
Live Streaming Video E-commerce: Examining the Operational Strategies

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ABSTRACT

Live Streaming Video (LSV) is a new form of social media-based entertainment business which is rapidly growing in popularity. Yet little research exists on the operations/strategies of LSV businesses. Thus, the purpose of this study is to investigate ‘what operational strategies does the companies implement in developing their clientele and market share in LSV marketplace?’

The study conducted qualitative semi-structured interviews with key executives in LSV businesses, and interviews data were content analyzed.

The results show that: (1) LSV companies develop their operational strategy in four aspects—product, promotion, pricing and distribution; (2) LSV companies benefit from the common video content of e-sports matches and Games, but this commonality has some negative effects because it may shift the market power from the LSV platforms to users; and (3) LSV companies that leverage network effect by offering ‘Danmu’ system—type of online chatting during streaming of video, gift system and hire famous anchors consolidate their market presence.

Theoretically, the study provides evidence of a new operational approach that interfaces marketing elements and offers insights into some key strategies for LSV business development. Managerially, the study identifies practical strategies to enhance decision making for entering and sustaining operations in emerging LSV markets.

1. INTRODUCTION

The advent of Social Media has been accompanied by constant evolution of various content driven platforms together with steady emergence of new businesses, offering yet further innovative services. One such new service has been Live streaming video—a new form of entertainment business which is rapidly growing in popularity, particularly among the younger generation [1, 2].

According to a recent estimate, “the live streaming industry is now worth \$10.1 billion and is expected to increase by \$3 billion in 2019” [2]. The belief that this is not just a temporary fad is supported by Amazon acquiring Twitch (www.twitch.tv), a worldwide live streaming video (hereinafter termed ‘LSV’) platform for US\$970 million in August 2014 [3]. These trends are reflected in the 2018 Global Esports market report which estimates that the size of the global e-sports economy and esports audience is expected to reach \$905.6 million and 380 million users, respectively, by 2019 [4]. The e-sports audience members are the main users of the LSV platforms and interest in sporting events is growing worldwide [5].

Live streaming refers to content delivered live over the Internet using a source media (e.g. a video camera, an audio interface, screen capture software), an encoder to digitize the content, a media publisher, and a content delivery network to distribute and deliver the content [6]. The LSV platform allows both service providers, typically through paid presenters (‘anchors’), and users of the service (i.e. user generated), to broadcast LSV content using a camera and a

computer through the Internet. Viewers primarily access the content via the web, iOS and Android apps, STB (Set Top Box) or other equipment with the appropriate software [7].

In China, Douyu (www.douyu.com) pioneered the launch of LSV platforms in 2014. Douyu was in April 2016 considered the largest LSV platform provider in China with about 1,200,000 average daily IP streaming traffic which is about one third of the main internationally dominant platform, Twitch [8].

Subsequently, a number of other LSV providers including Zhanqi (www.zhanqi.tv), Huya (www.huya.com), Firecat (www.huomaotv.com) and Panda (www.panda.tv) started their operations. However, Douyu has maintained its market-share leadership position in the Chinese LSV eCommerce market till now [9].

A question is then, what has Douyu apparently done to keep its market share in spite of increasing competition in a largely unregulated and emerging Chinese eCommerce market? What operational strategies are associated with Douyu maintaining the leadership position?

The question becomes more important as LSV platform is uniquely distinct. It combines the characteristics of B2C and C2C business models offering enriched experience to customers through facilitation of social interactions between users, and also between users and those who post material. Users are able to share their activities, interests, and events with a wider audience and interact in new ways enjoying the flexibility of services and variety of content.

Despite its uniqueness and growing popularity as reflected in burgeoning audience size and increasing competition [1],

little to no research exists on the fundamental issues such as operational strategies and the ways in which these may be associated with business outcomes like market share of LSV providers. The research that exist is fragmentary.

For instance, Payne et al. examined efficacy of LSV platform Twitch as a learning medium [10]. The authors found that learning performance facilitated through Twitch was quite similar for novice and expert instructor. Other authors also looked into the use of LSV for educational and learning delivery purposes [11, 12].

