Research on Short Video Marketing Strategy of AI Smartphones under the Generation Z Consumption Behavior Map

Jinyang Wang
Hubei University of Technology Engineering and Technology College, Wuhan, China

Abstract: **This study constructs a "content-cognition-emotion-behavior" theoretical framework by integrating the Technology Acceptance Model (TAM) with Fear of Missing Out (FOMO) theory and short-form video content characteristics, aiming to explore the consumption decision-making mechanism of Generation Z toward AI smartphones. Based on a survey of 345 Gen Z consumers and structural equation modeling analysis, the findings reveal that FOMO indirectly drives consumption intention by significantly enhancing perceived usefulness ($\beta = 0.485$, $p < 0.001$). Both perceived entertainment ($\beta = 0.400$, $p < 0.001$) and perceived ease of use ($\beta = 0.282$, $p < 0.001$) exhibit significant direct positive effects on consumption intention, with the influence of entertainment surpassing that of functional utility. However, consumption intention fails to effectively translate into actual consumption behavior ($\beta = -0.004$, $p = 0.933$). The research deepens the application of TAM in short-form video marketing contexts and provides theoretical and practical insights for AI smartphone brands to optimize content strategies, such as enhancing entertaining designs and embedding instant conversion mechanisms.**

Keywords: Generation Z; AI Smartphones; Short-Form Video Marketing; Technology Acceptance Model (TAM); FOMO; Consumer Behavior.

1. Introduction

1.1 Research Background

AI smartphones have emerged as a new growth driver in consumer electronics, with global adoption projected to reach 35% by 2025. However, Generation Z users show limited acceptance of complex AI features, revealing a cognitive gap. While short videos serve as their primary information source with high conversion rates, existing research lacks in-depth analysis of content characteristics and user decision-making mechanisms. Traditional technology acceptance models focus solely on functionality, failing to integrate the entertainment and emotional dimensions of short videos. This explains why they struggle to capture Generation Z's AI technology acceptance logic in short video contexts. Therefore, investigating how short video content influences Generation Z's AI smartphone purchase intent holds both theoretical and practical significance.

1.2 Research Significance

Theoretical Significance: This study transcends the limitations of traditional Technology Acceptance Model (TAM) by incorporating short video content attributes (entertainment, interactivity, and value) as exogenous variables and FOMO (Fear of Missing Out) as a antecedent variable. It constructs an integrated "content-cognition-emotion-behavior" model to elucidate how short video marketing influences Gen Z's AI technology adoption. This innovation expands TAM's applicability in entertainment consumption contexts and provides a fresh perspective for understanding digital natives' technology acceptance psychology.

Practical Significance: By empirically examining how content characteristics influence perceived usefulness/usability and the moderating effect of FOMO, this study provides actionable insights for businesses to refine short video content strategies (e.g., enhancing interactive design) and develop differentiated marketing approaches (e.g., targeted outreach to high FOMO audiences). It empowers AI-powered smartphone brands to achieve precise conversion and synergize brand performance with marketing outcomes.

2. Research Content and Methods

2.1 Research Content

This study focuses on three core dimensions:

First, establishing a theoretical framework by proposing a TAM model-based main pathway of "short video content characteristics → perceived usefulness/ease of use → consumption intention," with FOMO (Fear of Missing Out) serving as a antecedent variable between perception and intention. Second, conducting empirical validation through online surveys of 500 valid responses from Generation Z participants, employing stratified regression analysis to test hypotheses. Third, formulating optimization strategies for AI-powered mobile short video marketing across content creation, platform operations, and brand communication.(As shown in the research model figure 1)

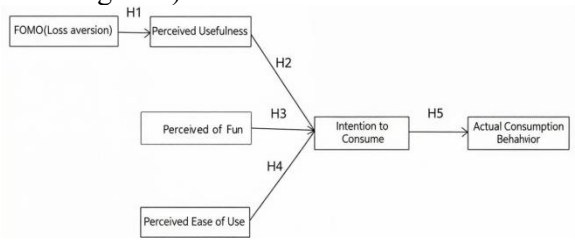

Figure 1. Research Model Figure

2.2 Research Hypotheses

Building on the Technology Acceptance Model (TAM) and Fear of Missing Out (FOMO) theory, this study proposes the following hypotheses by integrating the content characteristics of short videos with consumer behavior theory:

H1: FOMO (Fear of Missing Out) significantly enhances consumers' perceived usefulness.

