

Factors Influencing Viewing Behavior of Streaming Self-produced Movies Among Shanxi Province Chinese College Students

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Abstract

College students are the core movie consumption group. Based on the theory of planned behavior, movie-viewing preferences and behaviors of 430 college students in Shanxi Province were studied against the background of the rapid rise of original content movies made by streaming media platforms—streaming self-produced movies. Multiple regression analysis was carried out on the factors influencing college students' movie-viewing behavior. A model was constructed applicable to the movie-viewing behavior relevant to streaming self-produced movies in college students in Shanxi Province. The main results showed that three movie-viewing behaviors of college students (paid viewing, first selection, and recommendation to others) were affected by eight factors to different degrees, namely, film traits, social environment, internet word-of-mouth, perceived cost, perceived usefulness, perceived quality, attitudes to enterprise image, attitudes to movie product. This paper is expected to provide an important reference for development trends and investment decisions adopted for streaming self-produced movies.

Keywords: *Viewing behavior, streaming self-produced movies, Chinese students*

Introduction

The global film industry as we know it is in downturn and movie consumption in traditional cinemas is in free-fall (Economic Daily, 2018). According to Tvoao (2019), while the global box office hit a record high in 2018 (\$41.1 billion) and increased by 7% year-on-year, the market outside North America (\$29.2 billion) declined by 1%. As the world's largest motion picture industry, the box office in North America amounted to just \$11.1 billion, down 2% year-on-year in 2017 (Yuqi, 2018). Audiences have hit the lowest ebb since 1995 (1.24 billion) and attendance rates dropped (by 6%) slumping to a decade-long nadir (Tvoao, 2019). The key to this decline has been the rise of movie streaming and, with it, growing moves towards "original content" film production (Yuqi, 2018). In addition, the spread of COVID-19 has had an impact on theatrical movies, forcing fans to rely more on online viewing. In this unusual circumstance, original content movies made by streaming media platforms (including self-produced movies) are gaining prominence.

While the streaming of self-produced movies (SSMs) is still in its infancy, some have made a global impact. "Beasts of No Nation," an American-Ghanaian war drama movie that premiered on Netflix in 2015 is considered the inaugural production of its type. The modus operandi of streaming media giant Netflix is long-term development: from the original DVD rental to television subscriptions to movie production, from a focus on the technical quality to content quality to original content production (Quico, 2019). Through the generation of personalized content, the company has constantly pioneered alternative distribution strategies, releasing entire seasons of original television contemporaneously and high-quality SSMs, giving rise to the addictive viewing phenomena known as binge-watching (Jenner, 2015), which has led the way in streaming original content production. In 2019, epic drama Roma produced by Netflix won three Oscars at the 91st Academy Awards (Blatt, 2019), which made SSMs a big hit again.

Nonetheless, the reception of SSMs may not be positive elsewhere. For instance, online movies on three main Chinese streaming media enterprise BAT (iQIYI, Youku, and Tencent video) have vulgar content, lowbrow style, and bloody violence, leading to the lack of Chinese high-quality SSMs (Chang, 2020). As Kjus (2016) noted, when movie distribution shifts to digital it follows a one-way street; at present, video streaming has been enjoying a period of rapid development in the world, and SSMs in

North America have taken up more than half of the whole film market (Burroughs, 2019). However, China only ranked 18th in global streaming video penetration in 2019, just behind tiny Norway, Finland, and Sweden, and far behind the United States and Canada (Statista, 2019). The reason can be found in terms of original content. China is still at a stage where profit estimates are optimistic and basic content weak. The biggest problem is quantity over quality (Lu, 2019) and products lack appeal, affinity, impact, and credibility of all its media content (Chang, 2020). These features have direct implications on the performance of streaming videos, particularly because preference, choice, and behavior of movie viewers are directly related to the benign situation of the box office performance (McKechnie & Zhou, 2003), the normalization of the film market, and even the life and death of the movie (Garlin & McGuigan, 2002). Similarly, for SSMs, it is undoubtedly the key to maximize the audience's viewing desire to identify the varying preferences and behaviors of different audiences and make targeted production and marketing (Wang et al., 2018).

Literature Review

Existing literature related to our research topic mainly focuses on the following three aspects: quantitative research on movie-viewing behavior, quantitative research on streaming media consumption behavior, and theoretical research (small numbers) on streaming self-produced movies. Based on our survey of relevant literature, there is no research on the movie-viewing behavior of streaming self-produced movies.

