

How to promote the usage of short video apps for shopping? The perspective of social affordances

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Abstract

In recent years, shopping via short video apps has emerged as a new format for social commerce. Nonetheless, strategies to enhance the usage of short video apps for shopping remain under-researched. Utilizing the stimulus-organism-response (S-O-R) paradigm, this study proposes a theoretical framework to examine the relationships between social affordances, perceived values, and the actual usage of short video apps for shopping. Additionally, we consider socio-demographic factors, including gender, age, and income, as moderators and hypothesize their influence on the relationship between user-perceived values and the actual usage of short video apps for shopping. An online survey was conducted, gathering 363 valid responses from TikTok users, which were then analyzed using PLS-SEM. The results indicate that social affordances enhance user perception, which subsequently increases the actual usage of short video apps for shopping. Furthermore, the study identifies a moderating effect of age and income on the relationship between perceived values and actual usage of these apps for shopping. This research offers new insights into how social affordances affect users' purchasing behavior on short video apps and provides operators and commercial developers with valuable knowledge on encouraging users to make purchases using short video apps.

Keywords: Short video commerce, Stimulus-organism-response, Social affordance, Utilitarian values, Hedonic values, Socio-demographic factors.

Introduction

As of December 2023, an astonishing 96.4% of Internet users actively engaged in consuming short video content, comprising a remarkable user base of 1.053 billion individuals. This represents a growth of 41.45 million compared to December 2022 (CNNIC, 2024). As short video apps have improved their e-commerce capabilities in recent years, they have developed their own in-app shopping features. Short video e-commerce is an innovative type of social media that incorporates live-streaming shopping capabilities and includes product links or tags in short videos. Short video e-commerce provides considerable benefits over traditional social media e-commerce in terms of product presentation, time cost, and social interaction. Specifically, short video platforms facilitate the dissemination of product information through interactive functions such as liking, following, commenting, and chatting. These features not only enable users to search for and acquire product-related information but also support purchase transactions within the platform.

For popular short video apps including TikTok and Kuaishou, which have 600 million and 320 million users scrolling through their videos each day, respectively, converting a small number of those users to purchasing consumers quickly adds up (Olcott, 2021). For instance, 47% of TikTok users purchased a product on TikTok in 2021 (Bigcommerce, 2022). A total of 1.18 trillion yuan was generated by Kuaishou's live-streaming commerce business in 2023 (Statista, 2024). In this regard, it indicates that users are increasingly choosing to shop via short video apps. It is imperative that online retailers and marketers explore further how to continue to promote the use of short video apps for online shopping.

While prior studies in social commerce have emphasized the roles of interactivity and social presence (Tian and Lee, 2022; Ming et al., 2021), limited attention has been paid to how social affordance features that enable user interaction shape consumer behavior in short video contexts. The term *affordance*, originating from ecological psychology, describes the potential of an object or technology to enable specific actions or elicit particular psychological outcomes (Gibson, 1986). In the context of this study, affordance refers to the capacity of technological features to shape users' cognitive and affective responses. Despite its relevance, limited research in the social commerce domain has examined social affordances—the perceived possibilities for social interaction and relationship-building afforded by a platform—as antecedent factors influencing user behavior (Dong and Wang, 2018; Song et al., 2021). Although both Song et al. (2021) and Dong and Wang (2018) employed the lens of affordance theory to explore user behavior in short video and social commerce contexts, their models remain limited in scope. Song et al. focused primarily on the relationship between specific affordances (e.g., livestreaming, recommending) and experiential outcomes (e.g., social presence, immersion), without incorporating a structured behavioral framework to trace how these experiences translate into continued usage. Dong and Wang, in turn, examined how IT affordances facilitate social tie formation in online social commerce through interactivity, but did not model downstream consumer behavior such as value perception or usage intention. To address this gap, the present study adopts a social affordance perspective—focusing on the dimensions of visibility, accessibility, personalization, and information control—to examine how platform-specific features shape users' perceptions and influence their shopping behaviors within short video applications.

At the same time, perceived value plays a central role in shaping consumer decision-making. Both utilitarian and hedonic values have been found to drive loyalty, impulse buying, and continued usage (Jones et al., 2006; Zheng et al., 2019). By integrating these insights, this study proposes that social affordances affect actual usage through perceived value, offering a comprehensive framework for understanding shopping behavior on short video platforms.

Thus, the research questions are proposed:

- (1) What are the social affordances of short video apps that affect their perceived value?
- (2) Does the perceived value induce user purchase behavior through short video apps?
- (3) How do gender, age, and income moderate the relationships between perceived values and actual usage of short video apps for shopping?