The practices of LSV communities could be indicative of how LSV users behave and examination of such behaviors could be beneficial for the growth of other live content mediums such as interactive television communities [13]. Zhao et al. [14], as such, investigated what motivates users to continue broadcasting content on a platform like Twitch and found that performance expectancy and website attractiveness influence users' broadcast intentions.

Other studies looked into technical aspects of LSV platforms. For instance, Pires and Simon [7] investigated the datasets of LSV feeds of Twitch and Youtube and argued that Twitch offers more rich services compared to Youtube LSV. The authors further suggested that the popularity of both the LSV platforms is quite heterogenous. Horsman [15] investigated how to recreate the video content from the footprints of illegal video content streaming in order to curb the illegal use of LSV.

The above discussion highlights that not only the state of the current knowledge on LSV is in its infancy, but it has also failed to examine various aspects that are of fundamental importance to LSV growth and operational success in the first place. Moreover, despite an exponential increase in the use of LSV and social media for daily lives and business activities in China [9], the extent of studies from a Chinese context are scarce. We argue that the lack of knowledge on operational strategies is not only limiting the creation of transferable knowledge for industry purposes to enable sustainable LSV growth, but also is counterproductive for academic scholarship development too.

Therefore, the prime aim of this study is to address this gap in knowledge and investigate:

What have been the operational strategies of LSV eCommerce platform providers and how do these seem to be associated with the eCommerce market shares they hold?

The study is significant as the findings could be used by eCommerce/eSports managers for decision making, and framing product/market development strategies for entering emerging LSV markets.

The current five major Chinese LSV eCommerce market players have entered by initially using a somewhat different strategy. An understanding of their strategies will help in building practical and effective solutions for new entrants in the LSV eCommerce segment specifically and the content-driven web-based eCommerce market in general. It will help reduce chances of wasted costs and resources. The interface between marketing and operations elements examined in this study provide a fertile ground for theoretical developments in cross-disciplinary context.

The remainder of this paper is organized as follows: Section 2 provides the theoretical foundation and a critical perspective of the relevant literature. Section 3 describes methodology, and findings are discussed in detail in Section 4. Conclusion, implications, future research directions and limitations are presented in Section 5.

2. LITERATURE REVIEW

2.1 Theoretical foundation: First-mover advantage

The initial source of first-mover advantage is usually that of technological leadership supported by the benefits of the learning or experience curve effects [16] and/or success in R&D or gaining the first patent. However, Cleff and Rennings, [17] have found that successful protection of Intellectual Property Rights (IPRs) against imitation by other firms is a rare case. A second source of first-mover advantages can be the exclusive gaining of assets such as skilled workers, channels of distribution or production facilities. It is difficult for all of these assets to be exclusively held by a single firm. It could also be seen that the above factors are related to the timing of market entry advantage. A third category of advantage is that of the switching costs that customers may face if they think about moving to another supplier. Switching costs can be a barrier due to customers having signed long-term supply arrangements with the first mover [16].

Later entrants can gain a competitive advantage in certain situations and these are not necessarily exclusive to a single firm. The second movers' advantage is mostly that they benefit from the first-mover's groundwork in establishing customer demand for the service and that most products and services can be easily and inexpensively copied by later market entrants. Also, later entrants can benefit from the first-mover's experience-curve, cost reduction and process improvements. [18].

A further source of second mover advantages is that the initial establishment of demand for the service may prompt further customer needs which the first-mover does not recognizes or ignores, as they are too busy keeping up with the basic demand [18]. It has been found that there is a 66 percent survival rate for first-movers and a 48 percent chance for followers to survive [19] and that the first-mover advantages depend on the market environmental circumstances.

Although the previous studies do not refer to the LSV eCommerce market, the findings can be used for this context. For instance, Twitch is the international leader and pioneer in the LSV eCommerce market and it has most market share currently. Similarly, in China, Douyu has the largest market share and was the first mover in the Chinese LSV eCommerce market [9].

