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Livestream selling: how background and product type influence consumers' willingness to buy

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Abstract

Purpose – Livestream selling is an increasingly popular way to market products on e-commerce platforms. This research examines the effects of livestreaming backgrounds on consumers' willingness to buy (WtB).

Design/methodology/approach – To determine how the background displayed during the livestream affects consumers' WtB different products, this research compares virtual, formal backgrounds that look like workplace settings with virtual, informal backgrounds that depict more casual, home-like settings. Study 1, a qualitative study involving luxury retail experts, gathers insights on how livestream backgrounds, product type and host style might shape consumer perceptions. Study 2 experimentally investigates the impact of the background on WtB. Study 3 tests the potential moderating impact of product type, as well as mediating roles of trustworthiness and intimacy.

Findings – For high-end products, a formal background results in higher WtB. For mainstream products, an informal background results in a higher WtB. Trustworthiness mediates the effect for high-end products, and intimacy does so for mainstream products.

Originality/value – This research provides clear insights into how to leverage virtual backgrounds while livestreaming. These critical visual cues deserve further attention from both academics and practitioners.

Keywords Livestream selling, Trustworthiness, Intimacy, Willingness to buy

Paper type Research paper

1. Introduction

Livestream selling is a type of e-commerce that harnesses online streaming to provide product demonstrations in real-time. During a livestream, a host provides live demonstrations of products, and the streamed content is instantly available to wide audiences. Unlike televised home shopping networks, whose broadcasts can be asynchronous, the invariably synchronous nature of livestream selling means shoppers can share their opinions, ask questions and receive instant feedback (Ki *et al.*, 2024). Such dynamic, real-time shopping experiences became particularly popular during the COVID-19 pandemic (Wongkitrungrueng and Assarut, 2018; Wongkitrungrueng *et al.*, 2020), when many companies leveraged Instagram Live and similar platforms to connect with shoppers who were reluctant to visit stores (Roggeveen *et al.*, 2021). Because customers enjoyed the live events, livestreams remain available on various platforms (e.g. YouTube, Walmart Live, TikTok Live); in China, more than half of the country's Internet population (703 million people) count as livestream shoppers (CNNIC, 2022). In the United States, livestreaming is not quite as popular yet, but the market is expected to triple, from sales of \$20bn in 2022 to \$68bn by 2026 (Chevalier, 2024).

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For companies, livestream selling represents a tactic and channel to encourage sales. For consumers though, livestream events represent both commercial and social experiences (Kang *et al.*, 2020; Xu *et al.*, 2020). In addition to learning about the products, consumers can be entertained by and interact with hosts, as well as other viewers. As a result of such interactivity, livestreaming enhances consumer engagement (Guo *et al.*, 2021). To encourage such engagement, livestreaming hosts must design their sessions effectively. For example, a one-to-many format (i.e. a single host broadcasts to a large audience) is very common, but other models exist (Liu *et al.*, 2022). With a one-to-one format, hosts conduct private livestream sessions with individual customers to offer personalized product demonstrations or consultations, which might be especially relevant when the potential purchases involve luxury goods or high-value items. Beyond the livestream selling model, the design of the livestreaming session needs to ensure that the product promotion sparks consumers' interest (Picot-Coupey *et al.*, 2023; Wang *et al.*, 2022) and evokes their trust. Notably, about half of surveyed consumers indicate that they are hesitant to purchase during livestream sessions because they question the credibility of the seller and/or product (Morning Consult, 2022).

As another key design element, we consider how the virtual background displayed during a livestream session might affect consumers' perceptions and willingness to buy (WtB). Building on research in other online shopping contexts (Hsieh *et al.*, 2018), we propose that the livestream background likely influences how viewers respond. To test this prediction, we focus on virtual backgrounds, which can hide or alter the actual background and depict virtually any selected image. By covering the real background, it can ensure privacy, block out distractions (Nowroozi *et al.*, 2024), and establish a specific atmosphere. Furthermore, without the need to build a specific physical environment, hosts can instantly apply or change virtual backgrounds during a livestream selling session, providing them with a substantial level of control over the sales atmosphere. For this initial investigation of virtual backgrounds, we consider their level of formality, such that formal backgrounds showcase a professional setting, whereas informal versions showcase a more casual, home-like setting.

