity, and contextual embeddedness. All of these are conveyed through narrative visual strategies. Process transparency in agricultural livestreaming enhances perceived authenticity by reducing perceived manipulative intent. Therefore, richer visual storytelling should provide stronger authenticity cues. This should lead to higher perceived authenticity.

Hypothesis 2 (H2): Social media visual storytelling positively and significantly influences consumers' perceived authenticity of homemade culinary products.

(3) Visual storytelling and perceived hedonic value

Visual storytelling delivers hedonic value through multiple channels. Visual aesthetic appeal provides immediate sensory pleasure through harmonious composition, appetizing color palettes, and attractive plating. Process narrativity creates narrative engagement, generating curiosity and suspense that enhance viewing enjoyment. Emotional resonance evokes warm, comforting, or nostalgic feelings that contribute to affective well-being. Situational embodiment facilitates telepresence and transportation, allowing viewers to

imaginatively participate in the depicted culinary experience.

Visual storytelling in brand social media generates stronger affective responses than factual visual information. Gastronomic short videos provide hedonic utility beyond functional information, serving as a form of digital entertainment. It is therefore expected that higher-quality visual storytelling will generate greater perceived hedonic value.

Hypothesis 3 (H3): Social media visual storytelling positively and significantly influences consumers' perceived hedonic value.

(4) Perceived authenticity and adoption intention

For credence goods like homemade food, authenticity perception reduces perceived risk and uncertainty, which are major barriers to adoption. When consumers judge a product to be authentic, they infer superior taste, healthier ingredients, and greater cultural sincerity. Authenticity also satisfies consumers' desire for genuine, non-standardized experiences in an increasingly commercialized food system [11].

Perceived authenticity is a key driver of consumer acceptance of artisanal food products. Authenticity positively influences both purchase intention and word-of-mouth for homemade food. In the digital context, authenticity perception fosters trust. Trust is a prerequisite for transactional behavior in social commerce.

Hypothesis 4 (H4): Perceived authenticity positively and significantly influences consumers' adoption intention of homemade culinary products.

(5) Perceived hedonic value and adoption intention

According to affect transfer theory, positive emotions elicited by media content become associated with the featured product, leading to more favorable evaluations and higher behavioral intention. Hedonic value also increases content involvement and elaboration, strengthening the memory trace of the product and making it more accessible when consumption opportunities arise.

Research shows that hedonic experience in food social commerce is a strong predictor of repurchase intention and recommendation behavior. Nostalgic affective responses to food advertising enhance purchase intention through attitude transfer. For homemade food products, which are often consumed for pleasure and comfort rather than mere sustenance, hedonic value should be a particularly important driver of adoption.

Hypothesis 5 (H5): Perceived hedonic value positively and significantly influences consumers' adoption intention of homemade culinary products.

(6) Serial mediation pathway

Cognitive appraisal theory posits that affective responses are preceded by cognitive evaluation of stimuli. In the context of food media, consumers first process visual cues to form cognitive judgments about authenticity, and these cognitive judgments then shape the magnitude and valence of affective experience. When viewers perceive a culinary narrative as genuine and unmanipulated, they are more likely to emotionally engage with the content and derive greater hedonic pleasure from it. In contrast, perceived inauthenticity can trigger skepticism and dampen emotional enjoyment [12].

This sequential logic suggests a serial mediation pathway: Visual storytelling enhances perceived authenticity, which in turn increases perceived hedonic value, ultimately leading to higher adoption intention. This pathway also shapes subsequent behavioral responses. This pathway reflects the hierarchical nature of consumer information processing, where cognitive judgments provide the foundation for affective responses.

Hypothesis 6 (H6): Perceived authenticity positively and significantly influences consumers' perceived hedonic value.

Hypothesis 7 (H7): Perceived authenticity partially mediates the relationship between social media visual storytelling and adoption intention of homemade culinary products.

Hypothesis 8 (H8): Perceived hedonic value partially mediates the relationship between social media visual

storytelling and adoption intention of homemade culinary products.

Hypothesis 9 (H9): Perceived authenticity and perceived hedonic value serially mediate the relationship between social media visual storytelling and adoption intention of homemade culinary products.