Theoretical basis: FOMO reflects the anxiety induced by individuals 'fear of missing social opportunities [1]. In the context of short video marketing, users' attention to content such as 'limited-time feature experiences' and 'popular event check-ins' enhances their recognition of the practical value of AI technology [2].

H2: The perceived usefulness significantly enhances consumers' purchase intention.

Theoretical basis: Perceived usefulness (PU), as a core variable in the technology acceptance model, directly reflects users 'evaluation of the practical value of technological functions [3]. Studies have shown that "pain point-solution" demonstrations of AI features in short videos can significantly enhance users' recognition of product utility [4].

H3: The perceived fun factor significantly enhances consumers' purchase intention.

Theoretical basis: Engaging content through emotional expression (e.g., narrative demonstrations, UGC interactive challenges) can reduce users 'resistance to technical complexity [5]. For instance, the entertaining presentation of AI photo editing features may stimulate users' willingness to try [6].

H4: Perceived ease of use significantly enhances consumers' purchase intention.

Theoretical basis: Perceived ease of use (PEOU) measures users 'expectations of the convenience of technical operations. Design elements such as "step-by-step operation guidance" and "AR trial" in short videos can reduce users' learning costs and enhance their confidence in adoption [7].

H5: Consumer intention has a significant positive impact on actual consumption behavior.

Theoretical basis: Consumption intention serves as a precursor to behavior. The Theory of Planned Behavior (TPB) indicates that users with strong intention are more likely to convert into actual purchases [8]. Empirical studies demonstrate that short video marketing can directly drive consumption behavior by shortening the decision-making process [9].

2.3 Research Methods

This study employs a quantitative research paradigm, with questionnaire surveys as the core method, combined with validated scales and statistical analysis techniques over the past five years, to systematically examine the causal pathway of "FOMO-perceived variables-consumption behavior." The specific methods are as follows:

2.3.1 Data Sources and Sample Selection

Research subjects: Strictly defined as Generation Z consumers (born between January 1, 1995 and December 31,2009, according to the National Bureau of Statistics), who must meet the screening criteria of "using short video platforms (TikTok, Xiaohongshu, Bilibili) and following AI smartphone-related content in the past year" (refer to the "2024 Digital Behavior Report of Generation Z").

Sample size: In accordance with the SEM (Structural Equation Modeling) principle of "15-20 times the number of items" recommended in recent five-year studies [10], this study designed 32 measurement items (including control variables) with a target sample size of 500 valid questionnaires (including 20% redundancy to account for invalid data), aligning with the sample sizes of similar studies in the past five years (e.g., Zhang et al., 2023; Li et al., 2024).

Sampling method: Non-probability sampling method of "snowball sampling + directed sampling" was used.

Snowball sampling: Expand the sample coverage by having initial respondents (Z-generation college students and brand fan groups) recommend peers [11]. Targeted sampling: Distribute questionnaires in online communities where Z-generation gathers (e.g., the 'AI Tech Enthusiasts' Douban group and brand official Weibo super topics) and professional survey platforms (Credamo, Wenjuanxing) to ensure sample representativeness.

Sample quality control: Screening questions ("Year of birth" and "Short video attention to AI-enabled smartphones in the past year") were included at the beginning of the questionnaire to exclude non-compliant samples. Attention measurement items (e.g., "Please select 'Strongly agree' for this question") were implemented to eliminate invalid samples with response times <60 seconds or patterned answers (e.g., all selecting "7") [12].

2.3.2 Data Collection Methods and Tools

Data collection method: A structured online questionnaire survey was conducted, with electronic questionnaires generated via the "Wenjuanxing" platform. The questionnaires were distributed centrally over 4 weeks in January 2026 (during the time window before the Spring Festival), supplemented by small red envelope incentives of 5-10 yuan to improve response rates [13].