Literature Review

Theoretical Background and Hypotheses Development

The Stimulus–Organism–Response (S-O-R) Framework and Social Affordances

Traditional models of technology adoption, including the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT), have offered essential insights into user behavior by focusing on cognitive evaluations like perceived usefulness and performance expectancy (Davis, 1989; Venkatesh et al., 2003). These models frequently neglect the influence of platform-specific technological features, thereby constraining their explanatory capacity in complex, dynamic contexts like short video applications. User behavior in mobile-native, entertainment-driven contexts is influenced by both rational evaluations and emotional experiences, as well as the available interactional affordances.

The present study utilizes the S-O-R (Stimulus –organism–response) framework to address this limitation. The S-O-R framework is often utilized to understand how environmental stimuli affect individual behaviors (Mehrabian and Russell, 1974). Because it evokes both affective and cognitive reactions (Shah et al., 2020) and considers various technological affordances, including social affordances, it is appropriate for this study. In the context of short video commerce (Yang et al., 2022), this perspective provides a more comprehensive analysis of how users interact with, evaluate, and respond to affordance-rich environments (in particular, the four important social affordance dimensions of visibility, accessibility, personalization, and information control).

Environmental Stimuli and Perceived Value

Visibility Affordance and Perceived Value

Through visual content, users can instantly access and perceive product-related information (Treem and Leonardi, 2013). Short video apps offer dynamic product demonstrations and increase visibility and user comprehension. Prior research

acknowledges that accurate product representations reduce judged risk and boost utilitarian evaluations (Dong and Wang, 2018). Also, high-quality video content promotes viewer engagement, which enhances perceptions of its usefulness (Zheng et al., 2019). Thereby, users' functional evaluation and achievement of goals are rendered easier by the visibility affordance, raising their perceived utilitarian value. Subsequently, the following hypothesis is suggested:

H1a Visibility affordance positively impacts users' perceived utilitarian value of short video apps.

Visibility has been seen to improve users' affective experiences in conjunction with its functional benefits (Hsieh et al., 2021). Visually engaging content captivates the audience and makes people enjoy it (Yang et al., 2021). Furthermore, according to Chang et al. (2014), appealing interfaces have improved user pleasure and satisfaction in digital environments. In order to promote visual enjoyment and emotional connection, visibility affordance can additionally be expected to improve users' hedonic value. Based on the above, we consider the following hypothesis:

H1b Visibility affordance positively impacts users' perceived hedonic value of short video apps.

Accessibility Affordance and Perceived Value

Accessibility refers to the ease with which users connect with and access content (Treem and Leonardi, 2013). In short video apps, this involves seamless communication with creators and users (Fox and Moreland, 2015), removing time and location barriers (Fox and McEwan, 2017). This connectivity facilitates browsing and enhances access to product information, thereby improving task completion (Ma and Hu, 2021). Thus, accessibility affordance is expected to enhance users' perceived utilitarian value by improving convenience and access to relevant content. Subsequently, the following hypothesis is suggested:

H2a Accessibility affordance positively impacts users' perceived utilitarian value of short video apps.

Accessibility additionally affects users' hedonic value. Users can interact freely with each other without temporal or spatial restrictions, which can enhance the frequency of interactions. Yang et al. (2021) assert that longer interaction lengthens user hedonic experiences. According to Kim and Hwang (2012), hedonic value appears directly allied to web communication. Zheng et al. (2019) demonstrate that m-commerce users perceive hedonic value from more frequent seller interactions. Thus, accessibility affordance is expected to accelerate users' hedonic value by enabling a longer and more enjoyable social interaction. Based on the above, we consider the following hypothesis:

H2b Accessibility affordance positively impacts users' perceived hedonic value of short video apps.

Personalization Affordance and Perceived Value

Personalization refers to the tendency to deliver services that are solely adapted to users' needs and preferences (Sun et al., 2019). According to Hu et al. (2016), short video apps can be personalized using recommendations based on user data and social network updates (Hu et al., 2016). As a result of these recommendations (Pham and Ahammad, 2017; Dong and Wang, 2018), users can quickly locate the products they want to purchase. Thus, personalization affordance seems expected to accelerate user perception of utilitarian value by improving search effectiveness and content relevance. Based on the above, we consider the following hypothesis:

H3a Personalization affordance positively impacts users' perceived utilitarian value of short video apps.