2.2 Operational strategies

Operational strategy is defined as "A subclass of business strategy, aimed at supporting business responses to environmental change and leading to innovation and development" [20]. Confirming the conventional view of the normal operational marketing practices Bandyopadhyay [21], stated that among the factors used as internet marketing strategies in emerging eCommerce market were product, promotion, price, distribution or product delivery.

These four key operational decisions and activities of marketing mix [22] can provide a basis for investigating the operational strategies of LSV providers.

Consequently, the reviewed literature below focusses on product, promotion, pricing and distribution strategy in the context of LSV providers.

2.2.1 Product strategy

Unlike a traditional online retailer, LSV platform providers

focus, both, on products and the derivative services. The sustainable competitive advantages [23] for the LSV providers depend on the target markets [21] and the freshness or currency of the content [24].

Currently, the LSV eCommerce market in China is quite homogenized among the LSV providers. All the platform providers focus on the streaming of video gaming, broadcast of e-sports competitions and other gaming-related events to attract male youngsters [9].

LSV content is generated in two ways: the content generated by the anchors of LSV providers, and the audience generated content called as User-Generated Content [25]. Content openness combined with ‘peering’ and ‘sharing’ help build engagement between anchors and audience [24]. The derivative services offer the live streaming audience the ability to interact with live content via commenting, rating, sharing and rewarding. Other product strategies including ‘Danmu’ or bullet screen [26] and gift system are also used for LSV communities’ development.

2.2.2 Promotional strategy

Feldmann's [23] in their study explained how syndication strategy and portal strategy proved to be specifically valuable for media companies involved in mobile internet business. The LSV companies play a combined role of platform service provider and video content provider, therefore for them adopting syndication and portal strategies could be very important.

Given the emerging nature of LSV business, LSV companies usually advertise on mature portal and social networking websites. Because of the specificity of the audience, the LSV companies tend to promote less on other media outlets, for instance, newspapers, magazines and billboard. To some extent, the spread of the LSV platform relies on word of mouth among users [27], which is consistent with earlier studies [28] that regard product recommendation in an online environment as an effective promotional strategy. LSV companies also use anchors’ influence [29].

In addition, LSV providers associate with companies in related businesses to establish two-way propaganda [30]. The LSV platform could generate special content, such as Product Launches live, Fashion Show live and Music Festival live, by cooperating with those companies [27].

LSV portals could be established by strong LSV brands that attract substantial attention [30]. The formation of portals contributes to the retention of old users and the increase in new users.

2.2.3 Pricing strategy

Currently, most video sharing platforms are free for users [31]. Similarly, the contents and services of LSV platforms are free of charge for non-registered audience and non-paying audience. LSV platforms are also free for the anchor, which means that they do not charge for the maintenance of the studio and the service of network streaming when anchors use these facilities. Furthermore, some of the LSV companies provide anchors with wages and shared revenue of gift system [32]. Different platforms have different price range for gifts, distinguishing target audience associated with different income levels.

2.2.4 Distribution strategy

Similar to other internet businesses, LSV business is not constrained by time and place. The audience and anchor could

use the platform anywhere anytime with appropriate equipment if they have access to the internet. It provides opportunities for platform providers to focus on the distribution of contents through various types of devices/channels to target population and expand, consolidate the market share.

According to the study of Meisel [33], an increase in the number of channels (e.g. mobile phone, computers) to distribute contents will have a positive effect on growth of potential audience. In 2013, Twitch set its application on XBOX [3], while most of the Chinese LSV platforms still focus on the distribution through computers and mobile phones only.

Taping into a broader age range of the target population may increase the potential audience. However, such efforts may lead to a lack of focus on a particular set of audience and a potential loss of existing audience. The potential users of social networks are mainly young adults that have high degree of overlap with the users of LSV platform. Therefore, broadening the age range of the target population could be a tough decision for the platform companies.

Further, the analyses of all the interviews indicate some of the factors that favour a first-mover maintaining dominance were present in this market, that is:

- velocity of the adoption of the live streaming innovation,
- provision and connection to the necessary technical infrastructure,
- customer resources provided and switching cost barriers,
- core competence.