Research methodology

Measurement instruments

All constructs were measured using multi-item scales adapted from established literature, modified to fit the homemade food social media context. A seven-point Likert scale (1= strongly disagree, 7= strongly agree) was used for all items.

Social media visual storytelling was operationalized as a second-order reflective construct with four first-order dimensions: visual aesthetic appeal, process narrativity, emotional resonance, and situational embodiment. These dimensions jointly capture the core features of the construct. Perceived authenticity was measured with 5.00 items adapted from prior work, capturing judgments of genuineness, originality, and non-commercial nature.

Perceived hedonic value was measured with 4.00 items adapted from prior work, modified to reflect media consumption experience. Adoption intention was operationalized as a three-dimensional construct. It encompasses purchase intention (2 items), social recommendation intention (2 items), and imitative cooking intention (2 items), adapted from prior work.

The questionnaire was initially drafted in English, then translated into Chinese following standard back-translation procedures. A pilot test with 36 respondents was conducted to refine wording and ensure clarity, resulting in minor adjustments to several items. Ethical approval was not required per local institutional guidelines, as the study involved anonymous online surveys with minimal risk to human subjects. All respondents provided informed consent prior to participation.

Data collection and sample profile

Data were collected through an online survey distributed via WeChat and Douyin community groups in Nanning, Guangxi, between March and April 2026. Purposive sampling was employed to target respondents who had previously viewed homemade food content on social media. A screening question at the beginning of the survey ensured eligibility. To encourage participation, respondents who completed the questionnaire received a small digital red packet incentive.

A total of 458 responses were collected. After removing 46 incomplete and straight-lining responses, 412 valid responses remained, representing an effective response rate of 89.96%. The sample size exceeds the minimum requirement for partial least squares structural equation modeling (PLS-SEM) analysis, which typically recommends a sample size ten times the maximum number of structural paths directed at a single construct. This threshold ensures adequate statistical power and stable parameter estimates. It also reduces the risk of overfitting and improves the generalizability of the findings.

Moreover, the acceptable response rate and the screening procedure jointly strengthen confidence in the data quality. The purposive sampling strategy further ensures that respondents possess relevant experience with the target phenomenon. These design choices together support the robustness of subsequent hypothesis testing. These design choices support the robustness of subsequent hypothesis testing.

Sample demographic characteristics are as follows: 58.70% female and 41.30% male; age distribution concentrated in 18-30 years old (42.50%) and 31-45 years old (38.60%), with 12.10% under 18 and 6.80% over 45; 67.20% of respondents reported browsing food-related social media content at least three times per week; and 59.70% had purchased homemade food products within the past six months. The sample profile aligns with the demographic characteristics of active social media food content consumers in urban China.

Analytical procedure

This study employed PLS-SEM using Smart-PLS 4 software for data analysis. PLS-SEM was chosen over covariance-based SEM for several reasons. It is more suitable for predictive research and complex models with multiple mediators. It performs well with second-order constructs. It also has less stringent requirements regarding sample size and data normality [13].

The analysis followed a two-step procedure. First, assessment of the measurement model to establish reliability and validity. Second, evaluation of the structural model to test the hypothesized relationships. Mediation effects were examined using bootstrapping with 5,000 resamples to generate bias-corrected confidence intervals. Common method bias was assessed using Harman's single-factor test and the full collinearity assessment approach.

Data analysis and results

Common method bias assessment

Harman's single-factor test yielded a first factor explaining 32.47% of total variance, which is below the 50.00% threshold, indicating no severe common method bias. Additionally, full collinearity assessment showed that all variance inflation factor (VIF) values of inner model constructs ranged from 1.623 to 2.147, well below the 3.3 critical threshold, confirming that common method bias is not a substantive concern in this study. Together, these results provide consistent evidence that common method bias is not a serious threat.

Measurement model evaluation

(1) First-order construct reliability and validity

The reliability and validity of the first-order measurement model were assessed first. All items were retained after initial purification, as no indicator loaded below the 0.708 cutoff. Detailed results are presented in Table 1.

Table 1. First-order measurement model reliability and validity.