Previous quantitative research on movie-viewing behavior has categorically considered the Chinese college student cohort. For example, Cui and Tang (2012) established a multiple regression model that screened out five factors related to "film traits" that had a significant impact, including film content, film genre, actors, ticket price, and country of origin. Later Huang and Xu's (2019) survey findings showed the most important factors affecting college students' viewing behavior included the sub-factor of "perceived Behavior control," "perceived cost," and the sub-factor of "subjective norm"—"word of mouth" based on the theory of planned behavior (TPB). Li and Wang (2016) collectively found "room for improvement" in viewing satisfaction, and hence demand, especially from ethnic minority students in the Liangshan region. They pointed out that the important influencing factors in "film trait" were film genre and country of origin. Other researchers cast their gaze towards the movie-viewing behavior of one particular genre. Fan (2016), for example, investigated so-called (Marvel) superhero movie audience preferences and concluded that "film traits" had a significant impact on movie-viewing behavior. Xiao (2017) meanwhile studied customer purchase intentions of web fiction intellectual property (IP) film and television products during their period of incubation (initial phase of consumer behavior before expansion and explosion—Cummins et al. 2013) and discovered consumer perception of enterprise image (that is, "attitude to enterprise image") to be the most important factor influencing movie-viewing behavior. From a purely economic perspective, researchers put forward revised prediction models (Lee & Chang, 2009) or proposed entirely new models (Nelson & Glotfelty, 2012; Ru et al., 2019).

In terms of quantitative research on streaming media consumption behavior, most scholars study users' payment behavior based on the TPB model. Bigne-Alcaniz et al. (2008) found that online shopping information dependency (i.e., "Internet word-of-mouth") and easy-of-use perception (i.e., "perceived usefulness") have a direct and positive influence on consumer online shopping intention. Based on the TPB model, Dutta (2012) studied the factors influencing the intention to continue to pay for online content and found that "attitude" and "subjective norm" were significant predictors of paying intention whereas "perceived behavioral control" was not. Cheng et al. (2019) added the factor of "comparative advantage" (i.e., "perceived quality"), "perceived risk" (i.e., "perceived cost") based on the TPB model, and concluded that besides "attitude" and "perceived behavioral control," there was a significant correlation between them and online video users' intention to pay.

However, at present, for academic research on Chinese SSMs, the authors found only 16 related articles through Google Scholar and China CNKI. Most of them analyzed streaming company management (Burroughs, 2019), examined the technology and distribution channel in the film

industry (Evans & Matthews, 2018, November 1), or studied the film content purely from an artistic perspective. Nonetheless, quantitative analysis of the impact of movie-viewing behavior is insufficient. Based on the data of clicks and comments of Chinese movies on YouTube from 2015 to 2017, Wang et al. (2018) explored factors that influenced Chinese film being streamed on overseas media transmission networks. However, the research was not conducted from the perspective of the audience and hence did not identify the internal thoughts affecting movie-viewing behavior.

Research Hypothesis and Model Building

Planned behavior theory was developed based on the Theory of Reasoned Action (Ajzen, 1991) and has been regarded as an effective theory for predicting human behavior intention and behavior in many consumer behavior theories. Many studies have confirmed the effectiveness of the TPB model (Bray et al., 2011; Zhang et al., 2017). At present, new variables are introduced to construct a TPB extension model based on the original model for different research objects, so as to increase the scientific nature and diversity of the research (Zhang et al., 2017). This paper added the “film traits” variable, based on the TPB model, to study movie-viewing behavior of streaming self-produced movies.

Movie-viewing Behavior

In this study, the movie-viewing behavior of the audience was set as the dependent variable, which refers to the relevant behavior of the audience in choosing to watch the streaming self-produced movies (Ajzen, 1991). We quantified the dependent variable by using three measurement indicators proposed by other scholars, namely “paid purchase” (Dutta, 2012), “preferred choice” (Wand, 1968), and “word-of-mouth recommendation” (Fan, 2016). Therefore, we decided to research the dependent variable using three components: paid viewing behavior (M_1), first selection behavior (M_2), and the recommendation to others behavior (M_3).

Expansion of the “Film Traits” Variable

A movie is both an art and a product, its attributes—film traits—including film genre, film content, actors, country of origin and so on. Many scholars believe those film traits have an important impact on the audience’s movie-viewing behavior (Cui & Tang, 2012; Fan, 2016; Li & Wang, 2016). Therefore, the following hypotheses were proposed:

- H_1 : Film traits have a significant influence on the movie-viewing behavior of SSMs.
- H_{1a} : Film traits have a significant influence on paid viewing behavior.
- H_{1b} : Film traits have a significant influence on first selection behavior.
- H_{1c} : Film traits have a significant influence on the recommendation to others.

Other Variables Based on the TPB

The TPB model expression formula is: $BI = w S N + w P B C + w A A$, among them, BI represents behavioral intention, which is simultaneously positively affected by three factors: subjective norm (SN), perceived behavioral control (PBC), and behavioral attitude (AA) (Ajzen & Madden, 1986). Due to the good explanatory ability of the TPB model, it is often used as the theoretical basis for movie-viewing behavior and many scholars have also verified that the TPB model has good explanatory power and predictive power in film field research (Cheng et al., 2019; Dutta, 2012; Huang & Xu, 2019).

