Organizational Structure and Platform Incentives in Group Live Streaming: A Theoretical Analysis from the Perspective of Two-Sided Markets

Yuxuan Zhang
Finance and business analytics, Commerce, the university of western Australia, crawley WA, 6009, Australia
kaola0691@gmail.com

ABSTRACT

With the development of digital platforms, both the content production and the creation of the creator economy have been greatly transformed. Among other production modes, group live streaming has become increasingly significant as more and more creators work collaboratively in terms of sharing resources, audiences, and responsibility in production.

In this paper, group live streaming will be analyzed through the lenses of organizational economics and platform governance. By integrating the concepts of two-sided market, team production and creator economy into one theoretical framework, the author explores the mechanism of organizational choices determined by the factors of creator heterogeneity, collaborative benefit, organizational cost and platform incentive.

The current paper claims that group live streaming emerges due to heterogeneity among creators and develops because of the incentives of the platforms like traffic allocation and recommendation systems. It is shown that the hypotheses need to be tested empirically.

Keywords: Group Live Streaming; Creator Economy; Platform Incentives; Team Production; Platform Governance

1. INTRODUCTION

The fast development of digital platforms has influenced content creation and resulted in the evolution of the creator economy. As platforms are becoming more and more dependent on user-generated content, creators become key players in the digital ecosystem. In addition to content creation, creators perform audience engagement, branding and monetization activities. Hence, content creation becomes not only an economic activity, but also digital labor. [1][2]

Recently, group live streaming has become a popular type of content creation. Group live streaming means collaborative efforts of multiple creators working together in a coordinated production regime. Collaboration allows creators to share resources, pool their skills and widen the audience base. However, despite numerous works devoted to platform economies, creator economies and digital labor, there was little research into reasons for creators' choice of collaborative production regime and its evolution in platform ecosystems.

In order to fill this gap, this paper considers group live streaming through the lens of organizational economics and platform governance. More specifically, it looks into how creator heterogeneity, collaborative production advantages, organizational costs and platform incentives affect organizational choice. It claims that collaborative production arises due to economic differences between creators, while platform governance helps to widen it by changing the relative desirability of alternative production regimes.

The rest of this paper is structured as follows. Chapter 2 provides review of relevant literature related to platform economies, creator economies, collaborative production and platform governance. Chapter 3 develops theoretical framework and proposes hypotheses. Chapter 4 provides theoretical analysis of organizational choice and platform incentives. Chapter 5 concludes this paper.

2. LITERATURE REVIEW

2.1 Platform Economy and Two-Sided Markets

The advent of digital platforms has changed economic activities radically, introducing new interaction and exchange mechanisms, and a different way of managing resources and value creation processes. Digital platforms differ from the traditional firm model in that their primary function lies in mediating user interactions. Platforms are described by Rochet and Tirole [3] as two-sided markets whose value generation is based on the interactions of several parties. Thus, the success of a platform depends not only on the number of users on its side but also on the coordination of their interactions.

With the development of digital technology, platform-based business models have emerged in a variety of industries, ranging from e-commerce to transportations, entertainment and social media. Hein et al [4] define platforms as ecosystems in which value is created by platform providers and other participants of the process. Within platforms, users are not mere consumers of a good or service provided by the platform provider but active contributors who create content and value.

A key element of platform economies is network effects: when the number of users of a platform increases, the value of participation for other users becomes higher as well. Narayan [5] identifies such network effects as one of the factors underlying the fast growth and market dominance of successful platforms. Therefore, platform operators constantly search for ways to engage more users and increase their activity in the platform ecosystem.

In content-based platforms, creators have a special role in generating the content that engages and keeps audience interested in the platform. As a consequence, various methods of creator governance and incentives are used by platform operators. Knowledge of such relations is important in order to understand organizational decisions in digital content industries. The perspective on the platform in this paper is one where the platform is regarded as a two-sided market where there are two sides, the creators and the audience. Creators are responsible for generating live-streamed content, and the audience offers the attention, engagement, and consumption of the content.

Thus, the literature on platform economy provides an important basis for studying group live streaming. It identifies the role of the platform as the institutional context that mediates the interactions between creators and audience and shapes economic activity.

2.2 Creator Economy and Digital Labour

The development of digital platforms has contributed to the appearance of the creator economy, which refers to an economic practice where individual creators produce value based on the creation and dissemination of digital content. Contrary to traditional media industries where content production has been dominated by professional institutions, digital platforms enable individual creators to reach out to audiences and perform various business practices. In such a way, content creation has become one of the most significant ways to participate in contemporary digital economies.

