

Aug 10th, 12:00 AM

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Recommended Citation

Song, Xiaofei; Fu, Mengyao; Fang, Jie; Cai, Zhao; and Chong, Alain, "Coopetition in Entertainment Live Streaming: A Research Agenda" (2022). *AMCIS 2022 Proceedings*. 6.

<https://aisel.aisnet.org/amcis2022/vcc/vcc/6>

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Coopetition in Entertainment Live Streaming: A Research Agenda

Emergent Research Forum (ERF)

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Abstract

The growth of the live streaming industry has introduced a novel digital entertainment environment and laid the foundation for advancing research in a relatively untouched space. Co-broadcasting is an increasingly popular type of live event where streamers teamed together to co-create content on a shared screen. Balancing between competition and collaboration, co-broadcasting resembles a cooperative activity where streamers collaborate to deliver entertaining content while cultivating a competitive atmosphere to spur viewer engagement simultaneously. In turn, such streamer-viewer dynamics have given rise to ample opportunities for research. To this end, we advance a research agenda for co-broadcasting that distinguishes among competition, collaboration, and coopetition perspectives in putting forth knowledge gaps pertinent to each perspective.

Keywords

Coopetition, live streaming, team experience, team diversity.

Introduction

The prosperity of the entertainment live streaming industry has attracted a growing number of studies that sought to decipher its para-social interactions (e.g., Hilvert-Bruce et al. 2018; Hu et al. 2017; Lin et al. 2021; Zheng and Jiang 2016). Entertainment live streaming constitutes a dynamic virtual space for live streamers (i.e., streamers) to deliver live content (e.g., gameplay and talent shows) via computer-mediated interactions to entertain viewers (Hilvert-Bruce et al. 2018; Zheng and Jiang 2016). Virtual gifts and tipping are its major monetization approaches. Viewers purchase virtual gifts with fiat currency for streamers or directly tip them. The received revenue will be split by streamers, their agency firms (i.e., streamer guilds), and the platform. Recently, *co-broadcasting* is gaining popularity on leading live streaming platforms including Douyu, Huya, and Twitch. It refers to the interactive function available to all streamers where they broadcast together by sharing a screen and interacting with each other. Co-broadcasting provides streamers with the option of engaging in live interactions with other streamers to entertain their viewers. On one hand, streamers collaborate to create interactive content to entertain viewers. On the other hand, given the nature of the attention economy, streamers, who gain more attention, may monetize more from live streaming content they create (Franck 2018). Conceivably, co-broadcasting resembles a coopetition activity among streamers (Bengtsson and Raza-Ullah 2016; Lee et al. 2018; Zhang et al. 2019).

Although coopetition among streamers during co-broadcasting constitutes a novel phenomenon with past studies acknowledging its existence, there is scant attention being paid to comprehending the dynamics of the tradeoff between collaboration and competition amid co-broadcasting. While platforms desire a high total revenue from live streamer teams, individual streamers are primarily concerned with the distribution of revenue. Streamers are unwilling to be taken advantage of by others, who have fewer followers but earn relatively more during co-broadcasting (Zhang et al. 2019). Given the abovementioned unique characteristics associated with co-broadcasting, how to strike a balance between collaboration and competition in enhancing live streaming performance deserves greater attention from researchers. To this end, we advance a research agenda to offer concrete directions to guide future inquiries in the area.

Co-broadcasting has posed research challenges in understanding the influences of streamer coopetition and its dynamic interactions. Our study proffers a research agenda for addressing research opportunities brought by co-broadcasting from three perspectives, namely, competition, cooperation, and coopetition. We outline three research questions by scrutinizing previous work on attention economy, team diversity, and team experience.

Conceptualization of Live Streamer Coopetition

In this section, we introduce the concept of coopetition among streamers by reviewing the literature on entertainment live streaming and coopetition, and summarize the characteristics of co-broadcasting.

Co-broadcasting in Entertainment Live Streaming

Past studies have alluded to three distinctive features of entertainment live streaming. Firstly, the content delivered by entertainment live streaming is in real-time. Secondly, entertainment live streaming adopted the pay-what-you-want business model (Lin et al. 2021). For viewers, they could follow, comment or view live streaming content free of charge, but also reward streamers through virtual gifts or tipping. Thirdly, streamers and viewers also interact in digital-enabled live streaming rooms, regardless of geographic distance. The live presence of the streamer's voice and image could motivate viewers to communicate with the streamer or other viewers through commentary (Yu et al. 2018). While researchers in prior studies tend to assume that streamers interact with their viewers independently, the interaction among streamers during co-broadcasting remains underexplored. That is also to say, prior studies on entertainment live streaming mainly treat streamers as independent entities, which neglected the interaction between dyadic or multiple streamers in co-broadcasting. There are two types of co-broadcasting: the casual video-chatting form, where streamers chat about random topics (e.g., co-streaming on Twitch), and the gamified battle form, where they perform talent shows and compete for higher gifting income (e.g., PK in Douyu). PK is a typical live streaming gamified event, where two streamers are paired through 1-to-1 invitation or system matching to compete by performing talent shows to compete for more gifts received within 10-15 minutes with the loser being punished in negotiated ways (e.g., memes) (Cai et al. 2021). It accentuates the competitive aspect of co-broadcasting by setting streamers' goal of winning with higher revenue.