Personalization helps to tailor content to individual preferences, which results in pleasant user experiences. This increases decision-making and satisfaction. According to prior research, customised content increases user engagement and enjoyment in social commerce (Zhang et al., 2014; Wang et al., 2019). Thus, producing relevant and enjoyable content will likely improve recognized hedonistic value. Subsequently, the following hypothesis is suggested:

H3b Personalization affordance positively impacts users' perceived hedonic value of short video apps.

Information Control Affordance and Perceived Value

Information control refers to users' ability to select what content to receive and how to engage with others on short video apps (Hu et al., 2016). These apps strengthen the relationship between buying goals and available content by enabling users to block product information based on individual needs. For instance, users may limit feeds to followed accounts or preferred topics. Users' perceptions of a platform's utilitarian value are improved by access to pertinent information and effective task completion (Xiang et al., 2016). Information control affordance appears expected to accelerate perceived utilitarian value by improving informational relevance and effectiveness. In light of all the above, we discuss the following hypothesis:

H4a Information control affordance positively impacts users' perceived utilitarian value of short video apps.

Users can also control their viewing experience with short video apps, such as those that have features like "Not Interested" or "Hide" on TikTok. These tools may accept a wide range of user preferences, upping user satisfaction (Huang, 2012). Users' enjoyment and emotional engagement increase when they feel more comfortable developing content (Xiang et al., 2016). That is, information control affordance will likely improve hedonistic value perceptions by delivering a more satisfying and personalized experience. Hence, we propose the following:

H4b Information control affordance positively impacts users' perceived hedonic value of short video apps.

Consumer Perceived Value and Actual Usage of Short Video Apps for Shopping

Perceived Utilitarian Value and Actual Usage

Consumers' cognitive evaluations of the effectiveness of a platform for achieving goal-oriented shopping outcomes are referred to as utilitarian value (Overby and Lee, 2006). Prior research has shown that when users perceive online platforms as effective and user-friendly (Wu et al., 2018; Gan and Wang, 2017), they are more likely to make purchases (Wu et al., 2018). Guo et al. (1922) further confirm the positive impact of perceived utilitarian value on users' behavioral intentions in live-streaming commerce. This indicates that users who recognize high functional value, such as seeking products easily or effectively, are more inclined to utilize the short video apps for shopping. Derived from the above, we propose the following hypothesis:

- H5** Users' perceived utilitarian value positively impacts actual usage of short video apps for shopping.

Perceived Hedonic Value and Actual Usage

Hedonic value reflects the enjoyment, fun, and emotional gratification users experience while engaging with short video apps. Beyond task-oriented outcomes, consumers often seek experiential pleasure in the shopping process (Babin et al., 1994). Prior research has shown that positive emotions elicited by hedonic experiences significantly enhance purchase intentions in social commerce (Hsu et al., 2014; Kim and Hwang, 2012; Hsu and Lin, 2016). In line with this, Gan and Wang (2017) found that hedonic value positively influences users' behavioral intentions in digital shopping environments. Users who find the shopping experience enjoyable are more likely to use short video apps for future purchases. Thus, we propose the following:

- H6** Users' perceived hedonic value positively impacts actual usage of short video apps for shopping.

The Moderating Effect of Gender, Age and Income

Gender

In recent years, the importance of gender-related research has grown due to the internet's widespread use (Cyr, 2014). Many studies declare that males prefer utilitarian consumption, which focuses on achieving specified objectives, while females prefer hedonic consumption, which concentrates on emotional or affective consumer perceptions and outcomes from online shopping (Hasan, 2010).

Within social commerce, the influence of usability on product awareness has a greater impact among males than females (Huang and Benyoucef, 2017). Moreover, prior scholars have demonstrated that males are more outcome-oriented than females; thus, they focus more on the utilitarian value of progress (Dittmar et al., 2004). Similarly, males tend to choose short video apps for shopping when they perceive a higher utilitarian value. As a result, the following hypothesis is proposed in this study:

H7a Gender moderates the impact of users' perceived utilitarian value on actual usage of short video apps for shopping.

In short, the influence of users' perceived utilitarian value on actual usage of short video apps for shopping is stronger for male users than female users.

Dubé and Morgan (1998) assert that females are frequently more attuned to their emotional states and emphasize them more during purchases than males. Furthermore, Zhang et al. (2007) indicate that female shoppers feature a different shopping mindset than males. While males appreciate convenience, females seem less motivated by emotion. In conclusion, women are far more likely to use short video apps for buying when they sense greater hedonic value. The following hypothesis is therefore posited:

H7b Gender moderates the impact of users' perceived hedonic value on actual usage of short video apps for shopping.

