

---

## The Impact of Psychological Factors in Short Video Platforms on Consumer Purchasing Decisions

JIAYU FU

International Chinese College, Rangsit University, Pathum Thani, Thailand  
E-mail: [fu.j65@rsu.ac.th](mailto:fu.j65@rsu.ac.th)

### Abstract

This study, using Douyin in China as a case, explores how digital management practices (inventory management, coupon settings, and image recognition) influence consumers' purchase decisions through psychological factors (instant gratification, scarcity effect, urgency effect, and perceived convenience). An analytical frame work based on the SOR model is constructed, and structural equation modeling (SEM) is applied to examine the relationships between independent variables (digital management practices), mediating variables (psychological factors), and the dependent variable (purchase decision). The results confirm that all hypotheses are valid. Inventory management, coupon settings, and image recognition positively influence consumer purchase decisions through psychological factors, which play a key mediating role. Further analysis reveals that the combination of inventory management and instant gratification has the most significant impact on purchase decisions.

**Keywords:** digital management, psychological, consumer purchasing decision, short video platforms, Douyin in China

### 1. Introduction

As the world enters a new era of turmoil and transformation, the digital economy has become a crucial driver for economic recovery. Not only has it played a key role in supporting the sustained recovery of the global economy, but it has also become an essential engine for promoting industrial development and transformation (China Academy of Information and Communications Technology, 2024). Among new internet users, 37.3% have chosen short video applications as their first exposure to internet applications, indicating that short videos have become a major driving force for internet development (China Internet Network Information Center, 2024). Against the backdrop of the digital economy, short video platforms are attracting increasing attention. The rise of this new media form provides consumers with fresh ways to access information and a novel consumption experience, profoundly influencing their purchasing decisions. Among the various short video platforms, Douyin in China has shown the fastest user growth, ranking first in both user scale and daily active users in the Chinese market. This platform has not only continued with traditional monetization models like advertising and e-commerce live streaming but has also actively expanded into new areas such as paid content and offline events, rapidly expanding and consolidating its market position (Feng Mu, 2024). Consequently, this study selects the Douyin platform in China as the research context. Douyin's innovative business models and multi-dimensional user experiences in short video advertising and live-stream e-commerce provide a representative platform for studying the impact of digital management practices on consumer behavior. The new consumption model, which combines short video with e-commerce, differs from traditional consumption patterns. Within the short video platform, users can access various thematic content through pop-up windows, links, and pages, seamlessly connecting content, information, services, and marketing scenarios. Psychological factors, as one of the key elements influencing individual behavior, are gaining increasing attention in the application of short video platforms.

In recent years, numerous studies have explored how short video platforms influence consumers' purchase intentions and behaviors. However, some literature points to knowledge gaps regarding how specific variables, such as instant gratification or scarcity effects, function in this context. Research has examined how factors like consumers' religious beliefs, social factors, and psychological influences affect their purchase decisions and loyalty (Daga & Indriakati, 2022). While this study confirms the importance of psychological factors in consumer behavior, it focuses on the roles of religious and social factors, without addressing how emerging media like short video platforms impact purchasing behavior through specific psychological mechanisms, particularly in terms of instant gratification and scarcity effects. Through meta-analysis, research has summarized the general influence of scarcity strategies on consumer purchase intentions, revealing the broad applicability of scarcity effects in marketing (Barton, Zlatevska, & Oppewal, 2022). However, this study primarily focuses on traditional marketing scenarios and does not examine the scarcity effect on short video platforms or its unique

impact on consumer purchasing behavior under digital management practices. Regarding the impact of digital management practices (such as inventory management and coupon settings) on user psychology and behavior, the literature indicates that there is still room for exploration in terms of the integration of platform ecology and user psychological responses. Some studies have analyzed the positive influence of digital marketing on purchase decisions, with particularly favorable outcomes in e-commerce and online advertising (Al-Azzam & Al-Mizeed, 2021). However, this research mainly emphasizes traditional digital marketing and has not deeply explored how digital management practices on short video platforms, such as inventory and coupon settings, drive consumer decisions through psychological factors. Further research has found that consumers' perceptions of convenience and value serve as mediators for repeat purchase intentions through electronic word-of-mouth and trust (Zeqiri, Ramadani, & Aloulou, 2023). While this study highlights the role of psychological factors in e-commerce decision-making, it does not cover how digital management practices on short video platforms activate purchase intentions through multiple psychological mechanisms, such as scarcity effects and urgency effects.