Across three studies, we test explicitly how the virtual background displayed during a livestream affects shopper's WtB. The qualitative Study 1 gathers input from luxury retail experts to establish insights into how livestream backgrounds, product types and host style might shape consumer perceptions. The experimental Study 2 provides a test of the impact exerted by the livestream selling background on consumers' WtB luxury items. Switching to a different product, to generalize the findings, the experiment we report in Study 3 examines if and how product type moderates the effect of the virtual background on WtB and also tests for mediating roles of trustworthiness and intimacy.

By studying the varying effects of such virtual backgrounds, this research makes three key contributions to livestreaming selling and shopping experience literature (Bharadwaj *et al.*, 2022; Chen *et al.*, 2025). First, we extend prior research into ambience-related factors by highlighting the critical role of virtual background designs in shaping livestream viewers' perceptions (Kang *et al.*, 2020; Li *et al.*, 2023). In increasingly common virtual shopping environments, consumers' perceptions form primarily through visual experiences rather than physical, multisensory experiences, as occur in brick-and-mortar environments. Therefore, visual cues, such as the background, likely exert stronger influences on WtB. As our studies show, the interplay of the virtual background and the product type influences livestream viewers' perceptions. This finding extends beyond studies that examine background effects (e.g. Tong *et al.*, 2022) or product type (e.g. Wang *et al.*, 2022; Zhang *et al.*, 2024) by specifying their combined impact in the novel context of livestream selling. It also establishes a clear recommendation: Aligning the virtual background design with the product type enhances livestream selling success.

Second, virtual backgrounds may seem to function like subconscious elements, but they shape viewers' impressions, even in the absence of any direct interaction between the host and the setting (Nowroozi *et al.*, 2024). As we show, a formal, professional background enhances perceptions of trustworthiness by conveying credibility, leaving viewers more confident in the

host and the products being showcased. An informal background instead fosters intimacy, encouraging viewers to feel a stronger personal connection with the host and products.

Third, we offer new insights into the influences of the host's features (e.g. attractiveness, popularity, language style). Trustworthiness and intimacy emerge as key psychological mechanisms that drive viewers' WtB. In more detail, host trustworthiness has a greater influence when the livestream sale involves high-end products, whereas intimacy is more influential for mainstream products. These combined insights offer fresh perspectives on how visual designs can shape livestream selling effectiveness and shoppers' decision-making.

2. Theoretical framework

Past research has investigated different aspects of livestream selling and their effects on viewers' responses. For example, studies of hosts' features emphasize the effects of their style (Huang *et al.*, 2024), likeability, animacy, responsiveness (Gao *et al.*, 2023), improvisational skills (Wu *et al.*, 2023) and credibility (Song *et al.*, 2024). Another stream of research investigates message aspects, including the language style (Hu and Ma, 2023) and signals of time pressure (Zhang *et al.*, 2024). Characteristics of shoppers also might be influential, such as how often they view livestreams (Ni and Ueichi, 2024). However, we know of no research that investigates how virtual backgrounds displayed during a livestream influences consumers' perceptions.

Yet background elements are critical, ambient factors in online shopping. As Stevenson *et al.* (2000) show, simpler webpage backgrounds positively influence attitudes toward ads, brands, purchase intentions and websites, especially in brief exposure scenarios. Similarly, Brylla and Walsh (2020) demonstrate that spatial backgrounds, as opposed to isolated product images, improve product evaluations, purchase intentions and willingness to pay. According to Wang *et al.* (2023), when product images appear presented against a contextual (vs white) background, consumers from cultures characterized by holistic thinking are more likely to purchase the products. The colors of backgrounds also have impacts; Bahrainizad (2024) notes that the background colors of websites affect consumers' cognitive responses and emotional arousal, and Hsieh *et al.* (2018) demonstrate that websites' background colors affect how consumers react to merchandise prices. Moving beyond websites, Zhang *et al.* (2022) find that the backgrounds of pictures posted by online reviewers also affect consumers' product perceptions. They use the backgrounds to make inferences about the reviewers' socioeconomic status, which then affects their purchase intentions. Considering the powerful potential impact of the ambient background on how consumers view information, livestreamers need to understand how the backgrounds broadcast during their streams are likely to inform consumers' purchase intentions.