In short, the influence of users' perceived hedonic value on actual usage of short video apps for shopping is stronger for females than males.

Age

Age shapes how users behave in online shopping (Stafford et al., 2004; Zhou et al., 2007). Studies show that people of different ages hold different attitudes and behaviors toward online purchases (Sorce et al., 2005). Sharma et al. (2012) found that older users care more about efficient service than younger users. They also pay more attention to the time and effort needed for shopping. As a result, older users see greater utilitarian value and are more likely to use short video apps for shopping. Based on this idea, we propose:

H8a Age moderates the impact of users' perceived utilitarian value on actual usage of short video apps for shopping.

In short, the impact of users' perceived utilitarian value on actual usage of short video apps for shopping is stronger for older users than younger users.

On the other hand, younger users may find pleasure in shopping and possess superior abilities in processing information such as visual cues and product information; therefore, they may not be bothered by exerting extra effort. Sharma et al. (2012) show that age affects hedonic shopping motivation and that users of different ages have different motivations when making online purchases. Thus, we propose the following hypothesis:

H8b Age moderates the impact of users' perceived hedonic value on actual usage of short video apps for shopping.

In short, the influence of users' perceived hedonic value on actual usage of short video apps for shopping is stronger for younger users than older users.

Income

Farag et al. (2007) assert that different income groups have different preferences for online shopping. Yarimoglu (2017) posits that users' assessments of perceived value when purchasing online are influenced by income level. Moreover, in a social marketing context, Butler et al. (2016) demonstrate that the economic and useful benefits of utilizing energy efficiently are particularly significant for low-income individuals. Therefore, we hypothesize that:

H9a Income moderates the impact of users' perceived utilitarian value on actual usage of short video apps for shopping.

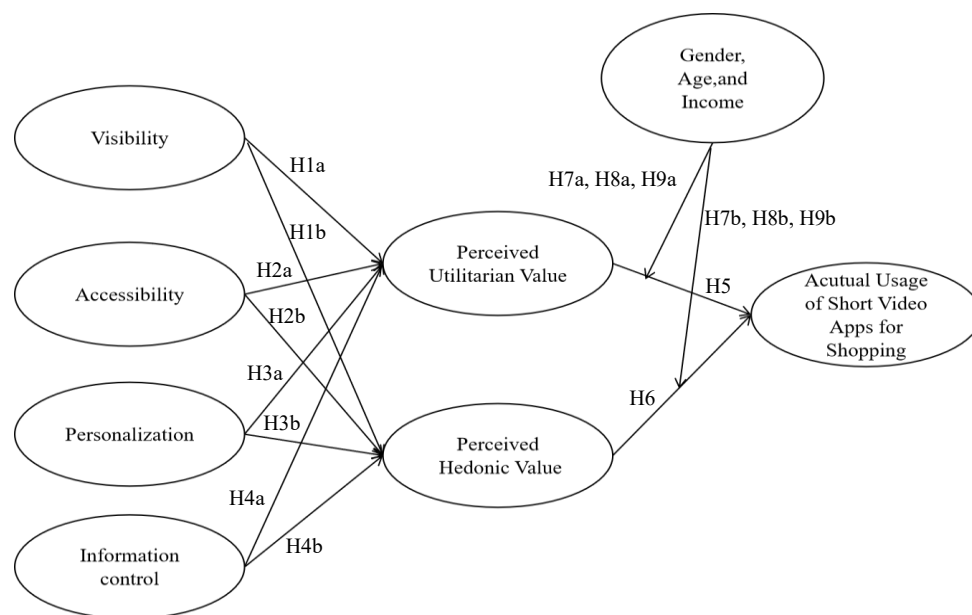
In short, the influence of users' perceived utilitarian value on actual usage of short video apps for shopping is stronger for low-income users than high-income users.

Changchit et al. (2022) assert that different income groups have different perspectives on social commerce. Akman and Rehan (2014) demonstrate that users with high income prefer to make online purchases more frequently and for longer periods than those with lower incomes. Moreover, Hsu et al. (2014) point out that the hedonic feeling drives users to spend more time on social commerce sites, enhancing their intention to purchase. That is, high-income users are motivated by the hedonic value of using short video apps. Thus, we propose the following:

H9b Income moderates the impact of users' perceived hedonic value on actual usage of short video apps for shopping.

In short, the influence of users' perceived hedonic value on actual usage of short video apps for shopping is stronger for high-income users than low-income users. Figure 1 illustrates the research model.

