

The Impact of Live Commerce and Short Video on College Students' Actual Purchase

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Abstract: The emergence of new media has led to live commerce becoming a novel, widely adopted trend, and live commerce has also become a new business model. This study has put a lot of work into creating an integrated model that combines the theories of planned behavior and media exposure to explain the connection between watching short videos and in-person shopping. We looked at the connections between attitude, subjective norm, perceived behavioral control, frequency, duration, and attention to live commerce viewing, as well as real purchases. To check the accuracy of the fictitious model, 402 college students in China participated in a questionnaire study that yielded empirical data. The structural equation model is shown to have a strong model fit for empirical data, while the measurement model demonstrates that the theoretical constructs have appropriate reliability and validity. The results of the study demonstrate that customers' attitudes toward live commerce and their perceived behavioral control over it greatly influenced their actual purchases. But the effect of subjective norms on actual purchases has not been verified. This research addressed the knowledge gap in the application of TPB to explain offline and online purchasing behavior. Also, this study has its limitation; since the research is primarily focused on China, it is difficult to extrapolate the findings to other countries.

Keywords: the theory of planned behavior, media exposure, live commerce, actual purchase, online shopping

1. Introduction

This study filled a need in the literature by using TPB to the explanation of both brick-and-mortar retail and internet purchasing behavior. [1]. Live commerce brought in a total of \$144.5 billion in purchases during the 618 sales in 2022 [2]. Customers are offered a virtual shopping environment that delivers a variety of contextual clues and purchasing alternatives in novel ways when live streaming is combined with e-commerce, enriching traditional commerce in several ways. [3]. Unlike conventional internet purchasing, where clients can only obtain information through photographs and text, the information in the virtual streaming commerce environment is supplied in the form of real-

time video., consumers may make better-informed purchasing selections [4], with the aid of cutting-edge streaming commerce technology, a cordial interpersonal contact between sellers/streamers and consumers may be effortlessly formed.

Consumer behavior refers to all the mental and physical actions customers take to locate, purchase, utilize, and assess products and services to meet their requirements. According to studies conducted previously by Yang Yashu and Wang Tiantian, there is a discernible trend in the percentage of college students who make purchases in the online live broadcast room [5]. According to studies, live video streaming tactics to decrease psychological distance and enhance perceived uncertainty can improve customers' online buying intentions [6]. However, past studies have mainly focused on the UK or the US consumer, and their results are difficult to generalize to other countries [7]. In light of this, the present study looks at the factors that influence consumers' real product purchases of short videos and live streaming. The theory of planned behavior (TPB) expanded with media exposure serves as the foundation for the study model. TPB has been demonstrated to be an effective paradigm for explaining and forecasting consumer behaviors that directly influence the online purchase. [8]. The expanded TPB model's relationship to media exposure was also evaluated in the current study. The study points out that media exposure significantly impacts purchase decisions [9]. In addition, the effect of media exposure on the intention to implement purchase behavior within the TPB framework has not been clear in previous studies. Therefore, this study could help better understand the factors influencing college students to purchase products through live streaming and short videos.

The study focuses on college students and aims to utilize the theory of planned behavior and media exposure to look at how live streaming and short videos are used to promote things to college students. Additionally, the research methods of this study are questionnaire design and data analysis.

2. Literature Review

2.1. The Theory of Planned Behavior (TPB)

The study focuses on college students and aims to utilize the theory of planned behavior and media exposure to look at how live streaming and short videos are used to promote things to college students.

Although many various types of behavioral theories have been studied in the past, Ajzen believed that their theoretical underpinnings could not effectively anticipate general or uncommon actions since their focus was on attitude, personality, or the influence of previous behaviors on present ones. In contrast to previous conduct, which is the outcome of observable reactions and behavioral inferences, attitude and personality are only markers of behavioral tendencies. To better predict and explain human behavior at the decision-making stage, Fishbein and Ajzen provided a starting point for thinking on the Expected Value Model, which is Reasoned Action based on TRA. Assuming that "whether an individual executes a given action or not" is wholly out of voluntary control, the theory of rational action ignores the fact that multiple environmental circumstances will alter the amount to which an individual's will is in control. It's rare for an individual's activities to be motivated only by their own volition. This is why Ajzen put forward his theory of planned conduct. Ajzen widened the scope of the idea of behavioral control to incorporate an individual's perception of the ease or difficulty of accomplishing a certain action in light of his experience and anticipated impediments.

