The Impact of Live Streamer's Performances on Viewer's Engagement in Tourism Live Streaming

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Introduction

Tourism live streaming (TLS) is an innovative technology-enabled phenomenon in tourism (Deng, Benckendorff, & Wang, 2019). Compared to other streaming services (e.g., YouTube), TLS allows real-time multi-party social interactions between viewers and live streamers. With its advantages in synchronous communications, TLS has been employed to promote destination and tourism products (Yang, Zeng, Liu, & Li, 2022). Notably, the impact of TLS depends on viewer engagement levels. Viewer engagement refers to the viewer's behavioral manifestation toward the content they consume. In the streaming service area, viewer engagement is usually manifested as spontaneous behavior in online communities (i.e., comments and monetary donations) beyond purchasing products (van Doorn et al., 2010).

Few studies have been conducted to understand the relationships between the live streamer and viewers from the general live streaming literature (Wohn et al., 2018). Moreover, most studies restricted the relationship between live streamers and viewers to firm-consumer relationships (Zheng, Chen, Liao, & Hu, 2023). Those studies mainly adopted surveys and interviews, explaining how characteristics of live streamers' (e.g., personality traits and gender) influence viewers donating and purchasing intentions (Guo, Zhang, & Wang, 2022). In tourism, the relationship between live streamers and viewers has yet to be explored. Most studies examined live streamers and viewers independently, looking at their motivations and values for using TLS. Only one qualitative investigation by Deng, Benckendorff, and Wang (2022) investigated interactions between live streamers and viewers from a para-social perspective, indicating that the relationship between live streamer and viewers are complex than simple firm-consumer connections (Deng, Benckendorff, & Wang, 2021). Especially, the impact of live streamer performance on viewer engagement remains unknown. In terms of methods, most research relied on self-report measures (interviews and surveys) to capture data after live streaming service, which may decrease the objectivity of findings. Hence, real-time data analysis is timely needed to provide objective interpretation on the connections between live streamers and viewers.

This study examines the connections between live streamer performance and viewer engagement in TLS by analyzing real-time interaction data extracted from TLS sessions. The research question is "In tourism live streaming, how can live

streamer's performance affects the viewer's engagement?". Specifically, the research objectives are: (1) explore the dimensions of live streamer's performance, (2) investigating the influence of each live streamer's performance dimensions on viewer's engagement behaviors. This study will provide important practical implications for building live streamer-viewer relationships in the TLS context. TLS stakeholders can utilize live streamers' performances to retain viewers' attention and bond with potential tourists.

Theoretical foundation and hypothesis development

Viewer engagement refers to a person's ongoing interest in consuming a particular item or content, such as social media (Hilvert-Bruce, Neill, Sjöblom, & Hamari, 2018; Yang, Ren, & Adomavicius, 2019). Engagement is a process of "being involved, occupied or engrossed in something" (Higgins & Scholer, 2009, p.102). In the TLS context, viewer engagement has not been well understood. Only two TLS studies have suggested consumer engagement as an influential factor in consumer purchasing intentions (Xie, Yu, Huang, & Zhang, 2022). For example, Qiu, Chen, and Lee (2021) used an online survey, indicating that consumer engagement positively influences consumer's purchase intentions. In contrast, few research focused on viewer behavioral engagement by using real-time actions. Despite this, previous research remains silent on this question, which led us to undertake this study.

As a theory emphasizing interpersonal communications and social interactions in relationship cultivation, relationship cultivation theory posits that individuals' perceptions, attitudes, and behaviors are influenced by the mediated representations of reality they consume (e.g., social media) (Ledingham, 2003). Since many previous studies have applied relationship cultivation theory to explain the relationship between firm-public network (Ledingham, 2003) and social media engagement, relationship cultivation theory is thought to provide a strong theoretical foundation to understand viewer engagement in live streamer's performances. Hon and Grunig (1999) proposed six categories for relationship cultivation between multiple parties: *access*, *positivity*, *openness/disclosure*, *sharing of tasks*, *networking*, and *assurance*. These categories are closely relevant to viewer engagement in live streamer's performances, except for the *access* and *assurance* components. Specifically, *access* refers to the ways individuals communicate with the organization, whereas *assurance* describes how an organization ensures other partners and their concerns are legitimate. In other words, these two categories focus on relationships at the organizational level, which are not applicable to the TLS context at the individual level.

Openness/disclosure refers to a personae's attempts to provide information about the content and what it is doing (Ki & Hon, 2009). Examples of openness in interpersonal relationships include discussing thoughts and feelings and discussing problems in relationships. During TLS sessions, live streamers' openness is defined as providing viewers with interpretations of destination histories and cultures, explaining travel activities, and sharing travel experiences. We argue that live streamer's *openness*/*disclosure* indicates that live streamer is proactive to viewers and is willing to cultivate and maintain relationships. Thus, we hypothesize that:

Hypothesis 1: Live streamer's *openness*/*disclosure* in the TLS positively influences viewer's engagement.