Subjective Norm. When watching streaming self-produced movies, opinions from others, sharing in social circles, bullet subtitles, or movie reviews can be seen everywhere. It is reasonable to predict the social environment (movie-viewing behaviors from relatives and friends or the support and encouragement for college students’ viewing behaviors) (Dutta, 2012) and Internet word-of-mouth (Nelson & Glotfelty, 2012) can influence the behavior of college students to implement viewing. Therefore, the following hypotheses were proposed:

- H_2 : Subjective norm has a significant influence on the movie-viewing behavior of SSMs.
- H_{2a1} : Social impact has a significant influence on paid viewing behavior.

- H_{2a2} : Social impact has a significant influence on first selection behavior.
- H_{2a3} : Social impact has a significant influence on the recommendation to others.
- H_{2b1} : Internet word-of-mouth has a significant influence on paid viewing behavior.
- H_{2b2} : Internet word-of-mouth has a significant influence on first selection behavior.
- H_{2b3} : Internet word-of-mouth has a significant influence on the recommendation to others.

Perceived Behavioral Control. Combining with the 4P theory of marketing, and college students special group, it was proposed: (a) that the lower price of watching movies (Cui & Tang, 2012) the more movies can meet self-needs (Xiao, 2017) and (b) the higher the felt quality of movies (Fan, 2016), the more viewers will like the movie products and the more participants consciously can control their movie-viewing behavior. Therefore, the following hypotheses were proposed:

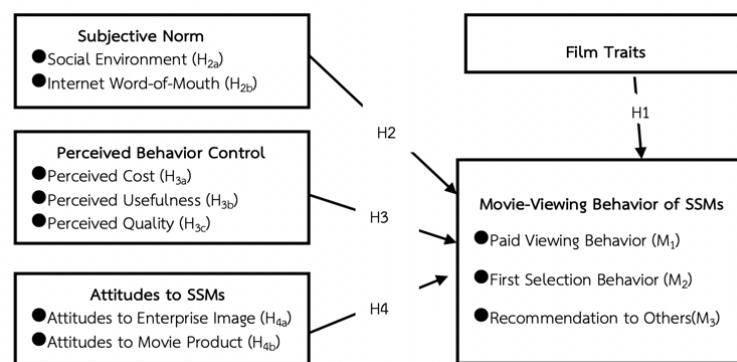
- H_3 : Perceived behavioral control has a significant influence on the movie-viewing behavior of SSMs.
- H_{3a1} : Perceived cost has a significant influence on paid viewing.
- H_{3a2} : Perceived cost has a significant influence on first selection behavior.
- H_{3a3} : Perceived cost has a significant influence on recommendation to others.
- H_{3b1} : Perceived usefulness has a significant influence on paid viewing behavior.
- H_{3b2} : Perceived usefulness has a significant influence on first selection behavior.
- H_{3b3} : Perceived usefulness has a significant influence on the recommendation to others.
- H_{3c1} : Perceived quality has a significant influence on paid viewing behavior.
- H_{3c2} : Perceived quality has a significant influence on first selection behavior.
- H_{3c3} : Perceived quality has a significant influence on the recommendation to others.

Attitudes to SSMs. The audience's preference or satisfaction with movies is directly affected by the enterprise image and the film product itself (Ajzen & Madden, 1986). Audiences believe that if streaming self-produced movies can enable and cultivate a large number of young talent, they will be more interested in the movie product and their movie-viewing behavior will be promoted (Cui & Tang, 2012; Nelson & Glotfelty, 2012). Therefore, the authors put forward the hypotheses:

- H_4 : Attitudes to SSMs has a significant influence on the movie-viewing behavior of SSMs.
- H_{4a1} : Attitudes to enterprise image has a significant influence on paid viewing behavior.
- H_{4a2} : Attitudes to enterprise image has a significant influence on first selection behavior.
- H_{4a3} : Attitudes to enterprise image has a significant influence on the recommendation to others.
- H_{4b1} : Attitudes to movie product has a significant influence on first selection behavior.
- H_{4b2} : Attitudes to movie product has a significant influence on paid viewing behavior.
- H_{4b3} : Attitudes to movie product has a significant influence on the recommendation to others.

Research Model. To sum up, the authors established the proposed TPB extended model of SSMs, as shown in Figure 1.

Figure 1 Proposed TPB Extended Model of SSMs



Research Methodology

The questionnaire paradigm was that prepared by Churchill (1979), which contained 45 measurement items. After repeated revision of the measurement items, we finally determined the formal questionnaire. After 430 valid data were collected, reliability and validity tests of the questionnaire were carried out again, and factor analysis was used to indicate that each dimension could reflect most of the original variables (Kaiser, 1974; Rovinelli & Hambleton, 1977; Turner & Carlson, 2003). All the indicators of the questionnaire met the evaluation standards, and hence the quality of the questionnaire was adequate and it was ready for use.

The research population of this study consisted of college students who have watched self-produced movies and were currently studying at universities in Shanxi Province. We used Cochran's sample size formula to calculate the minimum sample size required for this study, which was 400.