Figure 1: Research model



Methodology

Research Instrument

This study employs an online survey method to collect data. We used multiple-item scales to measure all of the constructs. Adapted from prior literature, the measurement items were modified to fit the study context of short video apps. There are only Chinese participants in the survey. We utilize the back-translation technique to ensure the questionnaire's validity. Initially, one Chinese researcher translates information into Chinese. Then, a different researcher converts the questionnaire into English. Finally, they deliberate and settle on a final draft.

After the initial questionnaire is completed, 60 participants with extensive TikTok usage are invited to participate in the pre-test. Afterwards, we calculate the Cronbach's alpha of every item to assess reliability. All the Cronbach's alphas exceed 0.7, suggesting a strong level of reliability. We further perform an exploratory factor analysis to assess the reliability of the scale.

Data Collection

Douyin, the Chinese version of TikTok, has 692.5 million users in 2022 (Statista, 2025). Thus, the target objects for this study are all users with experience using TikTok (Douyin). The data was collected from June 28, 2022 to August 4, 2022. The survey is conducted through Wenjuanxing, the largest questionnaire platform in China. Respondents who finish the survey can receive a RMB 3 red packet.

Finally, we received 398 questionnaire responses. In order to enhance the validity of the findings, we deleted 35 responses due to duplicated or mutually inconsistent data (Kim et al., 2003). Thus, 363 responses are considered valid. Since all participants were Chinese users of TikTok (Douyin), the findings may not be generalizable to other countries or platforms. This limitation is further addressed in the discussion.

Table 1: Demographic information of respondents

Items	Category	Frequency	%
Gender	Male	169	46.6
	Female	194	53.4
Age	18-35	216	59.5
	>35	147	40.5
Income(RMB)	≤5000	142	39.1
	>5000	221	60.9
Education	High school graduated and below	49	13.5
	College graduated	75	20.7
	Bachelor	181	49.9
	Master	55	15.2
	Doctoral	3	0.8
Frequency	Many times daily	132	36.4
	Almost daily	135	37.2
	Once in 2-3 days	64	17.6
	Once in a week	19	5.2

Items	Category	Frequency	%
	Once in a month	13	3.6

Data Analysis

To analyze and record the data, we employ SPSS 25 and SmartPLS 3 software. The one-sample Kolmogorov-Smirnov test is utilized to assess the normal distribution of the data. Findings indicate that the constructs do not follow a normal distribution. Fornell and Bookstein (1982) pointed out that, compared to covariance-based statistical software tools like LISREL or AMOS, PLS-SEM does not have identification constraints and is capable of handling data that is not normally distributed. Thus, SmartPLS 3 software is used in this study.

Results

Common Method Bias

We conducted an analysis to determine if there is a common method bias present, utilizing the Harman one-factor test. (Podsakoff et al., 2003). Approximately 12.27% of all variances are explained by the first factor, which does not exceed 50%. This result indicates that most of the variance cannot be explained by a single factor; thus, the common method variance can be ignored.

Analysis of the Measurement Model

In Table 2, the constructs exhibit high internal consistency and reliability, as evidenced by Cronbach's alpha and Composite Reliability (CR) values exceeding 0.7. Additionally, the factor loadings are above the recommended threshold of 0.7, and the Average Variance Extracted (AVE) is above the acceptable level of 0.5. These results indicate that the measurements have sufficient convergent validity. Table 3 demonstrates that the coefficients between constructs are lower than the square roots of all constructs. Following Fornell and Larcker's (1982) criteria, it is concluded that the constructs possess a high level of discriminant validity. Furthermore, Table 4 presents the Heterotrait-Monotrait (HTMT) values for our model, which do not exceed 0.701 (<0.85), indicating strong discriminant validity (Henseler et al., 2015). The study also assessed multicollinearity among the indicators by calculating the Variance Inflation Factors (VIFs). Multicollinearity is not a concern in this study as all indicators have VIF values below 3.3 (Petter et al., 2007). Overall, the results confirm that the measurements are valid and reliable, supporting the structural model's appropriateness for this study.