The idea of rational action states that an individual's desire for given conduct will be influenced by their attitude and the subjective norm of whether or not important individuals support them, and that behavioral intention will then have an impact on that particular behavior. In other words, the theory of rational action, which primarily serves to understand and anticipate human conduct, presupposes that "the occurrence of behavior is dependent on the control of the individual will." According to the theory of rational action, humans are rational beings whose actions are guided by their objectives. While TRA provides a lot of insight into the factors that go into an individual's

behavior decisions, it is not without its flaws. Some actions cannot be helped in real-life conditions. Thus, Ajzen revised TRA and put forward the Theory of Reasoned Action (TPB).

The theory of planned actions overcomes the problem that the theory of rational action cannot plausibly explain the conduct that is not entirely under the control of the will, which is the main distinction between the two theories. TPB is created by integrating the original theoretical framework with perceived control belief, which stands in for other irrational variables. Accordingly, “behavioral control perception,” together with “attitude” and “subjective norm,” influences the theory of planned conduct, which in turn influences the study of behavioral intention and actual behavior.

As a result, TPB concludes that attitude, subjective norm, and perceived behavioral control all play a role in shaping behavior intention. Individual behavior is defined by one’s attitude, subjective norm, and perception of his or her behavioral control, all of which contribute to the individual’s manner of conduct. Accordingly, if a person has a good attitude toward a certain action, the desire of the person to engage in the behavior will be higher the more subjective norms support the conduct and the stronger the feeling of behavioral control over the behavior.

In this study, we employ the TPB to examine how live streaming affects participants’ attitudes, subjective norms, perceptions of their behavioral control, intentions to purchase, and subsequent purchases. Thus, the following hypotheses (H1 to H3) are established.

H1: When viewing and purchasing goods through live streaming and brief films, attitude shows a large positive link with actual purchase behavior.

H2: When seeing and purchasing goods through live streaming and brief films, the subjective norm has a sizable positive link with real purchase behavior.

H3: A large significant positive relationship is shown between perceived behavioral control and actual purchase behavior when making purchases after viewing items being offered via live streaming and short videos.

2.2. Media Exposure

Media usage, including time spent on various media, the kind of media content, the media consumed, or the media as a whole, is referred to as media exposure. The researchers have concluded that a person’s media exposure may be determined by the frequency with which they utilize various media.

Media exposure is an activity that may take place at the individual or group level and includes things like experiencing and paying attention to such material, as well as listening to, watching, and reading mass media. These elements can be used to gauge media exposure:

(a) frequency: how frequently viewers utilize media and consume media-related information.

(b) duration: how long viewers utilize media and take in its information.

(c) attention: the level of focus that viewers exhibit when utilizing media and digesting media material.

In this study, the relationships between the frequency, duration, and attention of watching live streaming and actual goods purchased are examined based on media exposure. This leads to setting hypothesis (H4) as follows.

H4: When watching and purchasing goods through live streaming and brief films, media exposure shows a considerable positive link with real purchasing behavior.

3. Method

3.1. Sample and Procedure

In this study, questionnaires were employed as the research method. The study was conducted with college students as the research population. At the same time, when collecting data in this study, the sampling method of probability sampling was selected, and the questionnaire was handed over to the

questionnaire collection platform. In addition, there were several inclusion criteria for collecting the subjects. First, the respondent must be at least a college student living in China. Second, the study was limited to those who had made purchases via live-streaming or online films. After collecting 402 valid replies, we were able to get more reliable data than we needed.

3.2. Measures

3.2.1. Demographic Variables

Demographic variables of college students specified in this study included gender (a=male, b=female, 44.78% male), grade (a=freshman, b=sophomore, c=junior, d=senior, 24.88% freshman, 26.37% sophomore, 27.61% junior, 21.14% senior) and living costs (1=1000yuan or less, 2=1000-2000, 3=3000-4000, 4=4000yuan and above, 7.71% 1000yuan or less, 42.79% 1000-2000, 41.54% 2000-3000, 7.96% 3000yuan and above).

3.2.2. Attitude

The four factors used in assessing attitude. Participants rated their attitude toward watching and selling products through live streaming and short videos via the following dimensions: (a) disadvantageous/advantageous, (b) foolish/wise, (c) unpleasant/pleasant, and (d) unattractive/attractive, on a five-point Likert scale. Higher scores reflect greater views toward selling things through live streaming and brief films. A composite index was made by taking the average of the parts. (M=3.50, SD=1.21, Cronbach's alpha=0.905).