Live Streamer Coopetition in Co-broadcasting

Streamers involved in a co-broadcasting can be seen as a task-based team, where individuals temporally team together for completing a shared task (Gibbs et al. 2017). It involves teaming up streamers to co-create entertaining content collaboratively, while streamers may prefer to claim more individual revenue improvement over team revenue. Uniquely, as entertaining content, the competitive intention among streamers presented may also serve as a part of their live show for viewers, which may influence their team outcome. Prior research on live streaming has acknowledged the existence of streamer interactions via events such as platform-wide key performance index ranking (e.g., the rank of daily gifting income) and co-broadcasting (Lee et al. 2018; Zhang et al. 2019). However, there is a lack of comprehensive understanding of co-broadcasting as streamer coopetition.

Coopetition refers to the co-existence of competitive and collaborative activities (Bengtsson and Raza-Ullah 2016). Streamers on the same platform are natural competitors for monetizing their live content from a large group of viewers. As presented in shared virtual space, streamers involved in co-broadcasting would thus, strive either explicitly in the gamified battle form or implicitly in the casual chatting form. Implicitly, limited attention resource drives streamers on a live streaming platform to seize the opportunity to gain

more attention and even rob others of viewers during co-broadcasting chatting via displaying personal charisma (Zhang et al. 2019). Explicitly, in the example of PK, the competition elements are highlighted. Meanwhile, co-broadcasting can also involve cooperation among streamers by creating a “feverish ambiance” among their shared viewers (Lee et al. 2018). As such, co-broadcasting can be regarded as a content co-creation process. More entertaining content with better quality contributes to a higher team income. Thus, both competition and cooperation exist in co-broadcasting for achieving a positive-sum game, thereby co-broadcasting can be recognized as a coopetition activity among streamers.

Bengtsson and Raza-Ullah (2016) summarized three features of the process of coopetition: dynamic, complex, and challenging. Firstly, the dynamic feature referred to the reciprocity of cooperative and competitive activities (Bengtsson and Raza-Ullah 2016). In co-broadcasting, on the one hand, streamers compete for attracting more attention from viewers or followers over peer streamers in co-broadcasting. On the other hand, streamers can devote themselves collaboratively to enriching co-created live content for entertaining viewers from all involved streaming rooms. Secondly, the complex feature denotes the co-existence of conflicting demands of competition and cooperation, which can generate competition tensions (Fernandez et al. 2014; Raza-Ullah et al. 2014). Streamers participating in a co-broadcasting event have motivations of both capturing more individual income by competing with other participating streamers and achieving a higher team income via content co-creation. Thirdly, streamers face the challenge of managing the conflicting demands, interactions, and tension (Raza-Ullah et al. 2014). The interactions among streamers are shown via co-broadcasting directly to viewers in real-time. Thus, it requires streamers to make a swift decision on balancing their two demands and implement their action plan publicly. As such, streamers may also need to pay attention to viewers’ reactions and adjust their strategies in time.

Research Agenda for Future Studies

We regard the co-broadcasting as a coopetition activity among streamers, as such, zooming in on a certain aspect of it will lead to a new research question for scrutinizing the co-broadcasting mechanism. In this section, we discuss how to extend the understanding of the phenomenon, i.e., co-broadcasting, from three separate perspectives with corresponding research questions: competition, cooperation, and coopetition.

The Competition Perspective

From the perspective of competition, co-broadcasting is a process where streamers compete for obtaining more viewer attention from other streamers’ viewer groups and a higher income level. Co-broadcasting may serve for streamers to add value to virtual gifts or tipping (Lee et al. 2018), for viewers can fuel a more intense competition by contributing virtual gifts. That is to say, streamers can behave with competitive interactions, hereby seeking to evoke intensified emotional levels among their viewer groups to improve their incomes (Zhang et al. 2019). As a type of live streaming content, the competition presented by streamers may also enrich their content with excitement and competition intensity, which is beneficial to their income. Thus, it calls to questions: (1) how do streamers compete in co-broadcasting? (2) how does the performed competition influence team outcomes?