The creator economy has turned content creators into entrepreneurs who need to perform several roles at once, such as those of a creative producer, manager, and businessman. [6] Creators should be engaged not only in content production but also in the attraction of an audience, online identity management, and monetisation. In this way, the division of creative and entrepreneurial work has become blurred.

As the creator economy expands, competition among creators increases. Cunningham and Craig [1] claim that the appearance of more and more creators results in the increase of the content supply on digital platforms, which makes attention of the audience become scarcer. Therefore, creators are forced to constantly improve the quality of the created content, engage audience, and adjust to the changing environment of the platform. The success of the creators depends not only on their creativity but also on their ability to manage complex production and promotion practices.

The creator economy is also tightly connected with the notion of digital labour. Abidin [2] claims that creators work as micro-enterprises, which need to invest time, efforts, and other resources into content production and audience management. Although platforms provide creators with opportunities for becoming visible and earning money, creators depend on platforms in terms of infrastructure and governance. Their economic performance can be significantly impacted by various external factors, including recommendation algorithms, traffic allocation methods, etc.

Such dependence introduces new forms of precarity. According to Duffy et al [7], creators experience unstable income sources, uncertain career paths, and constant pressure to stay visible online. The competitiveness and instability of platform environments force creators to adapt their production practices in order to stay successful and economically profitable.

As a response to such difficulties, creators turn to collaboration in content production. Cooperation enables creators to share resources, merge skills, widen the range of their audiences, and mitigate some production risks. In this way, the appearance of collaborative production could be viewed as both a creative approach and an economic reaction to the competitive nature of the creator economy.

Therefore, research on creator economies and digital labour introduces important insights regarding the reasons for which creators look for other organisational forms.

2.3 Collaborative Production and Team Production

Collaborative production can be defined as a kind of organization where various people participate in the process of creating goods, services, and content. The rise of collaboration in the digital world is connected with the fact that platforms help people coordinate their activities.

One of the major theories explaining collaborative production is team production theory. According to Alchian and Demsetz [8], collaboration can bring extra value to production as long as people can share complementary skills and resources. At the same time, team production leads to organizational issues since it is complicated to measure contribution of individuals.

Digital technology made it possible to use collaborative production not only within organizations but also on other platforms. Benkler and Nissenbaum[9] prove that online environment makes it possible for people to collaborate in order to produce valuable results by participating in it. Thus, collaboration became one of the most used forms of organization in digital industries.

There are costs connected with collaboration, such as the cost of communication, coordination, and compensation. Wood [10] state that in order to collaborate in digital working environment people have to balance flexibility and control. Therefore, the attractiveness of collaboration depends on whether it has more benefits than costs.

Thus, there are some opportunities and threats associated with collaborative production. This literature review provides the necessary background for studying group live streaming as an example of collaborative production.

2.4 Platform Governance and Incentives

Platform governance is defined as the instruments by which digital platforms control participation and steer users' behavior. Digital platforms can create specific opportunities for creators via algorithms, recommendation systems, traffic allocation and promotions.

Algorithmic systems are increasingly used as coordination instruments to direct behavior in digital environments [11]. Furthermore, Cotter [12] points out that creators frequently adjust their strategies to stay visible according to the logic of platform algorithms. Since visibility and attention are valuable resources, the decisions made by the platform can considerably influence creators' performance.

Incentive mechanisms are another tool that platforms use to steer participation and engagement in certain directions. As Caplan and Gillespie state [13], governance mechanisms such as promotion and monetization policies have a considerable impact on the opportunities of creators and rewards they receive. Additionally, Zhao claim that traffic allocation and platform support play an important role in influencing creator's behavior in live-streaming ecosystems. [14]

Despite the evidence presented by existing research, the influence of platform governance on organizational choice has not received enough attention so far. For example, how platform incentives and collaborative production interact still lacks proper investigation. This knowledge gap represents the foundation of the present study.

2.5 Research Gap

Previous researches have generated a number of findings regarding platform economy, creator economy, collaborative production, and platform governance. Nevertheless, there are still some gaps left unfilled.

The first gap is that previous studies mostly focus on analyzing creators as economic actors rather than understanding their organizational behavior and exploring the reasons for choosing one form of organization over another in the same platform ecosystem.

The second gap is that even though collaborative production is well-researched by now, only few scholars have applied team-production theory to explain group live streaming. Therefore, the organizational logic behind collaborative content production is not thoroughly studied.