3.2.3. Subjective Norm

Two dimensions were used to quantify the subjective norms, where students rated on a scale of 1 (disagree) to 5 (agree) for the following statements: (a) When I watch live streaming and brief films of things being sold, the majority of my significant others believe I should buy X. (b) People whose opinions I value would recommend that I purchase X when I watch live streaming and brief films of things for sale. Higher scores reflect more acceptability of purchasing goods sold through live streaming and brief films. A composite index was made by taking the average of the parts. (M=3.50, SD=1.26, Cronbach's alpha=0.812).

3.2.4. Perceived Behavioral Control

Four factors were used to evaluate perceived behavioral control, where students rated on a scale of 1 (no confident) to 5 (confident) for the following statements: (a) I am convinced that I can purchase X if I view selling items via live streaming and brief films. (b) I can purchase X when I view selling things via live streaming and brief films. (c) I have enough resources (money) to purchase X when I watch live streaming and brief films of things being sold. (d) When I watch live streaming and brief films of things being sold, I have enough time to go purchase X. Higher scores imply better confidence and capacity to buy things by viewing and selling goods through live streaming and short films. A composite index was made by taking the average of the parts. (M=3.45, SD=1.22, Cronbach's alpha=0.903).

3.2.5. Media Exposure

Media exposure is measured according to three dimensions, where students rated on a scale of 1 (never) to 5 (always) for the following statements: (a) how often audiences use media and take in the material produced by media, (b) how long audiences use media and take in the material produced by

media, and (c) The degree of attention given by audiences when using media and consuming media information content. Higher scores represent greater exposure to the sale of goods via live streaming and brief films. A composite index was made by taking the average of the parts. (M=3.45, SD=1.26, Cronbach's alpha=0.873).

3.2.6. Actual Purchase

The actual purchase was measured according to two dimensions, where students rated on a scale of 1 (never) to 5 (always) for the following statements: (a) How frequently do you buy X after viewing it being advertised in a live broadcast or a short video? (b) How frequently do you buy X when you watch live streaming and brief videos of things being sold? Higher scores on the composite index—which is created by averaging these factors—indicate that more real shopping is done when goods are sold via live streaming and quick videos. (M=3.43, SD=1.20, Cronbach's alpha=0.784).

3.3. Data Analysis

SPSS 26 was used as a statistical tool. First, reliability analysis was conducted to assess the measurement model's dependability (see table1). A correlation study was performed to go even further into the connection between the two variables. The hypothesis was tested further by doing a hierarchical regression analysis to determine if the independent variables influenced the dependent one.

Table 1: Variable coding and questionnaire reliability analysis.

Variable	Code	Item	Cronbach's alpha
X1 Attitude	att1	Disadvantageous: Advantageous	0.905
	att2	Foolish: Wise	
	att3	Unpleasant: Pleasant	
	att4	Unattractive: Attractive	
X2 Subjective Norm	sn1	Most people who are important to me think I should buy X when I watch selling products through live streaming and short videos.	0.812
	sn2	People whose opinions I value would prefer me to buy X when I watch selling products through live streaming and short videos.	
X3 Perceived Behavioral Control	pbc1	I am confident that if I want, I can buy X when I watch selling products through live streaming and short videos.	0.903
	pbc2	I am capable of buying X when I watch selling products through live streaming and short videos.	

Table 1:(continued).

	pbc3	I have enough resources (money) to buy X when I watch selling products through live streaming and short videos.	
	pbc4	I have enough time to go to buy X when I watch selling products through live streaming and short videos.	
X4 Media Exposure	me1	How often do audiences use media and consume media information content?	0.873
	me2	How long do audiences use media and consume media information content?	
	me3	The degree of attention given by audiences when using media and consuming media information content.	
Y1 Actual Purchase	ap1	In the last year, how often did you buy X when you watch selling products through live streaming and short videos?	0.784
	ap2	Currently, how often do you buy X when you watch selling products through live streaming and short videos?	

4. Result

The frequency analysis shows that the percentage of “females” is 55.22%. Another 44.78% of the sample was male. The percentage of the sample who chose “junior” was 27.61%. 42.79% of the sample was “1000-2000”. The percentage of the 2000-3000 sample was 41.54% (see table 2).