Due to the complex competition environment in co-broadcasting, the competition demand at the streamer level is diverse. The outcome of co-broadcasting can be translated in various ways, including follower mobility, instant and lagged income shock, and platform promotion reward, which could be explored in future research. Another path is to shed light on the competitive strategy of streamers. Team composition may play a vital role that influencing team performance in the context of co-broadcastings. Because streamers could obtain public attention via self-branding and become micro-celebrities with stable followers (Fietkiewicz et al. 2018; Franck 2018). It suggests that streamers with similar identities may have an overlap with targeted viewer groups. As a result, comparative differences among digital profiles of streamers that are embodied in live shows are likely to affect the initial competitive intensity during co-broadcasting. Scholars can take team diversity as an instance to address the research question from the competition-focused perspective. Team diversity refers to the differences in team members’ various individual attributes such as demographic characteristics and educational background (Van Knippenberg and Mell 2016). In co-broadcasting, a lower level of team diversity in the streamer team may induce fiercer competition over viewers’ attention. Considering its digital entertaining environment, such diversity may also indicate reduced content richness generated in the process. Given the combination of the entertaining

purpose and the attention competition, the impact of team diversity could be examined in a co-broadcasting context.

The Cooperation Perspective

From the perspective of cooperation, co-broadcasting also provides an opportunity for streamers to collaborate to enrich the content, which highlighted the co-creation process in live streaming. Streamers involved in co-broadcasting show their talents for virtual gifting (Lin et al. 2021). As such, co-broadcasting could also be recognized as a collaborative process for creating content in live streaming, providing viewers with a better experience, and thereby improving live streaming performance. It is necessary to disentangle this research question: how do streamers improve their cooperation in creating entertaining content in co-broadcasting?

To address this research gap, co-broadcasting can be oriented as collaborative teamwork conducted by no less than two streamers. According to teamwork literature, a streamer with abundant historical teamwork experience could deliver a smooth collaborative show with others, due to his/her expertise or team familiarity gained (Akgün et al. 2015). Echoing that, team repetition becomes a common practice in co-broadcasting (Cai et al. 2021). However, co-broadcasting complicates this process, for it emphasizes the content freshness to attract and retain viewers (Chae et al. 2018). For instance, streamers could accumulate related knowledge and expertise from past co-broadcasting events, and the repetitive usage of co-broadcasting functions, whereas the repetitive team appearance with changeless content also exhausts the curiosity and patience of viewers. Given the conflicting mechanisms represented, the effect exerted by the streamer's teamwork experience in enticing viewers' emotions could be explored to gain more insights.

The Cooperation Perspective

From the perspective of cooperation, future studies can draw attention to the balance between cooperation and competition in co-broadcasting. Firstly, a higher competitive tense among streamers can serve to create a feverish ambiance for engaging viewers in a dynamic collective emotion. Viewers in all streamers' live streaming rooms are involved in this process; hereby competition in co-broadcasting may improve streamer income at a team level. Secondly, while enhanced competitive tense could fuel an exciting live streaming show, it may also diminish the cooperation efficiency and content quality. With conflicting arguments, streamer cooperation provides an opportunity to bridge these knowledge gaps in an online entertaining service context. In this hybrid procedure, it remains unknown how to strike a balance between competition and cooperation during co-broadcasting to improve team performance.

The study of the balance challenge requires an understanding of the interplay between the impact of competition and cooperation in co-broadcasting. Extant studies reported that cooperation can lead to outcomes ranging from joint value creation, and individual value creation, to value destruction (Gnyawali and Ryan Charleton 2018). There is a need for summarizing strategic decisions made by streamers during co-broadcasting such as member selection, time arrangement, and content management, where they balance demands of competition and cooperation. Building on that, the mechanism behind different outcomes could be explained by new theories and models.

Conclusion

Co-broadcasting is gaining increasing popularity as an interactive mechanism that emerges from the vast development of the entertainment live streaming industry. Uniquely, it facilitates cooperation among streamers to jointly provide live shows and strive to seize more attention from a larger scope of viewer groups. Our study offers research opportunities for IS scholars to understand co-broadcasting which is computer-mediated cooperation on digital entertainment platforms. Particularly, co-broadcasting is presented in real-time for viewers, which makes it challenging to scrutinize the effect of cooperation-related factors on streamers' team performance.