In the sparse research into the effects of livestreaming backgrounds, Tong *et al.* (2022) consider visual complexity and experimentally manipulate the backgrounds to exhibit low (host in front of a wall with a door), medium (host in front of the wall with a table and small clothing rack) or high (host in a room with multiple clothing racks, curtains, pictures and other items) complexity. They find that women experience greater pleasure and arousal in the conditions with moderately complex backgrounds, whereas men respond more positively to highly complex backgrounds. Shang *et al.* (2023) instead examine the fit between the livestream background and the host, as well as between the background and the product. Their survey of 424 consumers who recalled their experience with livestream shopping reveals that host-background fit influences perceived trust, product-background fit influences perceived value and both types of fit affect perceived pleasure, which in turn determines purchase intentions. Their correlational study, based on recall, thus offers an interesting finding that needs to be tested further and in a more controlled setting, to establish more firmly how the livestream background affects consumers' responses, such as their WtB. To advance this research stream, we also account for the effects of specific product categories by exploring if and how the background might influence WtB differently for high-end versus mainstream products.

2.1 Main hypotheses

We expect that shoppers are influenced by the livestream event's background because it shapes their perceptions of the livestream experience. Just as brands can convey their identity through visual elements (e.g., Robin's egg blue of Tiffany & Co.; Roggeveen *et al.*, 2021), hosts can convey information about themselves through the virtual backgrounds they choose for the livestream session. Research on servicescapes indicates that displaying professional items in an office (e.g. certifications, publications) enhances perceptions of competency and increases patronage intentions (Dean, 2014). They serve as signals of quality, which then reduce uncertainty and perceived risk (Boulding and Kirmani, 1993).

Livestreaming offers the unique capacity for hosts to change the virtual backgrounds easily, to display more (vs less) formality. Leveraging relevant insights from servicescape literature (Dean, 2014; Yan *et al.*, 2011), we expect that a formal background signals that the host is more credible, because professional settings are generally perceived as trustworthy (Hallikainen and Laukkanen, 2021). Greater perceived trustworthiness then should lead to a greater WtB (e.g. Büttner and Göritz, 2008; Chong *et al.*, 2023; Eastlick and Lotz, 2011). Specifically, we predict that a more formal, professional (vs informal) virtual background that makes the livestream host appear more trustworthy also increases consumers' WtB. Formally,

- H1. The use of a formal (vs informal) background in a livestream selling session increases willingness to buy.
- H2. Trustworthiness mediates the impact of the formal background on willingness to buy.

2.2 Moderating impact of product type

In livestream shopping, consumers cannot directly experience the product being sold, so they likely look for cues to increase their purchase confidence. We predict that the background provides one such cue, which consumers use to evaluate the trustworthiness of the livestream host. In particular, consumers expect high-end products to offer better quality, higher performance, premium prices and (in some categories) more advanced or innovative technology (Kluge and Fassnacht, 2015; Steenhof *et al.*, 2006; Zhang *et al.*, 2022). Livestream hosts can communicate information about the product's quality, performance and technology through their explanations or demonstrations, such that trustworthy hosts can help reduce consumers' concerns and increase their willingness to buy high-end products (Jiang *et al.*, 2024). If hosts appear more trustworthy when they use professional backgrounds, as we have theorized, then H1 should hold true for high-end products.

However, for mainstream products, consumers perceive less need to conduct an in-depth product evaluation; they might simply assume that, because it is mainstream, it will meet their basic expectations. In such a case, they might focus instead on the social aspect of the livestreaming experience (e.g. Kang *et al.*, 2020; Xu *et al.*, 2020). Similar to the effect by which customer-firm intimacy encourages customer loyalty (Brock and Zhou, 2012), because it helps "customers feel good when they make contact with your company" (Yim *et al.*, 2008, p. 741), we predict that if a consumer develops a sense of intimacy with the host, they become more willing to buy the product showcased (Beetles and Harris, 2010). In turn, consumers may be more likely to develop such a sense of intimacy in response to an informal virtual background that represents a home-like environment. Intimacy stems from self-disclosure (Jamieson, 2007), and being granted permission to see inside someone's home constitutes an intimate experience, because it exposes elements of the resident to others (Pallasmaa, 1995). Sharing a virtual background that looks like a home (whether it accurately represents the host's real home or not) may lead consumers to believe the host is sharing information about themselves. Thus, for mainstream products, we predict that an informal background causes viewers to perceive the livestream as more intimate and then exhibit increased WtB. Formally,