To make the research sample representative where respondents could give more opinions on the topic, this study adopted a purposive sampling method at the Communication University of Shanxi and Shanxi University (located in the capital of Shanxi Province). The reasons were: (a) the main group of film consumption is the post-90s generation, and the main force of this group is composed of modern college students, (b) students majoring in media, film production, and other arts at the Communication University of Shanxi had a deeper understanding of media, (c) Shanxi University is the largest comprehensive university in Shanxi Province, at which more views could be collected from more professional college students.

On October 12, Solstice 21, 2019, 450 paper questionnaires were distributed at the above two universities, and 430 valid questionnaires were received, with an effective return rate of 95%, which met the requirements of a minimum sample size.

Analysis of Viewing Preferences

This study investigates college students' habits of watching online movies and their preference for streaming self-produced movies using the following criteria (Table 1).

1. Viewing frequency. Viewing time from "18:00 to 22:00" accounted for the highest proportion (54.2%) of participants, and those accustomed to watching from "8:00 to 11:00" were the least, accounting for only 28.4%. In terms of the frequency of paying for movies, the vast majority of respondents payed for movies "occasionally," accounting for 51.2%, followed by "frequently" (162), accounting for 37.7%, "rarely" and "never" (7.2% and 4.0%, respectively).
2. Preference of movie traits. In terms of film genre, "Comedy" (55.6%), "Romantic Films" (53.5%), and "Art-house Films" (53.3%) were highly popular, while "Costume Dramas" (16.7%) were the least popular. As regards to country of origin, films from the "United States" were the most popular (16.7%); 63.7% of respondents had watched SSMs, and they had knowledge of American popular SSM titles (Beast of No Nation 59.1%, Bright 54.0%, Roman 53.5%, Manchester by the Sea 51.4%, Bird Box 50.5%) compared to Chinese SSM titles (Trailer 47.0%, Killing Innocent 49.5%, Four Big Names 47.9%, Wedding Dress 33.7%).
3. Ways of viewing. Most of the respondents used "mobile devices" (83.7%). "Free online" viewing was represented among 57.7% of respondents, while 45.6% opted for "online payment" viewing and 37.0% opted for "free download" viewing. In terms of viewing platforms often used, "Tencent video" was used most frequently accessed, reaching 58.60% of respondents, followed by "Aiqiyi," "Youku Tudou," "Sohu Video," "Mango TV," "LeTV Video," and "Mobile Video Player (Apple/Huawei video, etc.)" accounting for 55.6%, 49.5%, 45.6%, 45.4%, 41.4%, and 31.9%, respectively.

To sum up, the majority of respondents liked American movies, which included comedy, romantic film, and art-house film. Their habitual watching time was approximately between 18:00 and 22:00, with respondents using mobile devices for free, online, viewing platforms, such as Tencent Video. SSMs were watched by 63.7% of respondents. College students knew more about American popular SSM titles than Chinese popular SSM titles, and they generally tended to pay for viewing.

Table 1 Viewing Preferences of Respondents

Profile	Group	Frequency	Percent (%)	Profile	Group	Frequency	Percent (%)
Viewing Frequency							
Viewing Time	8:00-11:00	122	28.4	Paid Viewing Frequency	Frequently	162	37.7
	11:00-18:00	196	45.6		Occasionally	220	51.2
	18:00-22:00	233	54.2		Rarely	31	7.2
	22:00-24:00	230	53.5		Never	17	4.0
	After 24:00	228	53.0				
Preference for Movie Traits							
Film Genre	Comedy	239	55.6	Country of Origin	China	262	60.9
	Romantic Films	230	53.5		Hong Kong and Taiwan	199	46.3
	Art-house Films	229	53.3		United States	314	73.0
	Action	212	49.3		Japan and South Korea	93	21.6
	Thriller	82	19.1	Whether Have Watched SSMS	Europe	75	17.4
	Documentary	204	47.4		Yes	274	63.7
	Suspense	190	44.2		No	156	36.3
	Animation	212	49.3	SSM Title	Roman	230	53.5
	Science Fiction	190	44.2		Green Book	196	45.6
	Costume Drama	72	16.7		Beast of No Nation	254	59.1
SSM Title	Manchester by the Sea	221	51.4	Ways of Viewing	Trailer	202	47.0
	Bright	232	54.0		Killing Innocent	213	49.5
	Okja	172	40.0		Four Big Names	206	47.9
	Icarus	181	42.1		Wedding Dress	145	33.7
	Bird Box	217	50.5				
Ways of Viewing							
Viewing Platform Often Used	Aiqiyi	239	55.6	Viewing Channels	Cinema	182	42.3
	Youku Tudou	213	49.5		TV	134	31.2
	Tencent Video	252	58.6		Mobile Devices	360	83.7
	Sohu Video	196	45.6		Computer	220	51.2
	Letv Video	178	41.4	Viewing Ways for Online Movies	Free Download	159	37.0
	Mango TV	195	45.4		Online Free	248	57.7
	Mobile Video Player	137	31.9		Online Payment	196	45.6

Hypotheses Testing, Results, and Discussion

Taking college students' movie-viewing behaviors of "paid viewing," "first selection," and "recommendation to others" as independent variables, and eight explanatory factors [film traits (FT), social environment (SE), internet word-of-mouth (IWM), perceived cost (PC), perceived usefulness (PU), perceived quality (PQ), attitudes to enterprise image (AEI), and attitudes to movie product (AMP)] influencing them as independent variables, a multiple regression model was used for analysis, as shown in Table 2.