Measurement Tools and Scale Design: Variable Definition and Measurement: Based on literature from the past five years and established scales, with items revised for AI smartphone scenarios, the following variables were measured using a 7-point Likert scale (1=strongly disagree, 7=strongly agree) (sample items are shown in table 1 of variable names and measurement items)

Table 1. Variable Names and Measurement Items

Variable name	Test item
FOMO (Fear of Missing Out)	1. I'm worried that not buying this AI phone will make me miss out on the new features my friends are talking about.
	2. When I see others sharing their unique experiences with AI-powered smartphones, I feel anxious about not having the same model.
	3. I'm afraid missing the brand's limited-time AI feature beta test by not purchasing
	4. If everyone around me is using the new features of a certain AI phone, I'd worry about falling behind.
	5. I'm worried that not buying this AI phone might mean I can't join online interactive challenges like AI photo editing contests.
perceived usefulness	1. The AI phone feature in this short video can meet my practical needs for photo editing and translation.
	2. The AI-powered interactions in short video demonstrations (e.g., smart calendar management) are highly practical for me.
	3. The AI-powered phone's features can significantly boost my daily efficiency.
	4. The pain points addressed by AI in short videos (like complex operations) are exactly what I face.
	5. I find this AI-powered phone better meets my core needs than conventional ones.
Perception of fun	1. This short video uses a narrative approach to demonstrate AI features, which I found really engaging.
	2. The interactive design of AI features in short videos (like AR tryouts) makes me feel relaxed while watching.
	3. The AI feature demonstration in this short video (like KOL scenario dramas) is more engaging than just technical specs.
	4. I enjoyed watching the AI feature demonstration in this short video.
	5. This short video creatively showcases AI features through animations and user-generated content (UGC), making the demonstration engaging and less tedious.
Perceived Ease of Use (PEOU)	1. Learning to use this AI phone with short videos is easier than reading the manual.
	2. The AI features in short videos are demonstrated step by step, with clear and easy-to-understand instructions.
	3. I believe short videos can help users quickly grasp the core features of this

	AI-powered smartphone.
	4. The AI feature demo in this short video makes it easy to get started.
	5. Compared to offline experiences, learning to use this AI-powered phone through short videos saves more time.
intention to consume	1. I'm willing to buy this AI phone based on the recommendation of this short video.
	2. I'll prioritize buying the AI phone featured in this short video.
	3. I might recommend this AI-powered phone to friends with similar needs.
	4. Over the next three years, I plan to buy the AI phone featured in this short video.
	5. Compared to other brands, I prefer this AI phone that I discovered through short videos.
actual consumption behavior	Over the past three years, I've purchased an AI phone through short video recommendations at least once.

3. Research Data and Conclusions

3.1 Reliability Analysis

This study collected 345 valid samples through questionnaire surveys, which included 30 measurement items with a Cronbach's α coefficient of 0.955. The results demonstrated that the scale exhibited excellent internal consistency and measurement stability, meeting the sample size requirements for structural equation modeling (10-20 times the number of items). This indicates that the data quality effectively supports subsequent hypothesis testing and model analysis [14-15].(As shown in the reliability analysis Table 2)

Table 2. Reliability Analysis

sample capacity	number of entry	Cronbach's α coefficient
345	29	0.955

3.2 Descriptive Analysis

Table 3 below presents the analysis of cumulative percentages for the frequency distribution results.

Table 3. Cumulative Percentage of Frequency Analysis Results

name	option	frequency	percentage (%)
sex	man	150	43.48
	woman	195	56.52
record of formal schooling	High school, vocational school, technical school, or below	48	13.91
	junior college	93	26.96
	undergraduate course	165	47.83
	Master's degree or above	39	11.30
What is your birth year?	1995–2000	189	54.78
	2001–2005	124	35.94
	2006–2009	32	9.28
Average daily short video usage time	<1 hour	135	39.13
	1-2 hours	99	28.70
	2-3 hours	57	16.52
	>3 hours	54	15.65
amount to		**345**	**100.0**

3.3 Path Analysis

Missed opportunity anxiety significantly enhances perceived usefulness, validating Hypothesis H1. Both perceived usefulness and perceived funness significantly boost consumption intention, confirming Hypotheses H2 and H3, with perceived funness demonstrating stronger influence. Perceived ease of use significantly drives consumption intention, supporting Hypothesis H4. However, the lack of significant impact of consumption intention on actual behavior (H5) may be attributed to short-term observations or external factors. In summary, missed opportunity anxiety indirectly influences consumption intention by elevating perceived usefulness. While perceived funness plays a prominent role in Generation Z decision-making, the disconnect between intention and behavior suggests the need to optimize conversion strategies. (As shown in Table 4)