Also, there were market circumstances present when Panda entered into the market that were favorable to it gaining share (along with its operational strategies, as described elsewhere in the paper):

- degree of fragmentation of the market, i.e. a range of successful new entrants,
- rate of innovation diffusion, i.e. the speed with which smart phone capabilities and service providers were able to use live streaming,
- ease of connection to the necessary infrastructure, no exclusive patents,
- the novelty of live streaming and associated word-of-mouth spread of it.

3. METHODOLOGY

Given the exploratory nature of the research, the study mainly uses a qualitative and interpretive approach to data collection and analysis. We conducted semi-structured interviews with industry experts, and then used qualitative data analysis strategies [34] (Table 1).

Table 1. Summary of data collection methods

Data Collection Method	Respondents	Purpose
Semi-structured interviews	Managers and anchors belonging to LSV industry	To seek deep insights into the key elements and their relationships in influencing and shaping the operational strategies of the LSV companies studied.

3.1 Development of semi-structured questionnaire

A semi-structured questionnaire was designed and developed consisting of a set of questions based on the literature review. The questions encompassed operational strategies involving four major considerations -- product, promotional, pricing and distribution strategies, as discussed in Section 2.

The questionnaire included five sections. Section one contained questions to seek information on LSV market as perceived by the respondents. Section two included questions on product differentiation strategies such as use of popular / innovative content, ‘Danmu’ system, and gift system adopted for LSV eCommerce. Section three included questions on promotional strategies such as advertising channels, signed anchors, anchor training, online/offline activities, joint promotion and community functions. Section four included questions related to the pricing policy and Section five asked questions about of target population and distribution devices.

3.2 Sample selection and data collection

The sample frame of the study comprised of the five Chinese LSV companies as each has its own characteristics in many aspects. A total of 15 interviews with managers and anchors from five companies were conducted with details below (Table 2).

Table 2. Respondents’ profile

Respondent Organization Name	Interviewee Position/Title	Industry
Douyu (www.douyu.com)	1 manager 3 anchors	Live Streaming Video
Panda (www.panda.tv)	1 manager 2 anchors	Live Streaming Video
Firecat (www.huomaotv.com)	1 manager 2 anchors	Live Streaming Video
Zhanqi (www.zhanqi.tv)	1 manager 1 anchor	Live Streaming Video
Huya (www.huya.com)	1 manager 2 anchors	Live Streaming Video

The data were collected through face to face, phone or Network communication software QQ and Weibo. The interviewer took notes and records of the interviews. Typically, interviews lasted between 30-45 minutes.

3.3 Qualitative data analysis

The data were analyzed using a qualitative content analysis approach by summarizing the primary data of market circumstances and operational strategies. Qualitative data analysis was performed as per below given steps.

(1) The initial categorization drew upon four broad considerations -- product, promotion, pricing and distribution strategies as per focus of semi-structured questionnaire.

(2) The next step involved identification of themes and sub-themes within the data which is to identify patterns, recurrences and commonalities in the data [35]. A number of themes were identified based on the questions in the questionnaire such as: online contents, platform service, pricing policy, advertising channels and so on.

(3) Initially, one of the two authors read the interview data. The repeated reviews of the data led to understanding of the

patterns and similarities/dis-similarities in the respondents’ replies. This examination resulted in identification of sub-themes such as popular content driven strategies (Section 4.1.1), Innovative video content (Section 4.1.2), and online/offline activities (Section 4.2.4), just to mention a few.

The second author also independently reviewed the data and concurred with the theme, sub-theme scheme. The two-step review and content analysis strengthened reliability and validity of data analysis. A detailed discussion of the themes/sub-themes that emerged from the data analysis is given in Section 4. To maintain the anonymity of respondents, when quoting their comments, we refer these five companies as Company A, B, C, D and E.

4. DISCUSSION OF RESULTS

4.1 Product Strategies employed by the companies in the market

4.1.1 Popular content driven strategies

All the respondents interviewed (100%) noted that games and e-sports matches are the two most common form of contents that they stream and are popular among their audience, as one of the respondents explained the type of content they stream

“Video games, e-sports matches, music festival, entertainment program, beauty live, and product launches. Usually the e-sports matches, and beauty live are the most popular content.”

