Will typical store atmospheric cues trigger more online engagement and sales performance? A preliminary investigation of streamers and users' insights in live streaming marketing

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Abstract. Digitalisation has speeded up retailing transformation by expanding commerce channels, and live streaming marketing, as novel approaches that have attracted marvellous viewings and transactions nowadays. But will conventional store atmospheric cues drive the same or different user experience when streaming a live session? This research is the first attempt to reveal emerging atmospheric cues embedded in live streaming and examine successful streaming factors by interviewing nano streamers and users. The current paper analyses ten semi-structured interviews and provides descriptive content analysis to showcase insightful observations in terms of the latest live streaming implications, we further denote some original codes from NVivo output.

Keywords: atmospheric cues, live streaming marketing, streamers, stimulus-organism-response (SOR), semi-structured interview

1 Introduction

Digital and data-driven marketing has allowed retail managers to apply the newest technologies across multiple commerce channels. From Amazon who first adopted machine learning recommending shopping list (Longoni and Cian, 2022) more than ten years ago, to the latest Avatar marketing of employing digital or virtual entities embedded with human characteristics and interactions (Miao et al., 2022), many of these marketing technologies (hereafter MarTech) are continuously advancing retailing performance and enhancing consumer experience regardless of purchasing channels (Hoffman et al., 2022). In addition, the mainstream social media platforms such as Facebook and Instagram have innovated personalised avatar profiles for users to demonstrate their emotional status, so that companies could recognise if consumers are positively or negatively aroused in the purchasing stage.

Recent marketing scholars have largely appraised the development and adoptions of artificial intelligence (AI),

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augmented reality (AR) and machine learning techniques in retailing industry. On the one hand, it benefits company from computing big data, estimating sales trends, and generating digital customer insights so that machines can perform tasks more efficiently (Raisch and Krakowski, 2021). On the other hand, some companies listen to customers' voices, using deep learning and AI to monitor a user's choice, thus providing the best-matching products for prospects (Longoni and Cian, 2022). Consumers have moved their presence to digital channels since the pandemic; they are forced to process decision-making in the online environment. At the same time, these consumers are pursuing more engaging online experiences such as interacting with live streamers of brands (i.e., Twitch, Facebook Live, TikTok, Taobao Live), virtually fitting the product due to enabled AR (i.e., Zara shopping app, ASOS shopping app) and other synchronised features (Tan et al., 2022). To that end, consumers express no rejection in adopting the new technologies, given that their purchasing experience enhanced consistently.

However, this research continues further MarTech exploration in terms of live streaming (hereafter LS) marketing from the stances of underlying store atmospheric cues embedded in the particular streaming channels. Our research rationales are presented as follows. First, recent live streaming marketing research predominantly focus on consumer-influencer interaction (Lu and Chen, 2021), influencers as opinion leaders (Lyu et al., 2022a), user behaviours in live streaming communities (Ming et al., 2021; Zhang et al., 2022a), and virtual gifting implications (Liu et al., 2022). Besides, user behaviours are repetitively recorded as purchase intention, impulsive buying, recommendation intention and etc. Furthermore, we notice that due to the functional diversity, existing live streaming publications favour targeting on one specific live streaming platform (i.e., Taobao Live, TikTok, Instagram) for utilitarian, hedonic and social-driven motivations and performance (Xu et al., 2022; Zhang et al., 2022b). Therefore, a research gap lies in exploring how conventional store atmospherics apply to the latest live streaming platforms. This is grounded on a recent systematic review of emerging store atmospheric cues, demonstrating all types of cues impacting multiple retailing channels (Lyu et al., 2022b).

Second, we question whether and how existing store atmospheric cues influence the novel live streaming platforms, and if there might be new factors driving live streaming interactions. Only two recent studies started addressing atmospheric factors in live streaming contexts (Lv et al., 2022; Wang et al., 2022); they commonly interviewed consumers and examined real-time interaction (i.e., prompt chat, virtual gifting) and user intention to keep using live streaming. Nevertheless, it remains mysterious how streamers consider and evaluate their live streaming performance from the stance of the store (online) atmospheric cues. In contrast to the conventional atmospherics, live streaming platforms advocates for synchronous communication between streamers and viewers (users), attracting more viewers in a live session has been the priority for boosting exposure. To that end, we intend to investigate holistic viewpoints by interviewing both streamers and viewers regarding their perceptions on atmospheric cues when going live. More specifically, we aim to discover emerging atmospheric factors embedded in multiple live streaming platforms such as YouTube, TikTok, Facebook, Instagram and Twitch to derive diversified cues. The rationale lies in providing different attributes of several platforms and identifying the most valuable atmospheric cues that can be applicable to most live streaming practices.

In terms of our theoretical ground, it is appropriate to apply the Stimulus-Organism-Response (SOR) framework since a plethora of studies have employed the SOR theory in both live streaming (Kang et al., 2021) and store atmospherics (Bhatt et al., 2020) research. To be more specific, we posit emerging atmospheric cues as stimulus, streamers and users' emotional appeals as organism, and their subsequent behaviour as responses. We believe the

SOR framework would support our preliminary findings and develop further experimental studies.