- H3. Product type moderates the impact of a formal background on willingness to buy. For (a) high-end products, consumers are more willing to buy in response to a formal background, and for (b) mainstream products, consumers are more willing to buy in response to an informal background.
- H4. Intimacy mediates the impact of an informal background on willingness to buy mainstream products.

We explore these hypotheses with three studies. For Study 1, we conduct an open-ended survey with luxury retail experts to gather their experiences with livestreaming. Study 2 tests the impact of a professional virtual background on WtB and Study 3 explores the moderating impact of product type and its underlying mechanisms. [Figure 1](#) shows our conceptual model.

3. Study 1: feedback from luxury retail experts about livestreaming

With this exploratory study, involving experts who work with high-end luxury products, we seek to understand their experiences with livestream selling. The luxury industry is relevant, such that among retailers who have begun experimenting with livestream shopping, 30% of luxury retailers have tested this channel, which is notably greater than the 20% or lower rate exhibited in other retail sectors like grocery and electronics ([Coresight, 2024](#)).

3.1 Design, participants and procedure

We surveyed 18 luxury retail experts with professional experience with livestream selling. Four did not complete the survey, leaving a final sample of 14 experts. These respondents were selected on the basis of a snowball sampling technique, starting with the authors' personal networks and then recruited by those initial respondents. The brands represented by this sample of respondents include Armani, Bulgari, Louis Vuitton, Missoni and Stella McCartney, and the experts operate across diverse geographical regions. The majority are active in the Asian market and globally; each of these categories accounts for 28.6% of the sample. Then 21.4% operate in Europe, 14.3% in the Americas and 7.1% in Oceanic markets.

The questionnaire included unstructured questions, to allow respondents to express themselves freely. In the introduction, general warm-up questions asked about how selling

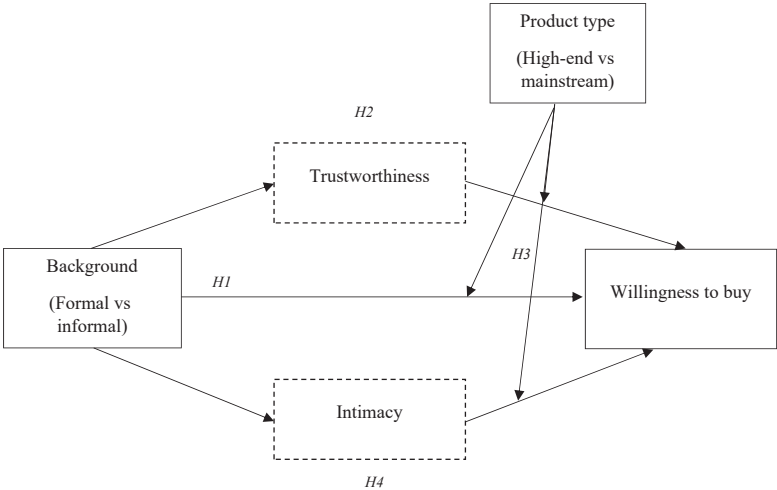


Figure 1. Conceptual model. Source: Authors' own work

conversations take place (online versus in-store) and customers' awareness of the opportunity to interact with a client advisor through livestream sessions. Thereafter, respondents discussed the importance of livestream selling.

3.2 Results

The retail experts indicated that about 60% of their luxury brands' sales interactions take place in physical stores, and the remaining 40% take place online. These reports align with the ratios reported in a Bain & Co. study of the future of luxury brands (D'Arpizio *et al.*, 2021). The experts also identified livestreaming as a crucial tool for high-end brands to sell to clients, and they consistently recommended a formal background, especially "when it is the first time a client is buying virtually" (*Informant 13*; also noted by *Informants 1* and *4*). In explaining its importance, *Informant 16* asserted that a formal atmosphere helped ensure the conversation maintained a professional tone and encouraged more solid, trusting relationships. In addition, the formal setting can reflect on the sales assistant's image and the credibility of the setting, to emphasize the luxury aspect of these sales (*Informants 11* and *12*).