Construct	Item	Outer loading	Cronbach's α	Composite reliability (CR)	Average variance extracted (AVE)
Visual aesthetic appeal (VAA)	VAA1	0.812	0.834	0.887	0.663
	VAA2	0.786			
	VAA3	0.845			
	VAA4	0.759			
Process narrativity (PN)	PN1	0.803	0.841	0.892	0.674
	PN2	0.837			
	PN3	0.791			
	PN4	0.825			
Emotional resonance (ER)	ER1	0.852	0.807	0.886	0.722
	ER2	0.871			
	ER3	0.814			
Situational embodiment (SE)	SE1	0.788	0.792	0.875	0.701
	SE2	0.863			
	SE3	0.847			
Perceived authenticity (PA)	PA1	0.773	0.852	0.895	0.629
	PA2	0.816			
	PA3	0.795			
	PA4	0.762			
	PA5	0.821			
Perceived hedonic value (PHV)	PHV1	0.804	0.826	0.881	0.648
	PHV2	0.839			
	PHV3	0.758			
	PHV4	0.817			
Adoption intention (AI)	PI1	0.827	0.889	0.918	0.651
	PI2	0.794			
	SRI1	0.812			
	SRI2	0.786			
	ICI1	0.773			
	ICI2	0.805			

Note: All outer loadings are significant at $p < 0.001$ (bootstrapping with 5,000 resamples).

As shown in Table 1, Cronbach's α values for all constructs range from 0.792 to 0.889, and composite reliability values range from 0.875 to 0.918, all exceeding conventional thresholds. All AVE values range from 0.629 to 0.722, well above the 0.50 benchmark. These coefficients are consistent across all dimensions. They indicate that each construct measures a distinct and coherent underlying factor. No single item dominates the measurement of any construct. These results demonstrate satisfactory internal consistency reliability and convergent validity for all first-order constructs.

(2) Second-order construct validation

This study operationalized social media visual storytelling (SMVS) as a reflective-reflective second-order construct, and the two-stage approach recommended in prior work was adopted for validation. This approach is particularly suitable when first-order dimensions are correlated and jointly form a higher-order construct. In the first stage, the first-order measurement model was estimated to obtain latent variable scores. In the second stage, these scores were used as indicators of the second-order SMVS construct in a structural model to test the hypothesized relationships.

Table 2. Second-order construct loadings and weights.

First-order dimension	Loading on SMVS	Weight	t value	p value
Visual aesthetic appeal	0.821	0.268	14.237	<0.001
Process narrativity	0.857	0.312	17.509	<0.001
Emotional resonance	0.793	0.245	12.891	<0.001
Situational embodiment	0.769	0.175	10.642	<0.001

Note: Significance based on bootstrapping with 5,000 resamples.

As presented in Table 2, all first-order dimensions have significant loadings on the second-order SMVS construct ($p < 0.001$), with loadings ranging from 0.769 to 0.857. The weights are all positive and statistically significant, confirming that each dimension contributes meaningfully to the overall SMVS construct. The second-order SMVS construct demonstrates strong reliability and validity: Cronbach's $\alpha = 0.876$, CR = 0.913, AVE = 0.725. All metrics exceed conventional thresholds, confirming that the four first-order dimensions

collectively capture the higher-order construct of social media visual storytelling.

(3) Discriminant validity

Discriminant validity was assessed using the Heterotrait-Monotrait Ratio (HTMT) criterion. As presented in Table 3, all HTMT ratios are below the 0.850 conservative threshold, and none of the 95.00% bootstrap confidence intervals include 1.000. These results establish adequate discriminant validity among all latent variables in the measurement model.

Table 3. HTMT discriminant validity matrix.

Construct	1	2	3	4
SMVS	/	/	/	/
PA	0.624	/	/	/
PHV	0.713	0.687	/	/
AI	0.705	0.639	0.721	/

Note: 1= SMVS; 2=PA; 3=PHV; 4=AI. None of the 95% bias-corrected bootstrap confidence intervals include 1.000.

Structural model evaluation

Before hypothesis testing, multicollinearity among predictor constructs was examined. All inner VIF values are below 2.2, well below the 5.0 threshold, indicating no multicollinearity issues.