Table2: Measurements scale results

Construct	Items	Loading	Cronbach's Alpha	Composite Reliability (CR)	Convergence (AVE)
Visibility(VI)	VI1	0.823	0.843	0.894	0.679
	VI2	0.805			

Construct	Items	Loading	Cronbach's Alpa	Composite Reliability (CR)	Convergence (AVE)
Accessibility(AC)	VI3	0.819	0.797	0.879	0.707
	VI4	0.848			
	AC1	0.801			
	AC2	0.844			
Personalization(PE)	AC3	0.877	0.844	0.895	0.682
	PE1	0.801			
	PE2	0.834			
	PE3	0.840			
Information control(IC)	PE4	0.827	0.825	0.895	0.740
	IC1	0.859			
	IC2	0.875			
	IC3	0.846			
Perceived utilitarian value(PUV)	PUV1	0.867	0.836	0.902	0.753
	PUV2	0.854			
	PUV3	0.882			
Perceived hedonic value(PHV)	PHV1	0.849	0.791	0.878	0.705
	PHV2	0.849			
	PHV3	0.822			
Actual use(AU)	AU1	0.921	0.906	0.941	0.842
	AU2	0.925			
	AU3	0.907			

Note: AVE= Average variance extracted

Table 3: Discriminant validity analysis

	VI	AC	PE	IC	PUV	PHV	AU
VI	0.824						
AC	0.484	0.841					
PE	0.357	0.390	0.826				
IC	0.331	0.345	0.431	0.860			
PUV	0.536	0.554	0.590	0.367	0.868		
PHV	0.510	0.371	0.475	0.571	0.447	0.840	
AU	0.436	0.411	0.481	0.429	0.581	0.556	0.917

Note: VI= Visibility; AC= Accessibility; PE= Personalization; IC= Information control; PUV= Perceived Utilitarian Value; PHV= Perceived Hedonic Value; AU= Actual Use

Table 4: Heterotrait–monotrait (HTMT) criterion

	VI	AC	PE	IC	PUV	PHV	AU
VI							
AC	0.583						
PE	0.417	0.465					
IC	0.388	0.409	0.516				
PUV	0.631	0.661	0.699	0.438			
PHV	0.618	0.455	0.581	0.701	0.550		
AU	0.495	0.470	0.549	0.491	0.666	0.656	

Note: VI= Visibility; AC= Accessibility; PE= Personalization; IC= Information control; PUV= Perceived Utilitarian Value; PHV= Perceived Hedonic Value; AU= Actual Use

Analysis of the Structural Model

The structural model is estimated via the bootstrapping approach (5000 resamples). Table 5 shows that most hypotheses are supported, except H2b and H4a. As proposed, visibility, accessibility, and personalization positively impact perceived utilitarian value; thus, H1a-3a are verified. Moreover, visibility, personalization, and information control exert influence on perceived hedonic value, confirming H1b, H3b and H4b. Both the perceived utilitarian and hedonic values demonstrate statistically significant effects on the actual usage, thereby supporting H5 and H6.

Nonetheless, H2b and H4a were not supported. The impact of accessibility on hedonic value (H2b) and the influence of information control on utilitarian value (H4a) didn't reach statistically significant effects. The results indicate that not all aspects of social affordances contribute equally to users' perceived values.

The R^2 value of actual use is 0.447, indicating that about 44.7% of actual use is explained by perceived utilitarian and hedonic values. Moreover, all variables for social affordances, except information control, explain 52.4% of the variance in perceived utilitarian value. All social affordances, except accessibility, explain 47.2% of the R^2 value of perceived hedonic value.

To assess the predictive ability of the dependent constructs and endogenous variables, we also determine the value of Q^2 using the Blindfolding procedure (Geisser, 1975). Based on the Q^2 results, the perceived utilitarian value is 0.32, the perceived hedonic value is 0.38, actual use is 0.370. Moreover, we estimated the standard root mean square residual. The obtained value is 0.056, which is below the maximum permissible value of 0.08; this indicates that the model fits well. The PLS model's GOF (Goodness of Fit) is 0.478 in this study, surpassing the threshold of 0.36, indicating a suitable fit of the structural model (Beatty and Ferrell, 1998).

Table 5: Results of hypotheses testing

Hypothesis	Estimate	T-value	<i>p</i>	Supported
H1a. Visibility → perceived utilitarian value	0.261	4.853	0.000	Yes
H1b. Visibility → perceived hedonic value	0.307	5.974	0.000	Yes
H2a. Accessibility → perceived utilitarian value	0.271	4.838	0.000	Yes
H2b. Accessibility → perceived hedonic value	0.015	0.302	0.763	No
H3a. Personalization → perceived utilitarian value	0.382	6.336	0.000	Yes
H3b. Personalization → perceived hedonic value	0.196	3.533	0.000	Yes
H4a. Information control → perceived utilitarian value	0.022	0.495	0.621	No