Finally, the impact of platform incentive on organizational choice, especially the choice between individual and collaborative production has been little considered in the research on platform governance, which mostly concentrates on issues of visibility, participation, and creator performance.

This study intends to close these gaps by analyzing group live streaming through the lens of team-production regime in two-sided market setting.

3. THEORETICAL FRAMEWORK

3.1 Group Live Streaming as a Team Production Regime

Group live streaming is a growing phenomenon in terms of content production inside digital platform ecosystem. In contrast to individual live streaming, group live streaming includes a number of creators engaged in the process of content creation and platform activity. Collaboration allows creators to unite their resources, skills and audiences in order to achieve better results.

This study defines group live streaming as a team-production regime. Team production has been defined by Alchian and Demsetz as a situation when there is more than one person contributing to an output that is difficult to attribute to a particular member of a group [8]. Team production framework is useful in analyzing group live streaming because content performance requires effort of multiple creators rather than one creator only.

Collaboration can bring a number of benefits for content performance such as specialization, audience sharing and synergies. On the other hand, collaboration also introduces certain organizational costs associated with coordination, monitoring and revenue sharing. In other words, participation in group live streaming means a trade-off between collaboration benefits and organizational costs.

When defining group live streaming as a team production regime, attention is drawn away from the features of content towards organizational choice. The question thus is not just about the mechanisms of group live streaming but about reasons behind collaboration of some creators and solo content creation of others.

3.2 Creator Heterogeneity and Organizational Choice

Heterogeneity among creators is an implicit assumption in this paper. Capability of creators is considered to be a multi-dimensional attribute in the ecosystem of digital platforms, comprising skills of creators, audience appeal, monetization capability, and compatibility in collaboration. To simplify the analysis, all these dimensions are summarized in one capability attribute (a) in the theoretical framework. This gives rise to heterogeneity in returns for creators.

More capable creators are better able to attract an audience and earn money for their services. In such case, independent production becomes advantageous for them since it allows receiving the greater part of the generated value. At the same time, less capable creators can be more beneficial to collaborate since they can use the resources and skills of other people as well as increase the reach of the audience.

Thus, due to heterogeneity, creators have preferences about different production regimes. The highly capable creators will go for the individual live streaming and other creators will prefer the group live streaming, and organizational choice depends on the ratio of the returns received independently and collaboratively.

In such case, there is an organic equilibrium in which creators use both individual and group live streaming in one platform ecosystem. When there are neutral conditions, creators choose the organizational form of work corresponding to the capabilities and their returns. Thus, the collaborative production appears naturally, without the intervention of the platform.

Nevertheless, the existence of heterogeneity among the creators is not sufficient to explain the rapid growth of the group live streaming. It explains the presence of collaborative production, but not its fast growth and the increasing amount of creators using team production. It is needed to analyze the platform incentives.

3.3 Platform Incentives and Organizational Boundaries

The heterogeneity of creators helps to account for the rise of collaborative creation; however, it does not explain the quick expansion of group live streaming on digital platforms. This paper argues that platform incentives help shape the outcome of organizational choice.

Digital platforms affect the behavior of creators through recommendation systems, traffic distribution, and promotion practices. As the visibility and audience engagement have monetary value, creators tend to adapt to incentives of platforms. If collaborative creation is given more institutional support, its expected benefits become higher than in the case of individual creation.

Therefore, besides creator ability, organizational choice depends on platform governance as well. The creators who used to engage in individual creation may see advantages of collaborating on live streaming if there is an additional support from platforms. Thus, platform incentives can redefine organizational boundaries and stimulate engagement in group live streaming activities.

This study therefore claims that the heterogeneity of creators explains emergence of group live streaming, while the platform incentives explain its growth.

3.4 Theoretical Propositions

From the above discussion, we could argue that the emergence and growth of group live streaming can be explained by the interplay between the factors of creator heterogeneity and platform incentives. Creator heterogeneity explains the existence of multiple organizational regimes within the platform ecosystems; on the other hand, platform incentives affect the attractiveness of collaborative production. Based on the theory constructed in this chapter, there are three propositions.

Proposition 1

Under neutral platform conditions, creator heterogeneity results in the coexistence of individual and group live streaming.

Different creators possess different productive capability, audience attraction, and earning capacity. It implies that the expected payoff from individual and collaborative productions is unequal among creators. In general, creators possessing high productive capabilities have an advantage in producing independently, while creators with relatively low productive capabilities can gain more through collaborating. This way, multiple organizational regimes coexist within one platform ecosystem and form a natural organizational equilibrium.