Sharing of tasks is defined as "organizations sharing in solving joint or separate problems" (Hon & Grunig, 1999, p. 15). The core of *sharing of tasks* is taking joint responsibility. In TLS sessions, sharing tasks is quickly responding viewer's comments, answering viewer's specific questions about tourism destinations, and giving viewer's travel suggestions. Thus, we defined *sharing of tasks* in live streamer's performance as *helpfulness*. As a result of the live streamer's *helpfulness*, viewers receive useful travel information and advice, which helps cultivate engagement. Thus, we hypothesize that:

Hypothesis 2: Live streamer's *helpfulness* in the TLS positively influences viewer's engagement

Positivity refers to organization or public does to make the relationship more emotionally enjoyable for the parties involved. The *positivity* of an organization or a media persona can attract person to join online communities (Potter, 1993). *Positivity* of live streamers can be understood as live streamer's positive emotions. In the context of TLS, live streamer's *positivity* can create a pleasant environment for viewers and cultivate engagement. Thus, we hypothesize that:

Hypothesis 3: Live streamer's emotional *positivity* in the TLS positively influences viewer's engagement

In relationship cultivation, *networking* is about building connections with other community members (Zhang, Ridings, & Semenov, 2022). In the TLS context, we regard *networking* as a way of *socialization* because lives streamers build their networks with viewers by socializing and interacting with them. Such *socialization* can make viewers feel closer with live streamers (Hilvert-Bruce et al., 2018; Zhang et al., 2022), influencing viewers' engagement. Thus, we hypothesize that:

Hypothesis 4: Live streamer's *socialization* in the TLS positively influences viewer's engagement

In addition to the four components drawn from relationship cultivation theory, we consider the unique characteristics of TLS activities to include two barriers of relationship cultivation (i.e., *advertising* and irrelevant *information*). Based on previous TLS literature, a number of live streamers used TLS for promotional purposes (Xie et al., 2022), such as promoting products, broadcasting available shopping carts, and introducing sales. The nature of advertising differs from *openness/disclosure* and *sharing of tasks*, because advertising posts focus more on corporation/personal profit than on cultivating understanding and relationships. We hypothesize that:

Hypothesis 5: Live streamer's advertising in the TLS negatively influences viewers' engagement

In addition, some organizations and social media studies suggested irrelevant information influences relationship cultivation (Zhang et al., 2022). During TLS sessions, live streamers may share information unrelated about tourism destinations. A viewer's attention is diverted by such irrelevant information sharing. Therefore, we propose a research model (Figure 1) by hypothesizing that:

Hypothesis 6: Live streamer's irrelevant information in the TLS negatively influences viewer's engagement

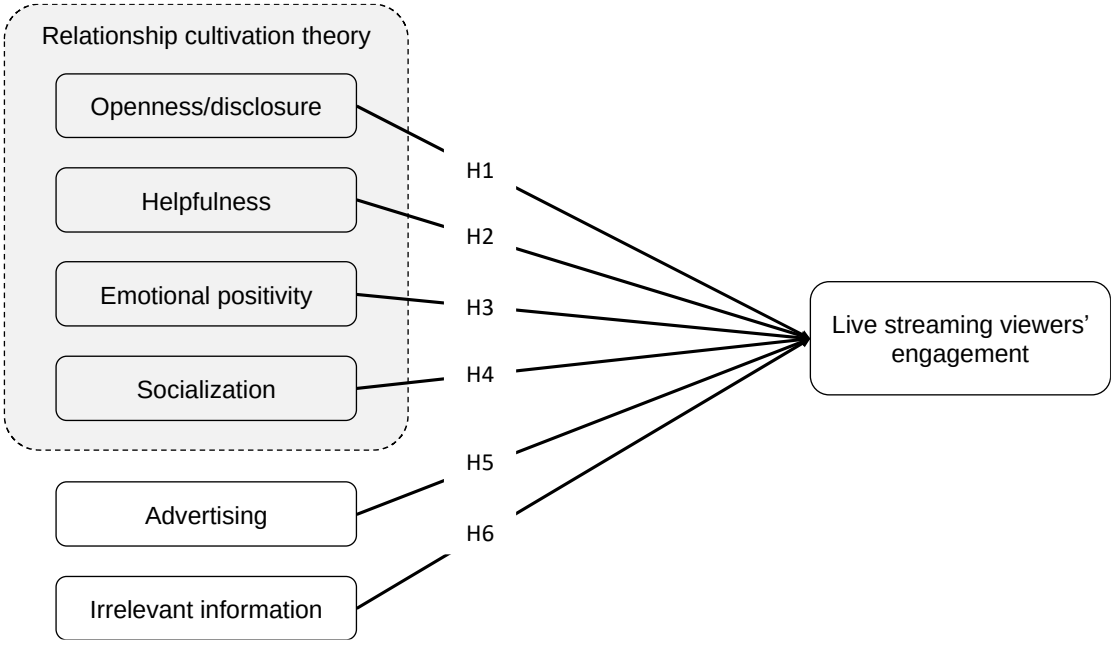

Figure 1. Proposed research model

Data Collection and Analysis

Data is from Douyin (Tiktok China version). Machine learning techniques are employed to measure live streamer's performance, while natural language programming will be used to measure viewer's engagement behaviors (e.g., comments and gifting). Then, all data will be transmitted to panel data. Vector autoregression model (VAR) will be utilized for analyzing the relationship between live streamer's performance and viewer's engagement behaviors.

Significance of the Study

This study will be the first one to explore the impact of live streamer's performances on viewer's engagement, which enriches the knowledge of live streamer-viewer relationship in the TLS context. The practical implications for building live streamer-viewer relationships will be expected. The study will benefit TLS stakeholders by increasing viewer engagement with live streamers' performances, such as increasing followers and gifting donations. Moreover, this study involves some innovations in terms of methods. For example, machine learning techniques will be adopted to capture and measure viewer's real-time actions toward live streamer's performances, which will provide objective interpretation on the connections between live streamers and viewers.

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