The Operations manager of Company D suggested *“e-sports matches are the most popular and attractive content among live streaming video audience. We have cooperated with PerfectWorld and host many DOTA2 matches like the Shanghai Major. The number of audiences always increase rapidly on match days.”*

The data from interviews show that the common video content of e-sports matches seems associated with increasing the market share for LSV providers to a certain extent. However, this kind of video content could benefit the market share directly and temporarily, which could only happen on match days while the platform is broadcasting the e-sports matches.

Firecat could only broadcast the e-sports matches once a month or even less while Douyu covers more e-sports games, such as League of Legends (LoL) and Hearthstone: Heroes of Warcraft, and could broadcast more frequently.

However, series-based matches of a single e-sport may result in boredom to the audience, lending credence to the situation that the content of e-sports matches could benefit the market share temporarily. To maintain effectiveness, the platforms have to continue offer live coverage of various kinds of e-sports and other programs to attract audiences with different interests.

4.1.2 Innovative video content

Other form of contents mentioned by the respondents included music festival (13% of respondents), outdoor activities programs (20% of respondents), and product launches (6% of respondents).

In addition to these, LSV providers have to develop their own innovative video content to gain control of market. For instance, a member of the product division of Company A, says that the most popular innovative video content is outdoor

activities. The content of outdoor activities includes outdoor adventure, outdoor survival and outdoor travel. The channel of outdoor activities is launched in August 2015 and attracts numerous audiences immediately.

Similarly, Zhanqi has Global angels Channel and Huya has Singer show Channel. The anchors of innovative video content always come from grassroots. Those anchors hardly switch to other platforms. Therefore, the platforms could avoid the negative effects of job-hopping and control operation costs. As manager of Company E put it:

“Star show is the most popular one on Huya. It attracts grassroots anchors who have the dream of being a star.”

Although the innovative video content is easy to imitate, capturing the audience is not that easy. To avoid a switching effect, the platforms like Douyu develop strategies and create an environment where audience feel sufficiently empowered and engaged thereby reducing tendencies and motivation in search for alternative platforms.

Network effects also play a significant role in innovative video content to increase the market share. Once the innovative video content is launched on the platform, the specific audiences who are interested in this content would gather on the platform which leads to attract more anchors.

Unlike common video content with existing celebrities, it is difficult to find suitable anchors for imitators to sign immediately, as such imitators lag behind the first movers. However, due to infancy of market developments, the innovative video content market is not conducive for the imitators.

4.1.3 ‘Danmu’ system

Respondents belonging to all the five video streaming platforms confirmed to provide the service of ‘Danmu’ - a form of massaging / chatting in the live room. One of the respondents underlined the importance of Dammu by saying:

“‘Danmu’ raises the enthusiasm of audiences and anchors and I really enjoy chatting with audiences.” Another respondent noted that Dammu serve increases the stickiness between anchors and audience.”

However, majority of the platforms serve registered users and unregistered users’ access is limited. none of the live stream providers serve unregistered users. In particular, Douyu, Zhanqi and Firecat require the users to bind their phone number with the platform account. Otherwise, the users could not send ‘Danmu’ in the live room and could only receive ‘Danmu’ from other audiences.

The platforms try to transform the guests into regular users by registering them and to maintain and increase the market share. According to the first-mover advantage, this strategy reduces the liquidity of users among platforms and increases the switching costs for the users, which benefits the market share of the first mover, Douyu.

An anchor of Company A, says:

“Danmu’ system makes the distance between anchors and audience closer, which contributes to maintaining and increasing the audiences and encouraging the anchors.”

Additionally, this kind of User-Generated Content (UGC) could lead more audiences to join in the chat. Another anchor of Company A points out that ‘Danmu’ system also has negative effect because of the unfriendly content, such as abuse and ridicule. However, the platforms provide the live rooms with administrators to monitor and ban the unfriendly content while the audience could also shield it by themselves to limit the negative effects. Furthermore, Douyu provides

advanced service on ‘Danmu’ where users could change the color of massage and expand the number of words of ‘Danmu’ while other platforms do not provide such a functionality.