Table 2 Regression Analysis Results

	Paid Viewing (M ₁)			First Selection (M ₂)			Recommendation to Others (M ₃)		
	B	SE	Sig.	B	SE	Sig.	B	SE	Sig.
(Constant)	-.132	.357	.712	.645	.264	.015	.506	.252	.045
FT	.159	.054	.003**	.057	.040	/	.038	.038	/
SE	.196	.058	.001*	.157	.043	.000***	.112	.041	.007**
IWM	.094	.045	.037*	.085	.033	.010*	.101	.032	.002**
PC	.070	.061	/	.194	.045	.000***	.090	.043	.037*
PU	.069	.070	/	.028	.052	/	.146	.049	.003**
PQ	.157	.075	.036*	.088	.055	/	.173	.053	.001**
AEI	.099	.073	/	.080	.054	/	.147	.052	.004**
AMP	.190	.073	.010*	.154	.054	.005**	.086	.052	/

Note: *Sig < .05, **Sig < .01, ***Sig = .000, / no significant effect

From the regression analysis results, the standard regression equation for movie-viewing behaviors can be obtained:

$$M1 = -0.132 + 0.159*FT + 0.196*SE + 0.094*IWM + 0.157*PQ + 0.190*AMP$$

$$M2 = 0.645 + 0.157*SE + 0.085*IWM + 0.194*PC + 0.154*AMP$$

$$M3 = 0.506 + 0.112*SE + 0.101*IWM + 0.09*PC + 0.146*PU + 0.173*PQ + 0.147*AEI$$

Meanwhile, the results showed that the assumed eight factors had different effects on the three movie-viewing behaviors, specifically as follows:

1. The influence of film traits on movie-viewing behavior. According to Table 2, film traits significantly affected paid viewing behavior (Sig = .03 < .01), which has been confirmed by previous research, such as Li and Wang (2016), Fan (2016), and Cui and Tang (2012). Although theatrical movies have a mature production mode, SSMs have more movies available for choice, for example, there are more romantic film and art-house films popular among college students on streaming platforms, which greatly promoted their desire to watch and pay for them. It can be observed that film genre, content plots, actors, and other film traits have criteria for college students to judge viewing value. This is consistent with the research hypotheses.

At the same time, film traits had no significant influence on the first selection viewing behavior (Sig = .156 > .05) and recommendation to others (Sig = .326 > .05). The reason for this is that college students regard SSMs as the preferred way to watch movies, mainly because of its convenience (anytime, anywhere, free pause, advance, and exit, etc.), rather than the common movie traits (film genre, film content, actors, etc.) Therefore, film traits are not a necessary condition to influence the first selection and recommendation of others. This, however, is inconsistent with Fan's (2016) research.

2. The influence of subjective norm on movie-viewing behavior. Regarding the two observation factors of subjective norm, social environment and Internet word-of-mouth, both reached a significant level of .001 and .05 for movie-viewing behaviors (paid viewing, first selection, and recommendation to others), which was also confirmed by the previous work of Dutta (2012) and Nelson and Glotfelty (2012). As can be seen from Table 3, the coefficients of the social environment and the three behaviors are all larger than that of Internet word-of-mouth, indicating that college students are more influenced by their relatives and friends. This is because young people in this period are more active in interpersonal communication and more interested in making friends, contacting friends, and expressing themselves. This is also consistent with the hypotheses proposed for this study.

3. The influence of perceived behavior control on movie-viewing behavior. According to the results of the regression analysis, three explanatory factors based on perceived behavior control, perceived cost, perceived usefulness, and perceived quality, reached the significant levels of .05, .01, and .01,

respectively, for recommending to others, indicating that college students are willing to recommend to others SSMs that are affordable, self-satisfying, and of high-quality, which are consistent with the hypotheses of this study and Xiao's (2017) research results.

However, paid viewing had no significant influence on perceived cost ($\text{Sig.} = .252 > .05$) and perceived usefulness ($\text{Sig.} = .326 > .05$), which was inconsistent with the research hypotheses (Cui & Tang, 2012). Since the cost of watching a movie is generally low, the impact of its cost of payment is negligible. Similarly, under the premise of low price, whether movies can satisfy college students' own needs will not directly affect their paid behavior.

At the same time, the first selection had no significant influence on perceived usefulness ($\text{Sig.} = .589 > .05$) and perceived quality ($\text{Sig.} = .110 > .05$). For audiences who are new to SSMs, convenience and low price are the key factors, while useful value demand and quality become secondary factors, outcomes that were supported by Cui and Tang (2012) and Fan (2016). Even when self-demand and quality are slightly less than expected (this phenomenon is common in "bullet subtitles"), they still preferred to choose SSMs.