2   Research Method (Phase 1)

This research follows a sequential mixed-methods approach; we will conduct semi-structured interviews with streamers and users (Phase 1) and a series of experimental designs to examine the causal relationships (Phase 2). Extant social science research denotes more advantages of employing mixed-methods approaches to disclose comprehensive and under-explored issues. Furthermore, this research also aims to gather quantitative data to detect relationships between stimulus, organism and response constructs. In essence, the present conference paper will explain the first study with preliminary insights from qualitative aspect.

Phase 1 describes semi-structured interviews in depth as follows. First, semi-structured interviews allow the research team to dig out depth and hidden opinions with participants (Pratt, 2009). This method is frequently adopted to reveal an emerging social phenomenon that lacks exploration, meanwhile, it offers the potential to expand existing demonstrations by analysing new insights (Brooks et al., 2012). Second, the research team prepared two versions of pre-determined interview guides to live streamers and users separately. The primary criterion for our sample selection in this unexplored domain was to approach nano-influencers who had previously held live streaming sessions and users who had participated in live sessions. Moreover, we believe nano-influencers (or streamers) with 10,000 followers or less (Hayes, 2020) are more suitable than macro or mega-influencers who own tremendous reputation on social media presences. The first reason of selecting nano-streamers is that they focus on reflecting their day-to-day lives when going live; this helps enhance the intimate relationship with live streaming users. The second reason lies in their impact of stimulating users' emotional appeal through consistent interactions and high levels of engagement. Nano streamers have more ample capacity and freedom to engage their audiences than mega influencers who may be under the control by branded entities or agencies. To that end, we aim to interview 15 nano streamers and 15 users as an adequate sample size through a purposive sampling technique.

Third, in terms of the interview guides, we considered developing two versions of open-ended questions to probe streamers and users differently. Each participant should answer 22 pre-determined questions regarding (1) previous live streaming broadcasting/viewing experience, (2) their perceptions of visible factors when being in a live session, (3) their understandings and feelings toward invisible factors, and (4) overall evaluation of live streaming performance. Fourth, each interview was conducted online through an audio recording method after the research assistants generated consent from participants. Some participants did not want to be recognised via vocal information; we took written notes of those conversations. In the end, we briefly collected personal information such as age, gender and occupation as additional material for the data analysis.

3   Preliminary Results

Due to the time constraint, the research team collected ten interviews with three nano streamers and seven live streaming users with sound streaming experience. Therefore, we run a preliminary qualitative observation following the descriptive content analysis approach (Vaismoradi et al., 2013; Birgili et al., 2021). First and foremost, we stress that current data analysis provides a brief and descriptive overview of interview scripts that were obtained from our participants. We are aware of the potential drawback in sample representativeness, yet it

is still insightful to present contemporary qualitative analysis from limited participants. Second, we consider descriptive content analysis as suitable because it enables us to screen mainstream of the dataset and derive some numeric attributes of our codes (Cohen et al., 2007). Third, NVivo 12 was adopted to organise and analyse the qualitative data, given that the tool has been recognised immensely in recent social science disciplines (Allsop et al., 2022). It not only houses original interview documents (i.e., audio, video, texts, pictures, cases), but also creates codes or themes of multiple dimensions. The tool has been the most productive software to categorise themes holistically and systematically. We assert that the research team will continue using NVivo following a thematic analysis tactic when more data are collected in the upcoming weeks.

To visualise our preliminary findings, the research team created a conclusive table displaying the majority of answers from streamers and viewers, respectively (see Table 1). The initial codes synthesised similar and different answers from participants who were probed regarding their opinions on several live streaming experience topics. Having reviewed the scripts twice, we generated a variety of codes in response to understanding emerging atmospheric cues in live streaming platforms and interpreted further elaborations as follows.

First, both streamers and users prefer using Facebook Live, Instagram Live, TikTok and YouTube as primary streaming platforms for broadcasting and viewing purposes. Moreover, users expressed that they would stay with a live session up to one hour as their interest and patience dropped after the first 30 minutes. Because we approached nano streamers who own a few thousand followers, they often go streaming once a month or once a week, hence it indicates that nano streamers do not show their streaming presence on a daily base. *Second*, before answering perceived atmospheric cues implanted in a live session, both streamers and users re-affirmed that successful streaming performance consists of visual performance, constant interactions with audience, good connectivity and interesting topics of a live session. Furthermore, users shared that streamers' face expression and presentation skills would encourage longer viewings and inspire continuous interactions in a live session (i.e., quiz, Q&A). *Third*, and more interestingly, we notice that live streaming users can be very critical when evaluating perceived atmospheric cues during their participation of a live streaming session. For example, user participants expressed that they would consider ambience, live streaming facilities, visual and lighting effects, and streamer's audio as essential factors driving their understanding toward perceived atmospheric cues. Besides, some users shed light on the necessity of raising emotional appeals when they followed a streamer's live session. Similarly, streamers also set LS background as priority, yet they emphasised that visible audience, number of viewers, and chat box functions are fundamental atmospheric factors of a successful live session. We may expect extended answers from more nano streamers and LS users in the rest phase of data collection. More specific codes are exhibited in the Table 1 wherein we also note the number of the same codes appeared in the preliminary analysis.