In summary, although short video platforms are rapidly developing, research on the impact of psychological factors within these platforms on consumer purchasing decisions remains scarce, and even fewer studies address this within the framework of digital management practices. In the context of short video platforms, digital management practices such as inventory management and coupon settings (Al-Azzam & Al-Mizeed, 2021; Barton et al., 2022) are thought to influence consumer psychology, particularly regarding scarcity and urgency (Daga & Indriakati, 2022), which in turn affect purchasing decisions (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). Based on this, the present study conducts an empirical analysis of short video platforms, aiming to explore how psychological factors on these platforms influence consumer purchasing decisions through digital management practices. This research seeks to identify which digital management practices and psychological factors have a more significant impact on purchasing decisions. By analyzing user behavioral pathways and psychological responses on the platform, the study aims to identify key elements that drive consumers' rapid decision-making, providing practical guidance for the platform and its merchants. Understanding these key elements will enable platforms and merchants to deepen their insight into consumer behavior, implement targeted management, optimize marketing strategies, achieve a precise alignment between marketing efforts and consumer psychology, enhance user experience, and improve business monetization efficiency.

## 2. Objectives

This study aims to explore how digital management practices (such as inventory management, coupon settings, and image recognition) on the short video platform Douyin in China influence consumer psychological factors (such as instant gratification, scarcity effect, urgency effect, and perceived convenience), ultimately driving their purchasing decisions.

## 3. Materials and Methods

Based on the SOR model, external stimuli indirectly influence consumer behavioral responses through psychological processes (organism) (Mehrabian & Russell, 1974). The SEM model helps reveal the multiple path relationships among these complex variables, including both direct and indirect effects, thereby providing a systematic explanation of the mechanisms underlying consumer behavior formation. Therefore, this study constructs an analytical framework based on the SOR model and employs structural equation modeling to analyze the path relationships between the independent variable, digital management practices (S), the mediating variable, psychological factors (O), and the dependent variable, purchase decision (R).

This study adopted a quantitative research strategy and used a closed-ended questionnaire for data collection. Prior to the formal survey, a small-scale pilot survey was conducted, and SPSS 27.0 statistical analysis software was used for preliminary survey analysis and evaluation. This study developed the questionnaire based on the research findings of Daga & Indriakati (2022), achieving a Cronbach's Alpha value greater than 0.8, indicating good internal consistency. The overall KMO value of the questionnaire exceeded 0.7, suggesting that it meets the prerequisites for factor analysis. Additionally, the Bartlett's test showed significance with Sig=0.000, meeting the qualification standards and demonstrating good validity and reasonable reliability.

## 4. Results and Discussion

### 4.1 Descriptive Statistical Results

The 2023 data indicate that Douyin users in China had a gender ratio of approximately 4.8:5.1, with 43.6% aged between 25 and 45. City distribution included 7.3% from tier-1 cities, 17.7% from new tier-1 cities, and 18.9% from tier-2 cities, with 9.6% of users earning an income of 3,000 RMB or above (Quest Mobile, 2023). In comparison, the survey results of this study showed smaller gender differences, with users aged 25 to 45 accounting for less than 50%, indicating a similar age distribution. The city residence and income levels were slightly higher than reported data, likely due to the offline surveys being conducted near schools and the higher education level of online respondents, leading to an elevated income and residence distribution. Notably, the higher income levels align with the study's criteria requiring participants to be Douyin users in China who made multiple purchases in 2024. Overall, the survey sample demonstrates a reasonable degree of representativeness. However, future research could enhance sample precision by increasing the sample size and diversifying the demographic coverage.

Table 1 Descriptive Statistical Results

Variable	Survey Percentage	Comparison to Study Results
Gender Ratio	4.8:5.1	Smaller gender gap
Age Distribution (25-45)	43.6%	Below 50%
Tier-1 City Residents	7.3%	Slightly higher
New Tier-1 City Residents	17.7%	Slightly higher
Tier-2 City Residents	18.9%	Slightly higher
Income ( $\geq$ 3,000 RMB)	9.6%	Higher (criteria met)