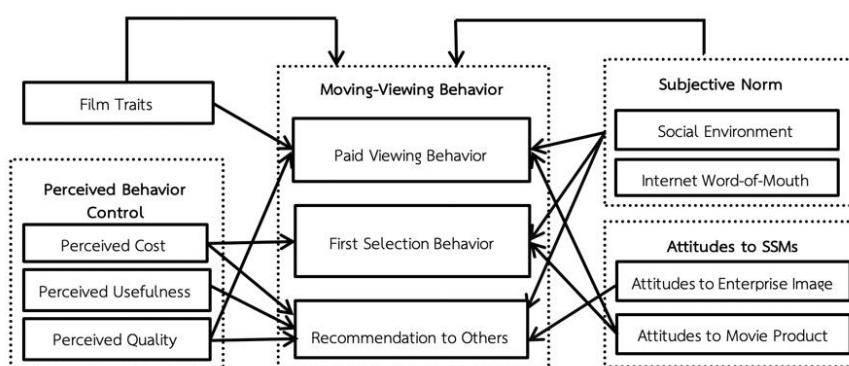
4. The influence of attitudes to SSMs on movie-viewing behavior. Attitudes to corporate enterprise image reached the significant level of 0.01 ($\text{Sig.} = .004 < .01$) for recommending to others, attitudes to movie product reaches the significant level of 0.05 and 0.01, respectively, for paid viewing ($\text{Sig.} = 0.01 < 0.05$) and the first selection ($\text{Sig.} = .005 < .01$), results which are consistent with the research conducted by Cui and Tang (2012) as well as Nelson and Glotfelty (2012).

This shows that streaming media enterprise can cultivate young film talents through SSMs, which will direct the development of streaming media enterprises, and then promote college students' behavior in recommending SSMs to others. On the whole, compared with cinema movies, college students prefer SSMs, especially those produced by familiar streaming media platforms, which can encourage them to pay for viewing and choose SSMs as their first choice when they want to watch movies.

Research Result Model

After testing the hypotheses by using multiple regression analysis, the standard regression model among variables was obtained, and then the final model diagram was constructed to present the correlation between variables more clearly, as shown in Figure 2.

Figure 2 Viewing Behavior Model of SSMs in Views of College Students in Shanxi Province



Concluding Remarks

Before we discuss suggestions for the steaming media, it should be noted that the sample size of this study was limited to college students from two undergraduate universities in Shanxi Province, which may reduce the universality of the research conclusions. In future research, data from diverse populations should be collected, in order to explore college students' views and behaviors of SSMs to form more generalizable results.

Based on the TPB model, an in-depth analysis was conducted of the factors influencing college students to watch streaming self-produced movies. Such a group has significant advantages in acceptance of new things and movie-viewing behavior. From the overall analysis, it can be seen that college students have a high degree of liking for SSMs, which represents a market potential. Therefore, if the characteristics of college students' demands and behaviors for viewing are grasped, it will surely bring profitable returns to investment enterprises and inject fresh vitality into China's film industry.

The following suggestions are proposed for the streaming media industry:

1. Improve the impact of the social environment and promote paid movie-viewing behavior. This study showed that the social environment has the most influence on the behavior of paid viewing. As for movies, their consumption and experience proceeds at the same time. Once purchased, they are not refundable or exchangeable, which determines that college students will be more influenced by the surrounding environment when they choose to pay, especially opinions coming from their relatives and friends. Therefore, attention should be given to people, especially those in colleges, to support promotional activities or sharing with their friends.

2. Set reasonable viewing prices to win the first selection of customers. The study also showed that the perceived cost had the greatest influence on college students' first choice of watching streaming self-produced movies. College students have a high degree of familiarity with the Internet. However, watching movies online is not the only option for their entertainment consumption, as each big theater may launch a variety of ticket discounts. Nevertheless, COVID-19 has influenced their behavior, making them more dependent on online entertainment and more sensitive to the price of watching movies. This means that winning their first selection is particularly important. Therefore, setting a lower viewing fee for college students is the best measure to attract them to watch streaming self-produced movies. This would avoid the hurdle of a high perceived price and would diminish the preference for other forms of entertainment, or the temptation to shift to cinema movies.

3. Improve movie quality and enterprise image and expand the range of potential users. The results of the study revealed that recommendations made to others are influenced by perceived quality and attitude to enterprise image. At present, China's online streaming platforms may contain vulgar content, lowbrow style, and violent movies, which greatly affects the quality of streaming self-produced movies and the enterprise image of the platforms.