Proposition 2

Platform incentives increase the attractiveness of collaborative production and shift the boundary of organization.

Platforms exert impact on the expected payoff from different production regimes through recommendations, traffic distribution, and promotion. In cases when collaborative production receives greater support from institutions, creators will be motivated to view group live streaming as a profit-making activity. Therefore, the boundary between individual and collaborative production will shift, making it possible for creators to join the collaborative production regime.

Proposition 3

The growth of group live streaming is the reflection of institutional reconfiguration driven by platform governance.

As platform incentives motivate creators to collaborate more often, organizational decisions will gradually change. Therefore, the growth of group live streaming cannot be interpreted simply as an expression of creator preferences or technological development but is rather a reflection of the reorganization of digital content production.

To sum up, based on the theory presented in this chapter, group live streaming is caused by the heterogeneity of creators but grows due to platform incentives. The interplay of the two forces explains the coexistence and growth of collaborative productions in the platform ecosystem. In order to study this relationship further, in the next chapter, we develop a simple model to formalize the propositions mentioned above.

4. MODEL ANALYSIS

4.1 Natural Equilibrium

To build on the theoretical framework presented above, this study considers two production regimes in comparison – individual live streaming and group live streaming.

Let the creator's capability be equal to a. The expected payoff from individual live streaming is:

$\Pi I=\alpha+\omega I$, where ωI is the platform's support to individual creators.

The expected payoff from group live streaming is:

$\Pi T=\alpha+\theta+M+\omega T-C$, where θ is the collaborative synergy effect, M is the audience expansion effect, and C is the organizational cost.

If the conditions of the platform are neutral, $\omega T=\omega I$ the creators will choose the production regime with higher expected payoff. As different creators have varying capabilities, their choices of the organizational regime differ. More capable creators usually receive greater benefits from individual production as they can internalize all of the value they produce. At the same time, the less capable creators may benefit from collaborative production through resource sharing and joint production.

Thus, both individual live streaming and group live streaming coexist in one platform ecosystem. It means that the discussed natural equilibrium arises because of the diversity in creators' characteristics, not the platform's involvement.

4.2 Platform Incentives and Organizational Expansion

The natural equilibrium described above changes when the platform provides more support to collaborative production.

Let us assume: $\omega T>\omega I$

In this case, more visibility, traffic, or promotion will go to the group live streaming. Thus, the expected payoff associated with collaborative production grows.

The condition of the choice of the organizational regime turns into: $\Pi T>\Pi I$

After substituting the payoffs we will get: $\alpha+\theta+M+\omega T-C>\alpha+\omega I$

It means that the incentives from the platform reduce the requirements for the collaborative production to be attractive. Now creators who chose individual production will switch to group live streaming because of the additional benefits provided by the platform governance.

Thus, as more creators enter collaborative production, the organizational boundary between individual and group live streaming shifts. It means that the scale of group live streaming grows despite the unchanging capabilities of creators. Thus, the incentives from the platform can significantly affect the results of organizational choice.

4.3 Discussion

This model reveals two key factors explaining the development of the group live streaming. First, the heterogeneity of the creators helps to explain the emergence of the collaborative production in the natural way. Creators have different incentives for choosing particular organizational regime; thus, it causes the coexistence of the individual and collaborative production.

Second, the incentives of the platform help to understand the expansion of collaborative production. Using recommendation systems, traffic allocation, and other promotional policies, the platform shapes the attractiveness of different organizational regimes. It means that the organizational evolution in digital platforms depends not only on production effectiveness but also on institutional incentives.

Thus, the expansion of collaborative production can be considered as a result of the interplay of the heterogeneity of the creators and the platform governance. While the characteristics of creators define the initial distribution of organizational regimes, the platform incentives shape the evolution of this distribution.

5. CONCLUSION

This research has analyzed the rise and spread of collaborative creation on the grounds of organizational economics and platform governance. Group live streaming was regarded as a form of organizational behavior rather than just a new content format in order to develop a theoretical explanation of the reasons behind the choice of production regime by creators. With the help of literature on platform economy, creator economy, collaborative production, and platform governance, it has become possible to explain why individual creators choose between collaborative production and working independently.

It seems that creator heterogeneity can affect the organizational choice of individual creators. Creators with higher capabilities, resources, and capacity for drawing viewers will be interested in working individually since they can get all the benefits of collaboration. However, other creators with relatively low capabilities will be more likely to collaborate in terms of resource sharing and production. As a result, both individual live streaming and collaborative group live streaming can coexist within the same platform ecosystem.