In summary, the ‘Danmu’ system has a positive association for platforms with market share establishment especially for Douyu.

4.1.4 Gift system

Gift system has similar effects like ‘Danmu’ system as it encourages both audience and anchors to the platform. All the respondents (100 %) confirmed that they use gift system as an operational strategy to increase the number of their audience. One of the respondents underscored the importance of gift system by saying:

“Presenting gifts is a way to show off for audiences. The audiences with a certain degree of wealth which are willing to purchase gifts may be attracted by gift system.”

One of the anchors from DUYOU suggested that Gift system is more useful than Dammu as it helps in attracting different income groups of audience.

Gift system has no first-mover advantages because there are no barriers and limits for audiences to present the gifts and gift systems across the platforms are not very different, except the difference in prices. Furthermore, gift system could award the anchors directly in cash and stimulate consumption among paying users by ranking the number of gifts in anchors’ live room [32].

4.2 Promotional strategies

4.2.1 Advertising channels

The operational strategies of live video stream providers, as gathered from respondents’ answers, for advertising their products and services mainly focused on the social media channels like Weibo and Wechat. It seems that none of the platforms advertise on traditional media like newspapers and magazines. Some of the other media used by video platform providers are television, QQ group, and Tieba. The widespread use of ICT meant that the audience could find the target platform conveniently and spread information about the attractive anchors and platforms promptly and widely. Therefore, there is an association of advertising for platforms with increase in market share but is limited by the ease with which users can switch platforms.

4.2.2 Famous anchors and celebrity signing

Beside advertisements, signing famous anchors and internet celebrities is another way to promote the platform. All the respondents (100 %) mentioned using this as one of their operational strategies to promote their services. One of the respondents explained:

“We hire many e-sports players from LOL, DOTA2 and HS. The famous players always have many audiences, for instance, White, a LOL player, usually attract more than 1,000,000 audiences at night.”

Another respondent highlighted the trend of signing famous anchors before the launch by saying:

“We have signed many famous anchors before launch, even signed from other platforms. The famous anchors bring amount of audiences and onlookers from the previous platforms.”

Based on the respondents’ views, Panda signs many famous anchors from other platforms before the launch day. Signing famous anchors could result in acquiring existing audiences

directly. This strategy also reduces the switching cost for the platform companies because the anchors have a group of regular fans before they join the platform.

In this case, the strategy of signing the famous anchors has prominent association with market share gain especially at the early stages of market share development.

4.2.3 Grassroots anchor training

As discussed above, using grassroots anchors is a very popular operational strategy to attract and retain a fan base. Often gross root anchors are trained by LSV providers to attract audiences and provide innovative video content. Among the respondents interviewed, some specifically pointed to the importance of training anchors as one of them put it this way.

“Douyu has promoted and trained many popular grassroots anchors and the number of audiences of some of them even is close to famous e-sports players.”

Due to widespread use of internet, the grassroots anchors usually gain visibility from the society and become popular topics on the internet. Training grassroots anchors becomes another way of promotion.

Additionally, grassroots anchors usually sign a strict contract with the platform and have the loyalty towards the platform and over a period they become internet star. The audiences may feel close to the grassroots anchors and easy to get along with them because these anchors also come from the ordinary people.

Although training grassroots anchors could not increase the market share immediately such as in case of signing famous anchors, it still has a positive association with market share.

4.2.4 Online/Offline activities

Organizing online and offline activities is another avenue of attracting audience and 67 % of the respondents suggested that they do organize such events. For instance, one respondent said:

“We usually organize offline events when host the offline DOTA2 matches. The matches usually attract thousands of audiences.”