### 4.2 Results of testing the measurement quality

The Cronbach's Alpha values for all variables, including inventory management, coupon settings, image recognition, scarcity effect, urgency effect, instant gratification, perceived convenience, and purchase decision, exceeded 0.8, demonstrating strong internal consistency across all scales. Bartlett's test showed significance (Sig = 0.000), and the KMO value was 0.921, exceeding the standard threshold of 0.7. Factor loadings for all observed variables surpassed 0.5, confirming the validity of the constructs. Standardized factor loadings for each observed variable were greater than 0.6 (Taber, 2018), and AVE (average variance extracted) values exceeded 0.50 (Ullman & Bentler, 2012). Using confirmatory factor analysis, standardized factor loadings were greater than 0.6, and AVE values exceeded 0.5, while composite reliability (CR) values surpassed 0.7. These indicators confirm good convergent validity and measurement reliability of the variables. The fit indices of the eight-factor model, including TLI, CFI, RMSEA, and SRMR, were all within acceptable ranges, demonstrating that the variables have strong discriminant validity. Harman's single-factor test indicated that the first principal component explained only 38.453% of the variance, below the 40% threshold, suggesting that common method bias was not significant.

Table 2 Measurement Quality Results

Measure	Value / Result	Interpretation
Cronbach's Alpha	$\geq$ 0.7 (0.823-0.881 across variables)	High reliability
KMO (Sampling Adequacy)	0.921	Suitable for factor analysis
Bartlett's Test Sig.	0.000	Significant correlation between items
AVE (Average Variance Extracted)	$\geq$ 0.5	Valid convergent validity
Composite Reliability	$\geq$ 0.7	High measurement reliability
Factor Loadings	$\geq$ 0.6	Strong validity
Harman's Single-Factor Test	38.453%	Common method bias not significant

### 4.3 Results of Testing the Research Hypotheses

The results confirmed that inventory management, coupon settings, and image recognition positively influenced psychological factors (scarcity effect, urgency effect, instant gratification, and perceived convenience) and purchase decisions. Among these, instant gratification exhibited the strongest influence on purchase decisions, followed by urgency effect, perceived convenience, and scarcity effect. Mediation analysis validated that psychological factors mediate the relationship between digital management practices and purchase decisions. The confidence intervals for indirect effects did not include zero, confirming the robustness of these mediation effects. The model fit indices, including TLI, CFI, RMSEA, and SRMR, all met recommended thresholds, with CMIN/DF

falling within the acceptable range of 1 to 3, indicating that the model fits the data well and supports the hypothesized relationships. The findings provide strong empirical support for the proposed hypotheses, highlighting the significant roles of psychological factors in mediating the effects of digital management practices on consumer purchasing decisions.

Table 3 Research Hypotheses Testing Results

Path	Coefficient ( $\beta$ )	Standard Error (S.E.)	Critical Ratio (C.R.)	P-Value	Significance
Inventory → Scarcity Effect	0.273	0.063	4.311	<0.001	Significant
Coupon Settings → Urgency Effect	0.227	0.065	3.482	<0.001	Significant
Image Recognition → Instant Gratification	0.329	0.067	4.925	<0.001	Significant
Scarcity Effect → Purchase Decisions	0.123	0.063	1.975	0.048	Significant
Instant Gratification → Purchase Decisions	0.314	0.067	4.689	<0.001	Significant

#### 4.4 Discussion of research results

The findings of this study underscore the pivotal role of psychological factors in shaping consumer purchase decisions on short video platforms. Specifically, instant gratification emerged as the most influential factor, followed by urgency effect, perceived convenience, and scarcity effect. This hierarchy aligns with prior research emphasizing the immediate rewards and emotional triggers that influence consumer behavior in digital environments.

Inventory management, coupon settings, and image recognition were identified as key digital management practices that significantly impact psychological factors. For instance, the study revealed that real-time inventory updates and limited-time offers effectively amplify urgency and scarcity perceptions. Similarly, intelligently curated coupon settings enhance perceived convenience and instant gratification, encouraging quicker decision-making. Image recognition technologies were found to contribute to a seamless user experience, further driving purchase decisions through heightened perceived convenience.

The mediation analysis provided robust evidence that psychological factors act as crucial intermediaries between digital management practices and consumer behavior. This finding supports the integration of psychological insights into the design of digital marketing strategies, highlighting the necessity for platforms to prioritize user-centric features that cater to emotional and cognitive needs.

Moreover, the strong model fit indices, including TLI, CFI, RMSEA, and SRMR, validate the reliability of the conceptual framework employed in this study. These indices confirm that the proposed relationships among variables are well-supported by empirical data. This reinforces the robustness of the theoretical framework and its applicability in explaining consumer behavior within the context of short video platforms.