Therefore, if streaming enterprises want to tap potential users through existing viewers' word of mouth, they must produce streaming self-produced movies that contain high-quality content and diverse cultural elements. Improving product quality involves introducing new film talent, breaking the monopoly of the cinema enterprise and celebrities in the film industry, and providing a development platform for newer and unknown film talent. This not only helps to increase college students' cognition of the streaming enterprise image, but it also can cultivate the competitiveness of the movie product itself. More importantly, it can enhance the international popularity of Chinese streaming SSMs and promote Chinese culture.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior & Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)

Ajzen, I., & Madden, T. J. (1986). Prediction of goal-directed behavior: Attitudes, intentions, and perceived behavioral control. *Journal of Experimental Social Psychology*, 22(5), 453–474. [https://doi.org/10.1016/0022-1031\(86\)90045-4](https://doi.org/10.1016/0022-1031(86)90045-4)

Bigne-Alcaniz, E., Ruiz-Mafe, C., Aldas-Manzano, J., & Sanz-Blas, S. (2008). Influence of online shopping information dependency and innovativeness on internet shopping adoption. *Online Information Review*, 32(5), 648–667. <https://doi.org/10.1108/14684520810914025>

Blatt, M. (2019, January 20). *How Netflix is changing the film industry*. http://www.china.org.cn/opinion/2019-01/20/content_74385699.htm

Bray, J. P., Johns, N., & Kilburn, D. (2011). An exploratory study into the factors impeding ethical consumption. *Journal of Business Ethics*, 98(4), 597–608. <https://doi.org/10.1007/S10551-010-0640-9>

Burroughs, B. (2019). House of Netflix: Streaming media and digital lore. *Popular Communication*, 17(1), 1–17. <https://doi.org/10.1080/15405702.2017.1343948>

Chang, J. (2020). Streaming media and the future film industry: Aesthetics, industry, culture. *Contemporary Cinema*, (7), 4–10. <https://kns.cnki.net/kcms/detail/detail.aspx?dbcode=CJFD&dbname=CJFDLAST2020&filename=DDDY202007004&v=MjY1NzIQSVNuUGQ3RzRITkhNcUk5RIJUjhIWDFMdXhZUzdEaDFUM3FUclDNMUZyQ1VSN3FmYnVkbUZDcmdVYnI=>

Cheng, J., Chen, Y., Dou, H., Liu, L., & Yang, L. (2019). Research on the Intention of continuous payment for college students' video websites in Beijing based on TPB extension model. *Research on Transmission Competence*, 3(34), 264–266. <https://kns.cnki.net/KXReader/Detail?TIMESTAMP=637375940557968750&DBCODE=CJFD&TABLEName=CJFDLAST2020&FileName=CBLY201934227&RESULT=1&SIGN=y697l7sS%2ffIjZQzJ65RtMM9ALw%3d>

Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16(1), 64–73. <https://doi.org/10.2307/3150876>

Cui, N. N., & Tang, J. (2012). Research of Chinese movie box-office influencing factors based on regression analysis. *Jiangsu Commercial Forum*, 8, 35–39. <https://doi.org/10.13395/j.cnki.issn.1009-0061.2012.08.005>

Dutta, S. (2012). Analyzing consumer intention to pay for online content: A systematic approach. *Journal of Theoretical & Applied Information Technology*, 38(1), 89–102. <http://citeseerx.ist.psu.edu/viewdoc/download?jsessionid=315F3EFAA094BB4B54F6721354212317?doi=10.1.1.299.9934&rep=rep1&type=pdf>

Economic Daily. (2018, June 25). *The global film industry is growing rapidly*. <https://www.imsilkroad.com/news/p/100533.html>

Evans, A., & Matthews, S. (2018, November 1). From screening to streaming: Film industry in transition. *Executive Insights*, 20(53), 1–5. <https://www.lek.com/insights/ei/screening-streaming-film-industry-transition>

Fan, X. (2016). *Research on the motivation and behavior intention of superhero movie audiences—Take Marvel movies as an example* [Master's thesis, Jinan University, China]. <https://kns.cnki.net/kcms/detail/detail.aspx?dbcode=CMFD&dbname=CMFD201702&filename=1016733770.nh&v=LCT57RJ7b%25mmd2BPunrl9HSEoaOLGPJrqscWsY17z6bIXeHmMoExeDpzGw0RryGgfyZq4>

Garlin, F. V., & McGuiggan, R. L. (2002). Sex, spies and celluloid: Movie content preference, choice, and involvement. *Psychology & Marketing*, 19(5), 427–445. <https://doi.org/10.1002/MAR.10018>

Huang, S., & Xu, B. (2019). College students' movie-viewing behavior and its influencing factors. *Knowledge Economy*, 1, 139+141. <https://doi.org/10.15880/j.cnki.zsjj.2019.01.078>

Jenner, M. (2015). Binge-watching: Video-on-demand, quality TV and mainstreaming fandom. *International Journal of Cultural Studies*, 20(3), 127–136. <https://doi.org/10.1177/1367877915606485>

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31–36. <https://doi.org/10.1007/BF02291575>