Table 2: Results of frequency analysis.

Variables	Options	Frequency	Percentage (%)	Cumulative percentage (%)
GENDER	male	180	44.78	44.78
	female	222	55.22	100.00

Table 2: (continued).

GRADE	freshman	100	24.88	24.88
	sophomore	106	26.37	51.24
	Junior	111	27.61	78.86
	senior	85	21.14	100.00
LIVING COSTS (yuan)	1000 or less	31	7.71	7.71
	1000-2000	172	42.79	50.50
	2000-3000	167	41.54	92.04
	3000 and above	32	7.96	100.00
TOTAL	402	100.0	100.0	

In this hierarchical regression study, two models were used. Gender, grade, and cost of living are the control variables in model 1, whereas attitude, a subjective norm, perceptual behavior control, and media exposure are added in model 2. The dependent variable in the model is a real purchase. This means that gender, grade, and cost of living explain 0.4% of the variation in intention to purchase. Gender, grade, and cost of living do not affect actual purchases, according to the model's F-test results. For model 2, however, after adding attitude, subjective norm, perceptual behavior control, and media exposure to model 1, the F-value changes show significance ($p < 0.05$), indicating that attitude, subjective norm, perceptual behavior control, and media exposure do have an impact. Norms Media exposure and perceived behavioral control were significant additions to the model that explains. Additionally, the R² value improved from 0.004 to 0.786, indicating that media exposure and Attitude Subjective Normative Perceptual Behavior Control can account for 78.2 % of the strength of intention to purchase. It was determined that Attitude's regression coefficient value was 0.326 and that it was significant ($t = 5.828$, $p = 0.000 < 0.01$), indicating that Attitude and the actual purchase would be significantly positively correlated. This supports H1. The regression coefficient of Subjective norm. This cannot support H2. There is no statistically significant relationship between the subjective norm and the actual purchase ($t = 2.656$, $p = 0.101 > 0.01$), as indicated by the regression coefficient value of 0.078. This cannot support H2. Perceived behavioral control shows a significant regression coefficient of 0.410 ($t = 7.154$, $p = 0.000 < 0.01$), lending credence to H3 and suggesting that it will have a beneficial impact on purchases made. In the News the regression coefficient value of 0.149 and its significance ($t = 2.731$, $p = 0.007 < 0.01$) support H4, which hypothesizes that media exposure will have a significant positive influence link on the actual purchase. (see Table 3).

Table 3: Results of stratified regression analysis (n=402).

Independ ent variable	Stratification 1					Stratification 2				
	B	Standar d error	t	p	β	B	Standard error	t	p	β
Constants	3.762 **	0.314	11.9 95	0.000	-	0.235	0.174	1.35 0	0.17 8	-
Sex	-0.043	0.121	- 0.35 4	0.723	- 0.01 8	0.015	0.057	0.27 1	0.78 6	0.00 6
Grade	-0.016	0.056	- 0.29 3	0.770	- 0.01 5	0.021	0.026	0.79 8	0.42 6	0.01 9
Living costs	-0.089	0.080	-1.10	0.268	- 0.05 6	0.000	0.037	- 0.00 7	0.99 5	0.00 0
Media exposure						0.149* *	0.055	2.73 1	0.00 7	0.15 6
Perceived behavior control						0.410* *	0.057	7.15 4	0.00 0	0.42 0
Subjectiv e norm						0.078* *	0.047	1.64 5	0.10 1	0.08 2
Attitude						0.264* *	0.063	4.22 0	0.00 0	0.26 8
R 2	0.004					0.786				
Adjusting R 2	-0.004					0.782				
p	p=0.691					p=0.000				
△R2	0.004					0.782				
Dependent variable: actual purchase, ** <i>p</i> <0.05 *** <i>p</i> <0.01										

5. Discussion

This study examined the impact of live broadcasts and brief video sales on college students' willingness and purchase behavior based on TRA, TPB, and other theories.

First, the study showed that attitudes were significantly positively correlated with college students' willingness to purchase products through live broadcasts and short videos. Several previous studies have shown similar findings. And others have suggested that attitude is the second most important

factor influencing actual purchases [10]. Therefore, a short video live tape should create a positive attitude among college students, by emphasizing the advantages of buying brand-name products in marketing information, can enhance college students' attitudes and behavior, and it has a significant overall effect of increasing willingness to buy goods. When College students think that watching short video live streaming is attractive and enjoyable, they will also watch short video live streaming more actively, thus increasing the possibility of purchasing goods.