Hypothesis	Estimate	T-value	<i>p</i>	Supported
H4b. Information control → perceived hedonic value	0.380	7.464	0.000	Yes
H5. Perceived utilitarian value → actual use	0.415	7.571	0.000	Yes
H6. Perceived hedonic value → actual use	0.370	7.152	0.000	Yes

5.4 Results of the Moderating Effects

The sample is stratified by gender, with separate categories for males and females. Regarding age, it is categorized into two groups based on prior research: users between 18-35 years old, and users over 35 years old. Huang and Benyoucef (2017) confirmed that most social media users are between 18-35 years old. Moreover, the sample is divided based on income—high-income and low-income. The income groups are divided at RMB 5,000, since that is the individual income tax threshold in mainland China. About 60.9% of the users in the sample have a relatively high-income (i.e., users with gross monthly income greater than RMB 5,000).

Before the multi-group analysis (MGA), Measurement Invariance of Composite Models (MICOM) was used to examine the possibility for measurement invariance (Low et al., 2021), sustaining compositional invariance (Hair et al., 2019). Consequently, measurement invariance is validated among all three sets.

The PLS-MGA technique is used to test the moderating roles of gender (H7a, H7b), age (H8a, H8b), and income (H9a, H9b). In Table 6, the findings indicate that there is no statistically significant disparity in the model values observed between the two gender cohorts. Thus, H7a and H7b are not supported. The results indicate that age significantly moderates the relationship between perceived values and actual use. Regarding the perceived utilitarian value, the older group had a larger standard beta ($\beta=0.569$, $p<.001$) compared to the younger group ($\beta=0.305$, $p<.001$). The younger group has a larger perceived hedonic value ($\beta=0.515$, $p<.001$) compared to the older group ($\beta=0.160$, $p<.001$). Thus, H8a and H8b are supported.

Moreover, the impact of perceived utilitarian value on actual use is significantly higher for the low-income group ($\beta=0.616$, $p=0.000$) compared to the high-income group, resulting in a more pronounced influence ($\beta=0.335$, $p=0.000$). Therefore, H9a is supported by the findings. However, it can be concluded that income does not have a significant influence on the relationship between perceived hedonic value and actual usage. Consequently, there is no evidence to support H9b.

Table 6: Results of the SEM- multi-group analysis (MGA)

Hypothesis	Gender						
	Male		Female		Path difference (β -value)	T test	p
	Estimate (β -value)	p	Estimate (β -value)	p			
H7a. PUV→AU	0.377	0.000	0.446	0.000	-0.069	0.648	0.517
H7b. PHV→AU	0.316	0.000	0.309	0.000	0.142	1.424	0.155
Hypothesis	Age						
	18-35		>35		Path difference (β -value)	T test	p
	Estimate (β -value)	p	Estimate (β -value)	p			
H8a. PUV→AU	0.305	0.000	0.569	0.000	-0.265	2.664	0.008
H8b. PHV→AU	0.515	0.000	0.160	0.033	0.354	3.709	0.000
Hypothesis	Income						
	low		high		Path difference (β -value)	T test	p
	Estimate (β -value)	p	Estimate (β -value)	p			
H9a. PUV→AU	0.616	0.000	0.335	0.000	0.281	2.791	0.006
H9b. PHV→AU	0.248	0.001	0.426	0.000	-0.178	1.874	0.062

Note: PUV= perceived utilitarian value; PHV=perceived hedonic value; AU= actual use.

Discussion

This study reveals that personalization exerts the strongest influence on perceived utilitarian value, followed by accessibility and visibility, while information control shows no significant effect. This suggests that tailored content, platform usability, and visual clarity enhance functional evaluations, but control features add little when information is already rich.

Secondly, personalization is a key driver of perceived hedonic value, reducing information screening costs and enhancing user enjoyment (Tam and Ho, 2005). Information control also significantly boosts hedonic value, as autonomy in selecting information fosters engagement and entertainment. Visibility further enhances hedonic value through visual enjoyment and emotional engagement. In contrast, accessibility shows no significant effect, suggesting that in short video commerce, hedonic value derives more from immersion and entertainment design than from communicative convenience.

Third, these results point out that perceived values enhance actual use. This finding supports prior studies, which conclude that perceived values lead to an individual's behavioral intentions (Guo et al., 2022). The findings demonstrate the perceived value of short video apps considerably affects user's purchase intentions.

The empirical results indicate that gender does not significantly moderate the relationship between perceived values and actual usage. This finding aligns with Lian and Yen (2014), who found that male and female users evaluate the utilitarian and hedonic benefits of short video apps similarly. Algorithmic personalization may have attenuated gender-based differences in users' engagement with short video apps.