At the same time, the respondents cited examples of customer relationships that evolved to the point that the client felt connected to the salesperson, so much so that they viewed them almost as family (*Informant 1*). In these cases, the respondents agreed that the virtual background might shift to something less formal. For example, if a seller has managed to deepen the customer relationship by knowing the personal details about that customer (*Informant 9*), and this connection has prompted repeat purchases (*Informants 5* and *13*), then a more intimate virtual background would be advised. Such a background better meets the needs of clients who value the time spent with their sales advisors, because it appears more genuine (*Informant 11*), as well as more "private and personalized" (*Informant 13*).

When asked about mainstream products, luxury experts disagreed – some favored a formal background, while others saw it as essential only for high-end items.

3.3 Discussion

This study confirms that livestreaming is a vital and growing area for research and sales, especially for luxury brands. Experts favor formal virtual backgrounds for high-end markets and new clients, suggesting one-to-one interactions may be more effective. However, varying opinions indicate no universal best practice for background selection. Therefore, with Study 2 we test the impact of the virtual background on WtB empirically.

4. Study 2: the effect of virtual backgrounds on willingness to buy

4.1 Method

We assigned 253 respondents, gathered from the Prolific platform ($M_{\text{age}} = 41.03$ years, $SD_{\text{age}} = 10.15$, 50.4% women), randomly to a one-factorial, between-subjects design (virtual background: formal vs informal). We created a livestream selling session featuring a female seller, Francesca, promoting a luxury wristwatch from the fictitious brand *Plasir*. The video lasted approximately 49 s, reflecting our attempt to avoid boredom effects while still giving respondents enough time to observe the background and recognize the product as a high-end wristwatch. Francesca used the same sales pitch and wore the same clothes in both versions of the study videos, to avoid potential confounding effects. The only difference was the virtual background. In the formal version, the virtual background was a jewelry store. In the informal version, it was a living room (Figure 2).

After watching the livestream session to which they were assigned, respondents rated their WtB on two items ("I would buy the product," "I would be interested in buying the product," 1 = "strongly disagree," 7 = "strongly agree"; $r > 0.94$, $p < 0.001$). Next, respondents completed manipulation checks by rating two items on a bipolar scale: "I perceived the



Figure 2. Screenshots, Study 2. Source: Authors' own work

background shown in the video as . . ." (1 = "familiar/informal," 7 = "professional/formal"; $r = 0.78, p < 0.001$). After providing their demographics, they were thanked for their time and participation.

4.2 Results

The manipulation of the virtual background was successful ($t_{(251)} = 13.77, p < 0.001$). The formal background was perceived as more professional ($M_{\text{formal}} = 4.92, SD = 1.23$) than the informal one ($M_{\text{informal}} = 2.73, SD = 1.30$). Then, in support of H1, an independent sample t -test reveals a significant effect of the virtual background ($t_{(251)} = 2.31, p = 0.02$) on WtB: Respondents express greater WtB in response to the formal background ($M_{\text{formal}} = 2.33, SD = 1.51$) than the informal background ($M_{\text{informal}} = 1.91, SD = 1.32$).

5. Study 3: moderating effect of product type

With Study 3, we examine the moderating impact of product type; we also explore trustworthiness and intimacy as potential mechanisms. To generalize our results, Study 3 features a different product type, that is, mainstream rather than luxury goods.

5.1 Method

The 217 respondents ($M_{\text{age}} = 46.16$ years, $SD_{\text{age}} = 13.44$, 50% women), recruited from a mid-sized European university, were randomly assigned to a 2 (product: high-end vs mainstream) $\times$ 2 (virtual background: formal vs informal) between-subjects design. In the new livestream selling session we created, the seller was promoting a cappuccino maker. The sales pitch remained consistent, to avoid confounding effects, with the exception of the description of the product, which we used to manipulate the product type. The host described the high-end cappuccino maker as high-tech and fully digital; the mainstream cappuccino maker was described as basic and manual.