In terms of social norms, our study found no significant positive correlation between subjective norms and actual purchases. That contradicts what has been learned in the past. Compared to the other two TPB variables (perceived behavioral control and attitudes), the subjective norm's predictive power was smaller, but it still had a substantial overall influence. Previous studies have used the actual purchase of national brand food as an example, but national brand food advertising and marketing is focused on consumers who are younger and more impressionable. This, according to predecessors, may help establish societal support for the purchase and consumption of items from major brands. At the same time, the information used by the predecessors was tailored to each group (for example, when the target consumer is male, pay more attention to factors related to perceived behavioral control). But the object of the study in this paper is college students, this kind of ordinary consumer group as a representative, at the same time, college students are at the stage of student development, social influence is relatively small, it cannot be compared with the mature and influential people in the society. Moreover, the information obtained in this study is limited in the ability to tailor-made marketing information for the large group base of college students and the basic group of society. It is impossible to shape its subjective norms by external means to affect its actual purchase quantity. At the same time, the previous results of regression analysis also know that gender does not affect the actual purchase.

At the same time, perceived behavior control was positively correlated with actual purchase behavior. This is not consistent with previous studies. Perceiving more control over executive behavior, people are more inclined to perform behavior[10]. The findings of earlier experiments led researchers to conclude that although perceived behavioral control significantly influenced intention, the actual purchase was not predicted by it. According to earlier research that supported the initial TPB idea [10], consumers' perceptions of behavioral control, attitudes toward subjective standards, and propensity to buy national brand foods all showed favorable correlations. Actual purchases of national foods were not significantly predicted by perceived behavioral control. That is, the direct impact of perceived control on real conduct may not be considered when a person's projected behavioral control does not match his or her actual behavioral control [10]. We suspect that the reason for the inconsistency with previous studies may be that the population and region of this study are restricted, the population of this study is restricted to ordinary college students, and the region is restricted to China. However, the former research takes the global population as the main body of the investigation. At the same time, college students living expenses are limited, their wealth is not free, and their Base fluctuates greatly.

In addition, media exposure is positively correlated with willingness. This is consistent with previous studies. The media are used as a means of disseminating information about the content of products that the public can share or expect the community (followers of the account) to make purchasing decisions. Used to provide information about the product, attract people's attention, and guide people to make decisions. Short video and live tape platforms as a kind of media, to disseminate to college students to sell commodity information. When College students think it is interesting and wise to watch short videos live to stream and carry goods, college students visit the website more and more times to shop and watch short videos live streaming carry goods for longer and longer time and the number of items viewed and the amount of information obtained are also greater, and college

students are more likely to buy the items they care about, increasing the likelihood that other items will be purchased.

6. Conclusions

Since the COVID-19 outbreak, China's strict prevention and control measures have made it difficult to purchase and sell offline. In this case, Chinese merchants have found a new way to rely on China's developed Internet technology and popular Internet platforms such as Douyin to develop live commerce and let customers buy online. Nowadays, live commerce and online shopping have become an important part of Chinese consumption, and online commerce will further develop in the future.

Using the theory of planned behavior and the idea of media exposure, this research has spent a lot of effort constructing an integrated model to explain the connection between watching short films and real-world commerce. The objective of this investigation is to investigate the relationship between live commerce and purchasing behavior. We analyzed how variables including attitude, subjective norm, perceived behavioral control, live commerce viewing frequency, duration, and attentiveness was associated with actual purchases. Empirical data was collected from 402 college students in China through a questionnaire investigation. The results of the study demonstrate that customers' attitudes toward live commerce and their perceived behavioral control over it greatly influenced their actual purchases. But the effect of subjective norms on actual purchases has not been verified.

Through this study, the relationship between live streaming and purchasing behavior has been proved. The results can be used for the research of Internet merchants on live streaming and insight into users' psychology.

However, this study also has its limitation. The questionnaire survey is limited to China, and it is necessary to collect data from more countries and regions if conclusions worldwide are needed. Therefore, this research result is only proven to apply to China.

In the future, more studies to explore more possibilities of TPB in online shopping are expected, and also more factors and variables are to be investigated in this process.

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