However, the study also points to areas for improvement. For instance, while scarcity and urgency effects were significant, their relative influence was less pronounced compared to instant gratification and perceived convenience. This suggests that platforms might benefit from strategies that balance these psychological triggers to optimize user engagement and satisfaction. Additionally, future research could explore the long-term effects of these practices on consumer loyalty and trust.

## 5. Conclusion

The study concluded that all research hypotheses were supported, indicating that inventory management, coupon settings, and image recognition positively influence purchase decisions by enhancing psychological factors such as the scarcity effect, urgency effect, instant gratification, and perceived convenience. By comparing with references in the literature review, this study confirmed certain perspectives, such as the critical direct role of psychological factors in consumer purchasing decisions and the positive correlation between digital management practices and purchasing decisions, which effectively enhance consumers' purchase intentions.

The study recommends a better integration of multiple digital management practices. Literature suggests creating a community communication platform, and this study has validated the impact of inventory management (such as changes in hot-selling item counts during live streaming) on purchasing decisions. Therefore, combining

a community platform with inventory management, local geographic tags, and real-time comments is suggested. For example, when a customer in a live streaming session buys the discussed item, the hot-sell count increases by one, and simultaneously, a message appears in the chat group and comment section of the live session, such as: “User Zhang from Beijing has placed an order for the 520th item in this session.”

The study also suggests combining multiple psychological factors. This study confirmed the influence of psychological factors, such as the scarcity effect and instant gratification, on purchasing decisions. Additionally, loss aversion theory posits that people feel the pain of losses more intensely than the pleasure of gains. Thus, scarcity and instant gratification could be integrated with loss aversion. For instance, when a user clicks the purchase button, a prompt may indicate low stock, followed by a message that the item will be restocked in one minute.

Finally, the study suggests expanding to more application scenarios. For example, in micro-dramas or movie scenes, when the user clicks pause, the system could use intelligent image recognition to identify advertised products in the scene and provide purchase links.

## 6. References

- Al-Azzam, A. F., & Al-Mizeed, K. (2021). The effect of digital marketing on purchasing decisions: A case study in Jordan. *The Journal of Asian Finance, Economics and Business*, 8(5), 455–463. DOI: 10.13106/jafeb.2021.vol8.no5.0455
- Barton, B., Zlatevska, N., & Oppewal, H. (2022). Scarcity tactics in marketing: A meta-analysis of product scarcity effects on consumer purchase intentions. *Journal of Retailing*, 98(4), 741–758. DOI: 10.1016/j.jretai.2022.06.003
- China Academy of Information and Communications Technology. (2024). Global Digital Economy White Paper (2023). Retrieved from [http://www.caict.ac.cn/kxyj/qwfb/bps/202401/t20240109\\_469903.htm](http://www.caict.ac.cn/kxyj/qwfb/bps/202401/t20240109_469903.htm)
- China Internet Network Information Center. (2024). The 54th Statistical Report on China’s Internet Development. Retrieved from <https://www.cnnic.cn/n4/2024/0828/c208-11063.html>
- Daga, R., & Indriakati, A. J. (2022). Religiosity, social and psychological factors on purchase decisions and consumer loyalty. *Jurnal Manajemen*, 26(3), 469–491. DOI: 10.24912/jm.v26i3.1000
- Feng, M. (2024). An exploration of business models on short video platforms: A case study of Douyin app. *Culture of China and Foreign Enterprises*, 47(7), 104–106.
- Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. Cambridge, MA: MIT Press.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. DOI: 10.1037/0021-9010.88.5.879
- Quest Mobile. (2023). Quest Mobile 2023 New Media Ecosystem Insights: Industry user scale reaches 1.088 billion, entering a new phase of user flow and segmentation, with platforms seeking growth and monetization through two main approaches. Retrieved from <https://www.questmobile.com.cn/research/report/1726888249161519105>
- Taber, K. S. (2018). The use of Cronbach’s alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48(6), 1273–1296. DOI: 10.1007/s11165-016-9602-2
- Ullman, J. B., & Bentler, P. M. (2012). Structural equation modeling. In *Handbook of Psychology* (2nd ed., pp. 661–690). John Wiley & Sons, Ltd. DOI: 10.1002/9781118133880.hop202023
- Zeqiri, J., Ramadani, V., & Aloulou, W. J. (2023). The effect of perceived convenience and perceived value on intention to repurchase in online shopping: The mediating effect of e-WOM and trust. *Economic Research-Ekonomska Istraživanja*, 36(3), 1–20. DOI: 10.1080/1331677X.2023.2173220