REFERENCES

- Akgün, A. E., Keskin, H., Cebecioglu, A. Y., and Dogan, D. 2015. “Antecedents and Consequences of Collective Empathy in Software Development Project Teams,” *Information & Management* (52:2), pp. 247–259. <https://doi.org/https://doi.org/10.1016/j.im.2014.11.004>
- Bengtsson, M., and Raza-Ullah, T. 2016. “A Systematic Review of Research on Coopetition: Toward a Multilevel Understanding,” *Industrial Marketing Management* (57), pp. 23–39.
- Cai, Z., Chong, A. Y. L., Lim, E. T. K., and Tan, C.-W. 2021. “Enemies or Friends?: Disentangling the Role of Rivalry in Encouraging Virtual Gifting in Live Streaming PK Events,” in *Proceedings of the 29th European Conference on Information Systems (ECIS)*, pp. 1841.
- Chae, I., Bruno, H. A., and Feinberg, F. M. 2018. “Wearout or Weariness? Measuring Potential Negative Consequences of Online Ad Volume and Placement on Website Visits,” *Journal of Marketing Research* (56:1), pp. 57–75. <https://doi.org/10.1177/0022243718820587>
- Fernandez, A.-S., Le Roy, F., and Gnyawali, D. R. 2014. “Sources and Management of Tension in Co-opetition Case Evidence from Telecommunications Satellites Manufacturing in Europe,” *Industrial Marketing Management* (43:2), pp. 222–235.
- Fietkiewicz, K. J., Dorsch, I., Scheibe, K., Zimmer, F., and Stock, W. G. 2018. “Dreaming of Stardom and Money: Micro-celebrities and Influencers on Live Streaming Services BT - Social Computing and Social Media,” *User Experience and Behavior* (G. Meiselwitz (ed.); pp. 240–253). Springer International Publishing.
- Franck, G. 2018. “The Economy of Attention,” *Journal of Sociology* (55:1), pp. 8–19. <https://doi.org/10.1177/1440783318811778>
- Gibbs, J. L., Sivunen, A., and Boyraz, M. 2017. “Investigating the Impacts of Team Type and Design on Virtual Team Processes,” *Human Resource Management Review* (27:4), pp. 590–603. <https://doi.org/https://doi.org/10.1016/j.hrmr.2016.12.006>
- Gnyawali, D. R., and Ryan Charleton, T. 2018. “Nuances in the Interplay of Competition and Cooperation: Towards a Theory of Coopetition,” *Journal of Management* (44:7), pp. 2511–2534. <https://doi.org/10.1177/0149206318788945>
- Hilvert-Bruce, Z., Neill, J. T., Sjöblom, M., and Hamari, J. 2018. “Social Motivations of Live-Streaming Viewer Engagement on Twitch,” *Computers in Human Behavior* (84), pp. 58–67. <https://doi.org/10.1016/J.CHB.2018.02.013>
- Hu, M., Zhang, M., and Wang, Y. 2017. “Why Do Audiences Choose to Keep Watching on Live Video Streaming Platforms? An Explanation of Dual Identification Framework,” *Computers in Human Behavior* (75), pp. 594–606. <https://doi.org/10.1016/J.CHB.2017.06.006>
- Lee, Y.-C., Yen, C.-H., Chiu, P.-T., King, J.-T., and Fu, W.-T. 2018. “Tip Me! Tipping Is Changing Social Interactions on Live Streams in China,” in *Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems*, pp. 1–6.
- Lin, Y., Yao, D., and Chen, X. 2021. “Happiness Begets Money: Emotion and Engagement in Live Streaming,” *Journal of Marketing Research* (58:3), pp. 417–438. <https://doi.org/10.1177/00222437211002477>
- Raza-Ullah, T., Bengtsson, M., and Kock, S. 2014. “The Coopetition Paradox and Tension in Coopetition at Multiple Levels,” *Industrial Marketing Management* (43:2), pp. 189–198.
- Van Knippenberg, D., and Mell, J. N. 2016. “Past, Present, and Potential Future of Team Diversity Research: From Compositional Diversity to Emergent Diversity,” *Organizational Behavior and Human Decision Processes* (136), pp. 135–145. <https://doi.org/https://doi.org/10.1016/j.obhdp.2016.05.007>
- Yu, E., Jung, C., Kim, H., and Jung, J. 2018. “Impact of Viewer Engagement on Gift-Giving in Live Video Streaming,” *Telematics and Informatics* (35:5), pp. 1450–1460. <https://doi.org/10.1016/J.TELE.2018.03.014>
- Zhang, X., Xiang, Y., and Hao, L. 2019. “Virtual Gifting on China’s Live Streaming Platforms: Hijacking the Online Gift Economy,” *Chinese Journal of Communication* (12:3), pp. 340–355. <https://doi.org/10.1080/17544750.2019.1583260>
- Zheng, Y., and Jiang, C. 2016. “Investigating the Impact Factors Forming Users’ Intention in Utilizing Live Online Platforms: Case Study DouYu TV,” in *2016 International Conference on Industrial Informatics - Computing Technology, Intelligent Technology, Industrial Information Integration (ICIICIT)*, pp. 127–131. <https://doi.org/10.1109/ICIICIT.2016.0041>