After watching their assigned livestream session, respondents rated their WtB with the same two items as in Study 2 ($r > .97, p < 0.001$). We also gathered their perceptions of the trustworthiness of the host with two items: "The salesperson is competent" and "I would rely on this salesperson's advice" (1 = "strongly disagree," 7 = "strongly agree"; $r > 0.96, p < 0.001$). A single-item measure captured perceptions of intimacy (1 = "strongly disagree," 7 = "strongly agree"). For the manipulation checks, similar to Study 2, respondents answered the prompt, "I perceived the background shown in the video as . . ." (1 = "familiar/informal," 7 = "professional/formal"; $r = 0.93, p < 0.001$). They also indicated whether the product was low-end (=1) or high-end (=7). Participants then provided demographic information and were thanked for their time and participation.

5.2 Results

5.2.1 Manipulation checks. The manipulation of the virtual background was successful. The formal background was perceived as more professional ($M_{\text{formal}} = 6.53$, $SD = 1.31$; $M_{\text{informal}} = 1.42$, $SD = 1.03$; $t_{(215)} = 31.92$, $p < 0.001$). The product type manipulation also was successful, such that participants perceived the high-end product as more high-end ($M_{\text{high-end}} = 6.30$, $SD = 1.69$, $M_{\text{mainstream}} = 1.99$, $SD = 2.05$; $t_{(215)} = 16.92$, $p < 0.001$).

5.2.2 Willingness to buy. An analysis of variance reveals a significant main effect of the virtual background ($F_{(1, 217)} = 26.15$, $p < 0.001$) and a non-significant effect of the product type ($F_{(1, 217)} = 2.89$, $p = 0.09$). As predicted, we also find a significant product $\times$ background interaction ($F_{(1, 217)} = 129.20$, $p < 0.001$). For the high-end product presented with a formal virtual background, respondents' WtB is higher than in the informal virtual background condition ($M_{\text{formal}} = 6.54$, $M_{\text{informal}} = 2.39$, $F_{(1, 213)} = 136.39$, $p < 0.001$). For the mainstream product, the results reverse, and WtB is higher in the informal virtual background condition ($M_{\text{formal}} = 2.39$, $M = 5.68$, $F_{(1, 213)} = 19.47$, $p < 0.001$). The results provide support for H3.

5.2.3 Mediation. To test the predicted causal relationships – namely, that a more (vs less) formal virtual background increases trustworthiness (vs intimacy), and this increase positively influences consumers' willingness to buy high-end (vs mainstream) products – we employ a second-stage parallel moderated mediation model. Specifically, to determine if trustworthiness (vs intimacy) drives the relationship between the virtual background (1 = formal, 0 = informal) and the WtB dependent variable, for each type of product (1 = high-end, 0 = mainstream), we used PROCESS model 14 (Hayes, 2018) with 5,000 bootstrap samples.

The results indicate that a formal (vs informal) background increases perceptions of host trustworthiness ($b = 3.81$, $SE = 0.25$, $t = 15.27$, $p < 0.001$), which increase WtB ($b = 0.26$, $SE = 0.06$, $t = 4.07$, $p < 0.001$). The effect of trustworthiness on WtB also is stronger for high-end products ($b = 3.53$, $SE = 0.30$, 95% confidence interval [CI] [2.95, 4.15]) than for mainstream products ($b = 1.00$, $SE = 0.24$, 95% CI [0.55, 1.49]).

In contrast, an informal (vs formal) background increases perceptions of intimacy ($b = 4.06$, $SE = 0.24$, $t = 16.90$, $p < 0.001$), which increase WtB ($b = 0.59$, $SE = 0.07$, $t = 8.47$, $p < 0.001$). The effect of perceived intimacy on WtB is not significant for high-end products ($b = 0.07$, $SE = 0.22$, 95% CI [-0.33, 0.54]), but it is positive for mainstream products ($b = 2.41$, $SE = 0.31$, 95% CI [3.03, 1.82]).