Similarly, income does not substantially influence the relationship between hedonic value and actual usage, indicating that comparable emotional experiences are delivered across socioeconomic levels.

Theoretical Contributions

First, this research refines the application of social affordance theory by introducing a multidimensional view that incorporates visibility, personalization, accessibility, and information control. While prior studies have predominantly examined social factors such as trust, interactivity, or social presence in shaping user behavior (e.g., Wu and Li, 2018; Molinillo et al., 2021), this study redirects attention to how embedded technological features in short video platforms activate users' perceptions of value.

Second, the study advances the theorization of perceived value in digital commerce. Rather than treating perceived value as a monolithic construct, the research demonstrates how utilitarian and hedonic values operate distinctly in predicting usage behavior. The emphasis on utilitarian value's dominance in actual usage behavior extends value-based adoption models into performance-sensitive, mobile-native environments such as short video apps. This responds directly to Molinillo et al.'s (2021) call for greater specification in how digital value perceptions translate into behavior.

Third, this study refines the understanding of demographic moderation in social commerce by showing that while age and income significantly influence usage patterns (Cutshall et al., 2022), gender does not moderate the relationship between perceived value and actual usage. These findings challenge conventional gender-based assumptions and suggest a diminishing relevance of gender distinctions in highly personalized, digitally mediated environments. In line with Hew et al.'s (2016) call, it underscores the need to reconsider demographic moderators in light of evolving digital consumption contexts. Moreover, the limited impacts of accessibility and information control on perceived value underscore the contextual limitations of social affordances, emphasizing the necessity of integrating affordance theory within platform-specific usage cultures.

Limitations and Future Research

This study is limited to Chinese Tiktok users, which may restrict generalizability to other cultural or platform contexts. Differences in content logic, community structure, and cultural norms may alter affordance effects. Future studies should conduct cross-platform and cross-cultural comparisons (e.g., Kuaishou, TikTok Global, Instagram Reels) to assess model robustness and develop a context-sensitive framework for digital affordances in e-commerce.

Practical Implications for Asian Business

This research has significant implications for both operators and commercial developers of short video applications in Asian. Firstly, it indicates that personalization and visibility contribute to enhancing users perceived utilitarian and hedonic values. To address this, operators and developers should focus on optimizing the algorithms of these apps to deliver more precise and personalized content. Additionally, operators ought to design more engaging interfaces to stimulate user browsing. In addition, retailers have a responsibility to work towards making their items more visually appealing in order to encourage Asian users to make judgments regarding their purchases.

Second, the findings demonstrate how accessibility positively influences users' perception of utilitarian value. To improve the accessibility of short video apps, operators and developers must ensure that their apps offer intuitive, user-friendly interfaces that allow users to quickly search, filter, and explore product content. Features like real-time product tagging, voice search, and smart categorization can simplify the shopping experience. In addition, offering flexible participation modes—ranging from passive browsing to active sharing or commenting—ensures a more inclusive platform that caters to varying user needs and technological proficiency.

Third, these findings claim that information control is a major driver of the perceived hedonic value of users. Operators and creators of short video apps should recognize that the autonomy of information enhances entertainment during purchases. Thus, to enhance the users' sense of information control, they should strongly consider giving them powerful control features. For instance, users should be allowed to click “like” or “I don't want to see it again” on the videos they watch. These tools not only empower users but also help the algorithm learn and improve future content suggestions.

Fourth, the result that perceived utilitarian value is essential in determining whether users utilize short video apps for buying implies that valuable information and app utility are still at the core of social commerce. Therefore, commercial developers should produce video content to introduce products and communicate with users. Developers and operators should also enhance app functionality and utility and aim to increase the hedonic value they provide to users. Operators should optimize their recommendation system and serve high-interest videos to users. To attract users, commercial developers need to clarify their position and improve video quality.

Ultimately, the results indicate notable disparities in how perceived values influence the practical utilization of short video applications for shopping purposes, based on age and income. Therefore, operators and commercial developers should adopt different strategies to promote their purchasing behavior on short video apps. For instance, short video apps that target senior users or low-income users should prioritize information quality by offering relevant and credible product and service information. On the other hand, when targeting younger users, they should emphasize entertainment by enhancing services through user feedback, such as “videos you skip through” and “users you have hidden,” and by providing an entirely unique “for you page” to them.

In conclusion, these findings provide actionable insights for platform operators and commercial developers to enhance user experience and conversion rates through

improved personalization, accessibility, control, and segmentation strategies tailored to the Asian digital commerce landscape.

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