Model fit was assessed using the standardized root mean square residual (SRMR) and the normed fit index (NFI). The SRMR value was 0.058, below the 0.080 threshold. The NFI value was 0.912, exceeding the 0.900 benchmark. These indices indicate adequate fit.

The explanatory power is reflected in the R^2 values. The model explains 42.80% of the variance in perceived authenticity, 51.30% in perceived hedonic value, and

62.30% in adoption intention. These values are moderate to substantial in consumer behavior research.

Predictive relevance (Q^2) was assessed using the blindfolding procedure with an omission distance of 7. All Q^2 values are positive: perceived authenticity = 0.312, perceived hedonic value = 0.385, adoption intention = 0.476. All values exceed zero, confirming the model's predictive relevance.

Direct effect hypothesis testing

Direct path coefficients, t-values, p-values, and significance levels were generated through bootstrapping with 5,000 bias-corrected resamples. Results are summarized in Table 4.

Table 4. Direct path hypothesis testing results.

Hypothesis	Path	β	Std. error	t value	p value	Decision
H1	SMVS $\rightarrow$ AI	0.287	0.045	6.342	< 0.001	Supported
H2	SMVS $\rightarrow$ PA	0.654	0.035	18.729	< 0.001	Supported
H3	SMVS $\rightarrow$ PHV	0.391	0.046	8.567	< 0.001	Supported
H4	PA $\rightarrow$ AI	0.214	0.050	4.286	< 0.001	Supported
H5	PHV $\rightarrow$ AI	0.372	0.048	7.815	< 0.001	Supported
H6	PA $\rightarrow$ PHV	0.426	0.047	9.103	< 0.001	Supported

Note: Significance based on one-tailed test, bootstrapping with 5,000 resamples.

As shown in Table 4, all six direct-effect hypotheses are supported at the 0.001 significance level. Specifically, social media visual storytelling has a significant positive direct effect on adoption intention ($\beta=0.287$, $p<0.001$), supporting H1.

SMVS also positively predicts both perceived authenticity ($\beta=0.654$, $p<0.001$) and perceived hedonic value ($\beta=0.391$, $p<0.001$), supporting H2 and H3. Perceived authenticity positively affects adoption intention ($\beta=0.214$, $p<0.001$) and perceived hedonic value ($\beta=0.426$, $p<0.001$), supporting H4 and H6.

Perceived hedonic value positively affects adoption intention ($\beta=0.372$, $p<0.001$), supporting H5.

Mediation effect analysis

Mediation effects were tested using bias-corrected bootstrapping with 5,000 resamples. A mediation effect is considered statistically significant if the 95% confidence interval does not contain zero. This approach provides robust estimates without assuming normality of the sampling distribution. Table 5 presents the results for parallel mediation, serial mediation, and total effects.

Table 5. Mediation effect analysis results.

Effects	Mediation path	β	Std. error	95% CI (Lower)	95% CI (Upper)	Conclusion
Parallel mediation	H7: SMVS $\rightarrow$ PA $\rightarrow$ AI	0.140	0.027	0.092	0.197	Partial mediation supported
	H8: SMVS $\rightarrow$ PHV $\rightarrow$ AI	0.145	0.023	0.104	0.193	Partial mediation supported
Serial mediation	H9: SMVS $\rightarrow$ PA $\rightarrow$ PHV $\rightarrow$ AI	0.103	0.018	0.071	0.142	Serial mediation supported
Summary of effects	Total indirect effect	0.388	0.034	0.324	0.457	Significant
	Total effect (SMVS $\rightarrow$ AI)	0.675	0.031	0.615	0.733	Significant
	Direct effect/Total effect	42.5%	/	/	/	/
	Indirect effect/Total effect	57.5%	/	/	/	/

As shown in Table 5, all three mediation hypotheses are supported. The indirect effect via perceived authenticity is 0.140 (95% CI [0.092, 0.197]), confirming partial mediation and supporting H7.

This finding indicates that authenticity perception serves as a significant cognitive pathway through which visual storytelling influences adoption intention. The indirect effect via perceived hedonic value is 0.145 (95% CI [0.104, 0.193]), also confirming partial mediation and

supporting H8. The serial mediation effect through both perceived authenticity and perceived hedonic value is 0.103 (95% CI [0.071, 0.142]), supporting H9.