Organizing activities or meetings by inviting the anchors and audiences contribute to interaction between the anchors and audiences, which could raise the visibility and popularity of the platform. As a late entrant, Huya has responded to the shift in customer needs of online and offline activities while Douyu has not. It could happen that after a long period of time with a platform provider, the audience may be tired of just watching LSV in front of the computer and need some fresh activities to take part in to stimulate the senses. Douyu has possibly become complacent due to its success by being the first mover.

In conclusion organizing online and offline activities can promote a platform through meeting the emerging needs of users.

4.2.5 Joint promotion

All the respondents (100 %) were unanimous in suggesting that they use joint promotion as an operational strategy to reach out to wider audience. Majority of respondents mentioned to do a joint promotion with game companies but some other avenues of joint promotion as mentioned by the respondents are game content providers, car companies, mobile phone companies, technology companies, and device providers. After the launch of the platform, Panda carried out

a series of joint promotions with companies from different areas. To date, Panda has collaborated with the technology companies, music companies, mobile phone companies and motor companies, while the other platforms used to cooperate with the game companies only.

Strategically, joint promotion could expand potential e-sports audiences to a wider range of audiences. The live shows on music festival, product launch and technology display attract audiences from corresponding businesses and spread the awareness of LSV to the public. In this context, Panda was the first mover in this type of video content and benefited from the network effects.

4.3 Pricing strategies

4.3.1 Pricing policy for gifts

Pricing policies is critical to the success of operational strategies of the platform providers studied.

Table 3. Gift prices set by the companies studied

Platform	Douyu	Panda	Firecat	Huya	Zhanqi
	0.1	0.2	0.6	0.1	0.1
Gift Price	6	5	9.9	0.2	1
(Chinese	100	100	23.3	0.6	2
Yuan)	500	1000	99	0.9	6
			199	4.9	66
				9.9	666
				99	999

As the Table 3 shows, the most expensive gift of Huya and Firecat is much lower than the other platforms. Panda and Zhanqi set the gift price as 1000 CNY to satisfy consumers' vanity. However, the pricing policy for gifts may not contribute to the increase of market share obviously. All platforms have the stratified price of gift for audiences with the different consumption abilities to purchase. And the price of the most expensive gift may not affect the consumption of the richer audiences because they could achieve the same effect by presenting additional numbers of the gifts.

4.4 Distribution strategies

4.4.1 Target population

The operation manager of Company E points out that the group of young adults aged 20 to 29 occupies, 70% of the whole audiences, which is similar to the other platforms. In contrast, Douyu sets the age of its target population as 16 to 25 while Panda set its target population as white-collar employees.

The effectiveness of the strategy of target population is not distinct in short term because the present audiences of LSV platforms are concentrated in e-sports audiences. However, the effectiveness would be enlarged in long term because of the joint promotion with the companies from different fields, which would expand the range of the potential audiences gradually.

4.4.2 Distribution activity

According to the analysis of the interviews, all five platforms support anchors to broadcast the live content through distribution devices such as computers, mobile phones and IPADs. Additionally, the operation manager of Company E says that the audience could watch the LSV on Company E through television.

The platforms have the similar strategy of distribution devices while Company E has an addition approach on television. However, the primary audiences of LSV platforms usually prefer the computers than the television. Therefore, supporting the television as a streaming media may not have distinct association with market share.

5. CONCLUSIONS, IMPLICATIONS AND FUTURE RESEARCH DIRECTION

5.1 Conclusion

While extending earlier findings on why people use social media [36], the study show that the live video streaming companies develop their operational strategy in four aspects - product, promotion, pricing and distribution. The differences of the operational strategy among the five platform companies mainly revolve around the product and promotion. The pricing strategy and distribution strategies of each company were found to be largely similar.

All platform companies benefit from the common video content of e-sports matches and Games, but this commonality has some negative effects because it may shift the market power from the platforms to the users. To regain the control of the market, some of the platform companies launched innovative interactive video content, leading to increase in market share on account of the network effects. User driven interactivity is found to be the key to the success of LSV platform which has remained a topic of research interest in prior studies too [37].

The 'Danmu' system and gift system also increases market share to some extent, which makes the distance between audiences and anchors closer and encourages them to generate more content on the platform. Signing famous anchors results in the increase of market share at the initial market entry stage and the training of grassroots anchors could increase market share subsequently.