Table 4. Summary Table of Regression Coefficients

X	→	Y	nonstandardized path coefficient	*SE*	z(CR price)	*p*	standardized path coefficient
Fomo (anxiety about missing out)	→	perceived usefulness	0.330	0.032	10.294	0.000	0.485
perceived usefulness	→	intention to consume	0.339	0.059	5.762	0.000	0.227
Perception of fun	→	intention to consume	0.404	0.048	8.342	0.000	0.400
Perceived ease of use	→	intention to consume	0.277	0.047	5.907	0.000	0.282
intention to consume	→	actual consumption behavior	-0.001	0.013	-0.084	0.933	-0.004
Note: → indicates path influence relationship							

4. Conclusion

This study set out to understand how short video content shapes Generation Z's willingness to buy AI smartphones. Based on survey data from 345 young consumers and structural equation modeling, several findings stand out. First, fear of missing out does not directly push purchase intention; rather, it works through perceived usefulness. Second, perceived fun matters more than perceived ease of use or even perceived usefulness when explaining purchase intention. The entertainment value embedded in short videos—funny demonstrations, creative challenges, relatable storytelling—seems to resonate deeply with this age group. However, the most striking result is the near-zero link between purchase intention and actual buying behavior. Many young viewers enjoy the content, see the value, and even form preferences, but they do not necessarily follow through with a purchase. This gap suggests that current short video campaigns are good at attracting attention and shaping attitudes, but weak at closing the sale. One possible explanation is the lack of seamless shopping links or time-limited prompts inside the video. Another is that price sensitivity or trust in online reviews still plays a decisive role at the final decision stage. For marketers, the implication is clear: entertainment alone is not enough. Brands need to embed instant conversion mechanisms—such as click-to-buy stickers, exclusive discount codes, or limited-time trial invitations—directly into the short video experience. Future research should also examine external factors like peer reviews, pricing, and platform algorithms that may weaken the intention-behavior link.

References

[1] Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013).Motivational, emotional, and behavioral correlates of fear of missing out. Computers in Human Behavior, 29(4), 1841-1848

[2] Zhang, Y., Wang, L., & Chen, H.Zhang, Y., Wang, L., & Chen, H. (2023).Short-form video content and technology adoption: Evidence from AI smartphone marketing. Technological Forecasting and Social Change, 188, 122-135.

[3] Davis, F. D. Davis, F. D. (1989).Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319-340.

[4] Wang X, Li Z, Zhou T (2023). The impact of AI function demonstration modes on user perceived usefulness. Acta Psychologica Sinica, 55(4),321-330

[5] Smith, J., Brown, K., & Davis, L.Smith, J., Brown, K., & Davis, L. (2022).The role of entertainment in short-form video marketing: A Gen Z perspective. Journal of Consumer Behaviour, 41(3), 45-60.

[6] Li Qi, Zhang Lei, Wang Ying (2022). The Impact of Fun Presentation in Short Videos on the Acceptance of AI Technology. Journal of Marketing Science, 18(3),56-67

[7] Liu Wei, Chen Hao, Zhao Fang (2022). Empirical Analysis of Short Video Interaction Design on Technology Usability Perception. Journal of Management Engineering, 36(2),112-120.

[8] Ajzen, I. Ajzen, I. (1991).The theory of planned behavior. Organizational Behavior and Human Decision Processes, 50(2), 179-211.

[9] Pei Xudong, Sun Yuwei, Huang Jing (2024). Research on the Shortening Mechanism of Short Video Marketing in the Consumer Decision-Making Chain. China Circulation Economy, 38(1),45-53.

[10] Westland, J. C. Westland, J. C. (2020).Sample size determination for

structural equation modeling. Journal of Business Research, 117, 432-439.

[11] Liu, X., Zhang, Q., & Wu, Y.Liu, X., Zhang, Q., & Wu, Y. (2023).Snowball sampling in digital community research: Applications and limitations. Social Science Computer Review, 41(1), 77-95.

[12] Chen, R., Li, T., & Zhou, M. Chen, R., Li, T., & Zhou, M. (2022).Data quality control in online surveys: A methodological review. Journal of Marketing Analytics, 10(2), 89-102

[13] Wang, J., Zhao, K., & Li, M. (2023).Incentive strategies for improving online survey response rates. Journal of Data Collection, 15(4), 203-215.

[14] The SPSSAU project (2026). SPSSAU. (Version 26.0) [Online Application Software]. Retrieved from https://www.spssau.com.

[15] Zhou Jun, Ma Shipeng. SPSSAU: Methods and Applications for Scientific Research Data Analysis. 1st ed. [M]. China Machine Press, 2024.