Comparing the magnitude of effects, the total indirect effect ($\beta=0.388$) accounts for 57.5% of the total effect of SMVS on adoption intention, while the direct effect accounts for 42.5%.

This indicates that visual storytelling influences adoption intention primarily through psychological mechanisms

rather than through direct stimulus-response. Among the three indirect pathways, the parallel hedonic pathway is the strongest (37.40% of total indirect effect), followed by the parallel authenticity pathway (36.10%) and the serial pathway (26.50%).

Control variable effects

The effects of four control variables on all three endogenous constructs were estimated and reported in Table 6.

Table 6. Effects of control variables on endogenous constructs.

Control variable	Perceived authenticity			Perceived hedonic value			Adoption intention		
	β	t value	p value	β	t value	p value	β	t value	p value
Gender	0.042	0.987	0.324	0.035	0.812	0.417	0.029	0.731	0.465
Age (years old)	0.051	1.172	0.241	0.063	1.426	0.154	0.074	1.795	0.073
Weekly browsing frequency	0.098	2.241	0.025	0.115	2.603	0.009	0.087	2.134	0.033
Prior purchase experience	0.126	2.879	0.004	0.109	2.472	0.014	0.112	2.706	0.007

As shown in Table 6, weekly food content browsing frequency has significant positive effects on all three endogenous constructs (all $p < 0.05$), indicating that consumers with more frequent exposure to food-related social media content tend to perceive higher authenticity, derive more hedonic value, and report stronger adoption intention. Prior homemade food purchase experience also exerts significant positive effects on perceived authenticity ($p < 0.01$), perceived hedonic value ($p < 0.05$), and adoption intention ($p < 0.01$), consistent with the familiarity bias in consumer decision-making. Gender and age show no significant effects on any of the endogenous constructs (all $p > 0.05$), suggesting that the proposed psychological mechanism operates consistently across demographic groups.

Discussion

Interpretation of key findings

This study developed and tested a comprehensive model of how social media visual storytelling influences consumers' adoption of homemade culinary products. All nine hypotheses were supported, yielding several key insights.

First, SMVS exerts a significant positive direct effect on adoption intention, even after accounting for the two mediators. This finding suggests that compelling visual

narratives can directly stimulate behavioral intention through mental simulation and immersive engagement, independent of cognitive and affective evaluation. For homemade food micro-entrepreneurs, this implies that investing in high-quality visual storytelling can generate immediate behavioral responses beyond what can be explained by perceived authenticity or hedonic value alone.

Second, both perceived authenticity and perceived hedonic value partially mediate the relationship between SMVS and adoption intention. This confirms the dual-pathway nature of visual persuasion: Visual storytelling operates through both a cognitive pathway (authenticity judgment) and an affective pathway (hedonic experience). The two mediators account for a larger proportion of the total effect than the direct path, highlighting the importance of psychological mechanisms in digital gastronomic communication.

Third, the serial mediation pathway is statistically significant, indicating that perceived authenticity not only directly influences adoption intention but also indirectly does so by enhancing perceived hedonic value. This finding aligns with cognitive appraisal theory and reveals the sequential nature of consumer information processing: Viewers first form cognitive judgments about the genuineness of the content and product, and these judgments then shape the degree of emotional

pleasure they derive from the viewing experience. The serial pathway explains a meaningful portion of the total effect, underscoring the importance of authenticity as a foundation for affective engagement.

Theoretical implications

This study makes several important theoretical contributions to the digital gastronomy and media studies literature.

First, it conceptualizes and operationalizes SMVS as a second-order multi-dimensional construct, addressing a critical gap in previous research that often treats visual content as a unidimensional stimulus. The four-dimensional structure - visual aesthetic appeal, process narrativity, emotional resonance, and situational embodiment - captures the complexity of gastronomic visual storytelling. It also provides a robust measurement tool for future research in digital media and food studies. Second, it unpacks the cognitive-affective dual mechanism underlying visual persuasion in the homemade food context. By examining both parallel and serial mediation effects, the study demonstrates that authenticity and hedonic value operate not only independently but also sequentially. These findings advance understanding of how visual representations are psychologically processed and translated into behavioral intention, extending existing media effects theory to the gastronomic domain [14].