Including the proposed mediators causes both direct effect to become non-significant ($b = 0.32$, $SE = 0.32$, 95% CI [-0.31, 0.94]). The index of moderated mediation also is significant for both mediation paths ($b_{\text{trustworthiness}} = 2.53$, $SE = 0.34$, 95% CI [1.88, 3.20]; $b_{\text{intimacy}} = 2.48$, $SE = 0.32$, 95% CI [1.86, 3.13]), in support of both H2 and H4.

5.3 Discussion

For high-end products, a formal livestreaming background increases consumers' WtB, more so than an informal background. For mainstream products, an informal livestreaming background instead results in a greater WtB than a formal background, as we predicted in H3. Notably, the formal background resulted in stronger feelings of trust than the informal version for both high-end and mainstream products, but as we predicted by H2, the mediating effect of trustworthiness was stronger for high-end products. The informal background resulted in stronger feelings of intimacy than the formal version, for both high-end and mainstream products, but in line with H4, this sense of intimacy only mediated the impact of the virtual background on participants' willingness to buy mainstream products.

6. General discussion

In recognition of the growing importance of livestream selling, this research tests if and how a simple atmospheric modification might affect consumers' willingness to buy. The qualitative

findings gathered from a survey of luxury retail experts (Study 1) highlight that retailers have a great opportunity to leverage livestream sales channels. As these experts note, curating the atmosphere created during a livestream selling session can be essential, and the background is a key element of that created atmosphere.

In our empirical investigations of the impacts of the livestream background, we also conduct two experiments, in which we manipulate the virtual background, using tactics that livestream hosts could easily adopt as well. When we manipulate virtual backgrounds to help them appear more or less formal, consumers indicate a greater willingness to purchase a luxury watch (Study 2). When we manipulate both the virtual background and the product being promoted (high-end vs mainstream), the formal background still results in a higher willingness to buy the high-end cappuccino maker. However, the informal background results in a higher WtB for the mainstream version (Study 3). We also establish trust as a mediating mechanism in the high-end product scenario, whereas intimacy functions as the main mediator in the mainstream product scenario.

6.1 Contributions

From a management perspective, this article provides actionable recommendations for managers planning to implement or seeking to optimize their livestream selling. In particular, we show that the virtual backgrounds displayed during the livestream should resonate with the products being sold. The choice of background cannot be random; it must reflect strategic considerations of how such backgrounds affect consumers' perceptions. The backgrounds particularly shape consumers' perceptions of the livestream host, which then affect their WtB the products that this host is promoting. Depending on the feelings being triggered (trustworthiness, intimacy), the chance of a sale of a specific product type (higher-end, mainstream) increases.

At the organizational level, the insights collected from the retail experts in Study 1 indicate the importance of training livestreaming salespeople to perform seamless "selling ceremonies" by accounting for every detail in the online environment. In light of the powerful influence of hosts and consumers' perceptions of them, retail firms should provide these members of their sales force with the proper tools and appropriate conditions that enable them to perform at their best. In addition, managers should encourage hosts to learn about and consider the most optimal visual designs and displays to integrate into their livestream selling efforts.

Our research also contributes to livestreaming and shopping experience research (Bharadwaj *et al.*, 2022; Chen *et al.*, 2025). First, we highlight the critical role of the background design in shaping viewers' perceptions, a finding that extends prior studies of ambience-related factors (Li *et al.*, 2023; Wu *et al.*, 2023). In virtual shopping environments, visual cues like studio backgrounds significantly influence purchase intentions. Aligning these background design with the product type can enhance livestream selling effectiveness, whereas mismatches (e.g., formal background for mainstream products, informal background for high-end products) might undermine positive perceptions of the host and the shopping experience. Second, we establish that virtual backgrounds, despite seeming peripheral, shape viewers' impressions even without direct interaction (Nowroozi *et al.*, 2024). A formal background enhances trustworthiness by signaling professionalism, which boosts consumers' confidence in the host and the products. An informal background instead fosters intimacy, making the experience feel more personal and engaging. Third, we advance understanding of the influence of livestreaming hosts, by identifying their perceived trustworthiness and intimacy as key psychological drivers of purchases. Trustworthiness is more influential for high-end products, and intimacy has a greater role for mainstream products. These findings offer new insights into how visual designs shape livestreaming effectiveness and consumer decision-making.