Table 1 initial codes of descriptive content analysis

	Live Streamers (N=3)	Users (N=7)
Live streaming (LS) platforms	Facebook Live (1) Instagram Live (2) TikTok (1) YouTube (3)	Facebook Live (1) Instagram Live (4) YouTube (3) Streamer's platform (2)
Streaming/viewing frequency	Once a week, 15-30min per session (1) Once a month, around 40min per session (1) Once in 3months, 10min per	Under 30min per session (2) 30min-1h (5) Once a week (2) Once a month (5)

	session (1)	
Significant streaming factors to enhance viewers' longer stay in a live session	Clear picture background (1) Ease of use (1) Engaging with audience (1) Visual and lighting effects (1) Internet connection performance (1)	LS platform factors (2) Device of watching LS (1) Good connectivity (1) Interactive live chat (1) Interesting topic (2) Streamer's presentation and face expression (2)
LS platform background & setting attributes	Good connectivity (2) Engagement (1) Facilities of LS tools (4): *connectivity (2), formal and informal session (1), voice recording system (1)* LS background (7): *lighting (3), original & organic setting (1), flower background (1), background voice (2)* Music (1)	Comfortable setting background (3) Lighting (2) Sound (1) Streamer's interesting character (1)
Perceived atmospheric cues in a LS session	Nature background (1) Visible audience & engagement (2) Good sound facility (1) Number of viewers (1) Chat box allows Q&A (2)	Ambience importance (3) Streamer's audio (1) Emotional appeals (6): *annoying chats (1), cheering (1), entertaining (1), confused (1), impressive (1)* Good lighting and visual (5) LS facilities (4): *internet connectivity (2), virtual chat box (1), pictures and texts (1)* Streamers' interactivity (1)
Technical disturbance during a LS session	Background noise (1) Internet connectivity issue (3)	Feel apprehensive (1) Free access to LS content (1) Internet access (1) Streamer's connectivity (4)
Interpersonal interactions	With viewers: *regular Q&A and expand connection (2), good content (1)* With fellow streamers: *prompt feedback (1), expand connections (2), initial discussions (1)*	With streamers: depend on streamer's engagement (5) With fellow viewers: chat and connection (2) No interaction with streamer (2) No interaction with viewer (3)
Psychological feelings in a LS session	Relaxed (1) Comfortable (1) Happy (1) Shy (1) Fun (1) Keep connected (1) Feel like sharing (1)	Bored (1) Entertaining (1) Excited (1) Happier (2) Informative (2) Isolated (1) Satisfied (2)
Motivations & benefits of joining a LS session	N/A	Support streamers (2) Being able to interact (2) Content as a driver (1) Feel comfortable and pleased of participation (3) Keep updated (1) Seek for entertainment (1) Seek for information (4) Enjoy LS synchronous features (6) Streamer's relatability (2)
Future improvement of atmospheric cues when going live	Audio quality and noise (1) Background setting (1) Enhancing engagement (1) More active and frequent streaming (1)	N/A

	Better lighting (1)	
Trust and loyalty towards streamers and LS platforms	N/A	Trust – based on streamer's expertise and skills (6) Trust – depend on the topic (1) Stay loyal with streamers regardless the platforms (5) Stay loyal with LS platforms than streamers (2)
Stay with existing LS platforms (streamers)	TikTok (1) Instagram (1) YouTube (1)	N/A

4   Conclusions and implications

Having explained that we only collected and analysed the first ten interviews, the present interpretations cannot portray a whole picture to answer research questions conclusively. Nevertheless, we have identified new insights in addition to existing store atmospheric cues. First, in line with extent marketing channels, visual and ambient factors of a live session's background still position central in live streaming marketing. Both streamers and users seek for clear visual and comfortable ambiance when joining a live session. Our new observations suggest that LS facilities (audio, video, chat box, connectivity) should be taken into consideration for a better streaming performance from the atmospherics aspect. Second, we learned that streamers or influencers should endeavour to accommodate users' emotional appeals during a live session. LS users wish to be engaged and enjoy interactions so as to be updated, connected, supportive and entertaining. To that end, users show increased extent toward following and supporting streamers regardless of LS platforms; they would participate in any live sessions initialised by a particular favouring streamer. We will continue to investigate more detailed insights for accomplishing Study 1, followed by a series of experimental designs in Study 2 to examine causal relationships between stimulus factors, LS users' emotional attributes, and subsequent behaviours constructed on the SOR framework.

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