Third, it extends the S-O-R framework to the under-researched domain of homemade food micro-entrepreneurship. The study demonstrates the framework's utility in explaining consumer behavior in the context of peer-to-peer digital food commerce, where traditional marketing signals are weak and interpersonal and narrative cues dominate. By incorporating serial mediation, the study also adds nuance to the basic S-O-R model, which typically treats organismic states as parallel rather than sequential.

Finally, the study contributes to authenticity research by identifying visual storytelling as a key antecedent of

perceived authenticity in digital environments. It shows that narrative and contextual visual cues serve as effective authenticity signals for credence goods like homemade food, complementing existing research that focuses on textual information and reviewer ratings.

Practical implications

The findings offer actionable implications for homemade culinary practitioners, platform operators, and regional food development policymakers.

For homemade food micro-entrepreneurs, three strategic recommendations emerge. First, invest in comprehensive visual storytelling rather than focusing solely on aesthetically pleasing finished-dish photography. Content should integrate all four dimensions: polished visual presentation, clear procedural demonstration, authentic emotional expression, and situated domestic context. Second, prioritize authenticity signaling in visual content. Showcasing real kitchen environments, unpolished homemade aesthetics, and transparent production processes can significantly enhance perceived authenticity, which in turn boosts both hedonic value and adoption intention. Third, design content that delivers hedonic value. Given that the hedonic pathway is the strongest indirect driver of adoption, creators should aim to evoke positive emotions such as warmth, comfort, and nostalgia through narrative structure and visual style [15].

For social media platforms, the findings suggest opportunities to support food micro-entrepreneurs through algorithm optimization and creator education. Platforms could develop content creation tools and tutorials that help amateur creators improve their visual storytelling capabilities. Algorithmically, platforms could prioritize content that balances aesthetic appeal and narrative depth, rather than rewarding only superficial visual attractiveness.

For regional food development in contexts like Nanning, digital visual storytelling represents a powerful tool for promoting local culinary heritage. Supporting home-

based creators of ethnic and regional specialties can help preserve cultural heritage while generating inclusive economic development. Policymakers could implement training programs and micro-grants to help local culinary practitioners build digital content creation capabilities.

Conclusion

This study examines how social media visual storytelling influences consumers' adoption of homemade culinary products, with perceived authenticity and perceived hedonic value as mediators. Drawing on the S-O-R framework and data from 412 consumers in Nanning, China, the study demonstrates that visual storytelling positively affects adoption intention both directly and indirectly through parallel and serial mediation pathways. The findings highlight the importance of both cognitive authenticity judgment and affective hedonic experience in translating digital gastronomic representations into consumer behavior, and provide theoretical and practical insights for digital gastronomy research and practice.

Limitations

First, the cross-sectional research design prevents definitive causal inferences. Although the theoretical model is grounded in established theory, future longitudinal or experimental research would strengthen causal claims. Repeated measures across multiple time points could also capture how perceptions and intentions evolve. Second, the sample is geographically limited to Nanning, which may limit generalizability to other regions with different food cultures and digital adoption patterns. Third, the study focuses on general homemade culinary products without differentiating between specific food categories; the strength of the effects may vary across product types. Fourth, the study relies on self-reported intention rather than actual purchase behavior, which may be subject to social desirability bias.

Future research directions

Future research can build on this study in several directions. First, researchers could investigate cross-platform differences in visual storytelling effects, comparing image-centric platforms, short-video platforms, and livestreaming platforms. Second, cross-cultural comparative studies could examine how cultural values moderate the relationships between visual storytelling, authenticity, hedonic value, and adoption intention. Third, future research could explore additional mediators and moderators, such as perceived food healthiness, creator trustworthiness, and consumer culinary involvement. Finally, studies incorporating actual behavioral data and experimental designs would provide more robust evidence of the causal effects of visual storytelling strategies.

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Conflicts of Interest

The author declares no conflict of interest.

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