6.2 Limitations and research directions

Along with these relevant, initial insights into how the virtual background can affect livestream shoppers' WtB, this study features some limitations that offer opportunities for continued research. For example, we purposefully designed 49-s videos to use in the experiments, to capture the essence of a livestream selling session but keep the participation demands reasonable. Yet they do not reflect real-world livestreams, which often last several minutes or even hours. Such extended livestream shopping events often struggle to sustain viewer engagement, because they require shoppers to process a continuous stream of visual, auditory and textual information, which can create cognitive overload – especially if the session is poorly designed. Cluttered visuals, excessive text overlays and chaotic backgrounds likely distract from the product and dilute the host's message. We call for research that explores how the risks of boredom or cognitive load might function as psychological mechanisms with negative effects in livestream shopping contexts. Longer livestream sessions also allow streamers to sell multiple products, which introduces another interesting research dimension. Selling multiple related or unrelated products likely influences both price perceptions and the overall effectiveness of a livestream shopping session for example.

In addition, our experimental livestreams did not feature an interactive component; this simplified version contrasts with real-world livestreams, during which consumers can ask questions and receive responses from the host in dynamic interactions. To explore these elements, longitudinal studies or research conducted in real-world settings could clarify their impacts on engagement, price perceptions and purchase intentions or behavior. Actual livestreams also feature various and dynamic camera techniques (e.g., close-up shots of the product, host or surrounding area), which might complement the effects of the virtual background.

Along with these various visual features, social elements uniquely shape livestream shopping experiences, such that the presence and comments of other viewers can significantly influence shoppers' perceptions and decisions (Zeng *et al.*, 2024). Previous studies suggest the importance of sociability and trialability as retail atmospheric elements (Roggeveen and Sethuraman, 2020), but these factors have not been explored in livestream settings. In particular, the ability to trial or experience a product before purchase is likely an important feature; the real-time demonstrations and interactive features of livestreams are designed to provide a surrogate for direct product trial (Ma *et al.*, 2022). Both social elements and trialability features also might interact to influence livestream consumers' behaviors.

We anticipate that our findings should apply across various retail sectors. As we show, maintaining a formal virtual background can build consumer trust, which should be particularly useful for high-end fashion and jewelry brands. A more casual virtual background that fosters intimacy instead should be more effective for mainstream products, as sold in the home appliance, beauty or fast-moving consumer good sectors. However, ongoing research should add insights into the effects of virtual backgrounds across a broader range of industries; in health care, education or entertainment sectors for example, different atmospheric cues might shape consumer perceptions and decision-making. Investigating such contexts would provide a more comprehensive understanding of livestream selling effectiveness and help businesses tailor their own virtual environments in ways that help them optimize engagement and drive sales (Lin *et al.*, 2021). We also acknowledge the fact that our research features fictitious brands, so we call for continued investigations to determine if the effects hold for established brands that possess varying levels of brand equity. The presence of real brands on livestreams likely interacts with virtual background cues differently, such that brand familiarity and reputation can shape consumers' perceptions of product quality, price fairness and trust.

We manipulate the virtual backgrounds to represent formal or informal settings. Other manipulations might depict varying levels of realism or hybrid background settings. For example, if the host is promoting food products during the livestream session, a real kitchen

that allows the host to demonstrate its step-by-step preparation might be more effective than any version of a virtual background.

Such research extensions could build on the valuable practical recommendations that we offer for sales managers, who should tailor their livestream backgrounds to match the product types and thus optimize their livestream selling strategies. But some other interesting research avenues also might address whether livestream selling has distinct effects at different stages of the customer journey. They also could consider the broader, societal implications of livestream shopping. Arguably, its spread could shape wider consumer behavior trends and influence digital inclusivity. Livestream shopping provides new opportunities for consumers with disabilities for example, by enabling them to shop from home while engaging in social interactions and entertainment that might otherwise be inaccessible. But it also might raise ethical considerations about marketing transparency and consumers' susceptibility to persuasive techniques. Research devoted to such questions could provide a more comprehensive understanding of livestream shopping, beyond its practical and managerial applications.

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