Kjus, Y. (2016). Musical exploration via streaming services: The Norwegian experience. *Popular Communication*, 14(3), 127–136. <https://doi.org/10.1080/15405702.2016.1193183>

Lee, K. J., & Chang, W. (2009). Bayesian belief network for box-office performance: A case study on Korean movies. *Expert Systems with Applications*, 36(1), 280–291. <https://doi.org/10.1016/J.ESWA.2007.09.042>

Li, Z., & Wang, L. (2016). Study on the motivation of college students' online movie ticket purchase behavior. *Journal of News Research*, 7(18), 72–73. <https://kns.cnki.net/KXReader/Detail?TIMESTAMP=637375991433906250&DBCODE=CJFD&TABLEName=CJFDLAST2016&FileName=XWDK201618043&RESULT=1&SIGN=pLvf8WgRRws4IHkSk4DlvOsPsk%3d>

Lu, X. (2019). A study on the cost of production in film project management: Taking small-budget films in China as an example. *Open Journal of Social Sciences*, 7(3), 75–88. <https://doi.org/10.4236/jss.2019.73006>

McKechnie, S. A., & Zhou, J. (2003). Product placement in movies: A comparison of Chinese and American consumers' attitudes. *International Journal of Advertising*, 22(3), 349–374. <https://doi.org/10.1080/02650487.2003.11072858>

Nelson, R. A., & Glotfelty, R. (2012). Movie stars and box office revenues: An empirical analysis. *Journal of Cultural Economics*, 36(2), 141–166. <https://doi.org/10.1007/S10824-012-9159-5>

Quico, C. (2019). Television reshaped by big data: Impacts and implications for Netflix-like platforms in the age of dataism. *International Journal of Film and Media Arts*, 4(1), 48–55. <https://doi.org/10.24140/ijfma.v4.n1.04>

Rovinelli, R., & Hambleton, R. (1977). On the use of content specialists in the assessment of criterion-referenced test item validity. *Tijdschrift Voor Onderwijsresearch*, 2, 49–60. <https://eric.ed.gov/?id=ED121845>

Ru, Y., Li, B., Chai, J., & Liu, J. (2019). A movie box office prediction model based on deep learning. *Journal of Communication University of China (Science and Technology)*, 26(1), 27–32. <https://doi.org/10.16196/j.cnki.issn.1673-4793.2019.01.005>

Statista. (2019, October 16). *Penetration rate of subscription video on demand (SVOD) services worldwide in the 1st quarter of 2019, by country*. <https://www.statista.com/statistics/813698/svod-reach-by-country/>

Turner, R. C., & Carlson, L. (2003). Indexes of item-objective congruence for multidimensional items. *International Journal of Testing*, 3(2), 163–171. https://doi.org/10.1207/S15327574IJT0302_5

Tvoao. (2019, March 26th). *The motion picture association of america report: Global streaming video subscriptions surpassed cable TV for the first time in 2018*. <https://www.tvoao.com/a/197216.aspx>

Wand, B. (1968). Television viewing and family choice differences. *Public Opinion Quarterly*, 32(1), 84–94. <https://doi.org/10.1086/267581>

Wang, J., Li, Z., & Zhao, Y. (2018). Influencing factors of Chinese movies in overseas streaming media transmission—Take Chinese movies shown on YouTube from 2015 to 2017 as an example. *China Journalism and Communication Journal*, 2, 85–103. https://kns.cnki.net/kcms/detail/detail.aspx?dbcode=CCJD&dbname=CCJDLAST2&filename=XWCJ201802007&v=dluvIRwTL7PpD3dWdaq65lcHAKeXnQ2SPLkui8gUAoVI2H3O%25mmd2BIUzMH5HxaozGex3&UID=WEEvREcwSIJHSIdTTEYzVTFPV2pUd0RFbU05TmZrUIQ4b3RVdWFaSEpCST0%3d%249A4hF_YAuvQ5obgVAqNKPCYcEjKensW4IQMovwHtwkF4VYPoHbKxJw!!&autoLogin=0

Xiao, R. (2017). *The study on factors affecting customers' purchase intention of web fiction ip incubation film and television products based on the perspective of consumer perception* [Master's thesis, JiLin University, China]. <https://kns.cnki.net/kcms/detail/detail.aspx?dbcode=CMFD&dbname=CMFD201801&filename=1017153179.nh&v=A4QQDw6%25mmd2BzffjQFuh4t6NF1h%25mmd2BDkzvgEJusMweacyfCQLdj25nxa6LPxFT093ur3Zn>

Yuqi, J. (2018, April 12). *Netflix was retired by Cannes, and the streaming media and traditional film industry officially declared war?* <https://www.huxiu.com/article/239679.html>

Zhang, Y., Yu, X., Cheng, J., Chen, X., & Liu, T. (2017). Recreational behavior and intention of tourists to rural scenic spots based on TPB and TSR models. *Scientia Geographica Sinica*, 36(9), 1725–1741. <http://www.dlyj.ac.cn/EN/10.11821/dlyj201709010>