The online and offline activities meet users' further interest and may consolidate the market share to some extent. Using joint promotion helps the service providers to expand potential audience and increase market share in long-term. Because of the similarity of pricing strategy and distribution strategy among the platform companies, the relative effectiveness of those strategies could not be observed distinctly in short term.

Surprisingly, the study found that the use of competitive pricing and distribution strategies by later LSV entrants have not been associated with helping them to grow their share. One possibility of such a finding could be that once the companies entering first in an eCommerce market build and gain trust, and develop a loyal users' base, it is difficult to switch their customers even with lower pricing and innovative distribution strategies by the late entrants. It may be that the users are adopted to products/services and develop emotional attachment. Therefore, switching loyalty may not be easy and thus users would be willing to continue their association with the same company. However, further work will be needed to examine the factors and trade-offs that keep customer loyal even in the wake of competitive pricing by late entrants into an LSV eCommerce marketplace.

5.2 Implications for theory and practice

Academically, the study offers new insights into the

strategies of LSV eCommerce companies and codify a link between marketing and operational strategies. The study makes unique contributions by providing an understanding of eCommerce marketing (used for generating demand) elements as operational (used for generating supply) strategies for developing web-based eCommerce markets.

Results add to the eCommerce literature by confirming the value of the network effect in online service businesses that offer social interaction to users.

The results will help in development of theories on web-based eCommerce development and marketing. This is one of the first studies to build theory around the strategies used by LSV eCommerce providers which is expected to further research in eCommerce video markets, an area that has been scantily researched.

Managerially, the results identify strategies for successful entry into LSV eCommerce market and provide practitioners with indications of tactics that can be adopted for certain types of online services to either help maintain dominance by a first-mover or help grow share by a later entrant. Managers of the first mover companies need to maximize the network effects and set barriers for late movers through uniqueness of delivery. Additionally, the first mover has to keep an eye on changes in consumer needs and/or interests. As a late mover, a firm has to explore opportunities to be innovative to stimulate or meet any change of consumer needs and improve existing products before launch.

Leveraging upon existing resources of anchors, creating product development strategies for offering innovative contents, and organizing offline activities can increase market share directly in early stages of entry into LSV eCommerce market. The growth in the audience size stands to benefit the company gradually in long term.

The results have wider scale managerial implications as some of the strategies identified can be applicable to online or mobile gaming, social media gaming, and online and mobile advergaming eCommerce markets.

5.3 Recommendations for future studies

The study has opened up several avenues for future research work. Firstly, further work is needed to perform system analysis of LSV system such as Twitch, so as to develop recommendations for effective alignment of operational strategies with LSV system capabilities. Secondly, future studies can collect large scale data on operational strategies and use it for modelling purposes to develop optimized operational strategies for LSV business growth. Thirdly, more research can be done to further automatize LSV system features, not only for providing an enhanced experience to users but also for engaging them to actively contribute contents during live streaming sessions. Fourthly, future studies can investigate short-term versus long-term operational strategies of LSV providers to help interactive content markets development. As an emerging internet business, the Chinese LSV eCommerce market is just few years old, and a long-term investigation could be applied in the further research. Fifthly, longitudinal studies are needed to develop an understanding of the elements that trigger failure or success of LSV operational strategies. Sixthly, future studies can conduct theatrically informed investigations to enable cohesive and systematic knowledge development on LSV business. Seventhly, further research could use profitability as the success measure to examine the success or failure of LSV businesses. Finally,

following this study's work on LSV, further research could expand the view to other associated emerging internet business to develop a more common operational strategy for internet-based businesses.

5.4 Limitations

Because of the focus on market circumstances and the four operational decision areas, some commercial activities and behaviors of LSV companies were omitted and further research can include more operating variables.

Additionally, the index of IP could not represent the market share completely. In traditional business, sales and incomes are usually the key indicators of market share. However, there is no official industry report of LSV platforms as companies keep their income secret. Number of users tend to represent market share.

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