The theoretical analysis implies that incentive systems influence the diffusion of collaborative production. Recommendations, traffic allocation, and other measures used by platforms impact the expected returns associated with various production regimes. Therefore, if collaborative production gets stronger support from the side of platforms, then collaborative production expands beyond its natural equilibrium level.

Conclusively, this theoretical analysis has made three contributions to the literature. First, it develops the research field in the direction of organizational choice rather than focusing on individual creators alone. Second, it applies the theory of team production to the analysis of collaborative content production in the context of group live streaming. Lastly, it proposes that platform governance not only influences creator performance but organizational production as well.

The findings can be useful for platforms and creators. The former need to understand that governance determines the long-term organizational development of the entire creator ecosystem. It may be beneficial for creators to collaborate in case the benefits of collaboration exceed the costs associated with organizational behavior. Moreover, individual creators need to choose production strategies based on their capabilities, available resources, and other aspects of the ecosystem.

There are some limitations of the research. First, it is purely theoretical since no empirical data is used. Furthermore, the creator capability is treated as a one-dimensional aspect although real-life performance involves many factors. Future research may use surveys, interviews, case studies, and platform data in order to validate the relationships discussed here and to conduct additional research on the role of platform governance in organizational development.

REFERENCES

[1] Cunningham, S., & Craig, D. (2021). Creator Culture: An Introduction to Global Social Media Entertainment. New York University Press.

[2] Abidin, C. (2021). Mapping Internet Celebrity on TikTok: Exploring Attention Economies and Visibility Labour. Cultural Science Journal, 12(1), 77–103. https://culturalscience.org/article/11677/

[3] Rochet, J. C., & Tirole, J. (2003). Platform Competition in Two-Sided Markets. Journal of the European Economic Association, 1(4), 990–1029. https://doi.org/10.1162/154247603322493212

[4] Hein, A., Weking, J., Schreieck, M., Wiesche, M., Böhm, M., Krcmar, H., & Aubert, B. A. (2020). Value Co-Creation Practices in Business-to-Business Platform Ecosystems. Electronic Markets, 30(3), 503 – 518. https://doi.org/10.1007/s12525-019-00337-y

[5] Narayan, V. (2022). Strengthening Platform Ecosystem Through User Engagement: Evidence From Digital Platforms. Journal of Business Research, 146, 524–536. https://doi.org/10.1016/j.jbusres.2022.03.058

[6] Cunningham, S., & Craig, D. (2019). Social Media Entertainment: The New Intersection of Hollywood and Silicon Valley. New York University Press.

[7] Duffy, B. E., Pinch, A., Sannon, S., & Sawey, M. (2021). The Nested Precarities of Creative Labor on Social Media. Social Media + Society, 7(2). https://doi.org/10.1177/20563051211021368

[8] Alchian, A. A., & Demsetz, H. (1972). Production, Information Costs, and Economic Organization. American Economic Review, 62(5), 777–795.

[9] Benkler, Y., & Nissenbaum, H. (2006). Commons-Based Peer Production and Virtue. Journal of Political Philosophy, 14(4), 394–419. https://doi.org/10.1111/j.1467-9760.2006.00235.x

[10] Wood, A. J., Graham, M., Lehdonvirta, V., & Hjorth, I. (2019). Good Gig, Bad Gig: Autonomy and Algorithmic Control in the Global Gig Economy. Work, Employment and Society, 33(1), 56 – 75. https://doi.org/10.1177/0950017018785616

[11] Kellogg, K. C., Valentine, M. A., & Christin, A. (2020). Algorithms at Work: The New Contested Terrain of Control. Academy of Management Annals, 14(1), 366–410. https://doi.org/10.5465/annals.2018.0174

[12] Cotter, K. (2019). Playing the Visibility Game: How Digital Influencers and Algorithms Negotiate Influence on Instagram. New Media & Society, 21(4), 895–913. https://doi.org/10.1177/1461444818815684

[13] Caplan, R., & Gillespie, T. (2020). Tiered Governance and Demonetization: The Shifting Terms of Labor and Compensation in the Platform Economy. Social Media + Society, 6(2). https://doi.org/10.1177/2056305120936636

[14] Zhao, Y., Wang, J., & Chau, M. (2022). Understanding Live-Streaming Commerce From the Perspective of Platform Ecosystems. Electronic Commerce Research and Applications, 52. https://doi.org/10.1016/j.elerap.2022.101118