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HOW SOCIAL MEDIA LIVE STREAMS AFFECT ONLINE BUYERS: A USES AND GRATIFICATIONS PERSPECTIVE

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Abstract

Social media live streams (SMLSs) are becoming mainstream e-commerce platforms, especially for direct selling, offering online retailers (e-tailers) immense consumer interaction and engagement levels. Despite their growing prevalence, e-tailers face difficulties capitalising on this platform to enhance retail operations. This paper explores how SMLSs affect consumers' purchase intentions by exploring their motivations for participating in e-commerce SMLSs. To this end, we used the uses and gratifications (U&G) theory to explain how using SMLSs to satisfy consumers' needs could lead to high or low purchase intentions. It was done by collecting cross-sectional data from 795 consumers who have participated in e-commerce SMLSs. The data were analysed using partial least squares-structural equation modelling (PLS-SEM) and fuzzy set qualitative comparative analysis (fsQCA). Our findings revealed that people use SMLSs to satisfy their need for value, social identification, and the medium's attributes. Based on these findings, we show six configurations that lead to high or low purchase intentions and make corresponding theoretical propositions. Thus, our study contributes to the research and practice of using SMLSs for online shopping.

Keywords: social media, live stream, uses and gratification, e-commerce, social pricing

1 Introduction

Social media live streams (SMLSs) are real-time video broadcasts on social media platforms (Wongkitrungrueng & Assarut, 2020). *Alibaba* started the SMLS e-commerce trend in 2016 (Arora A. et al., 2021) through its *Taobao Live* platform by blending entertainment with instant purchasing, creating value for customers by offering seamless experiences (Arora A. et al., 2021). Since then, SMLSs have become mainstream e-commerce platforms, especially as a direct selling channel offering immense consumer interaction and engagement opportunities for online retailers (e-tailers) and brands (Wongkitrungrueng et al., 2020; Zhang et al., 2022). Today, SMLS shopping constitutes a \$500-billion market and is China's leading e-commerce sales channel (Forbes, 2022; Koetsier, 2022). E-commerce sales are expected to double and reach the \$10.87 trillion level by 2025, and SMLSs are expected to become a leading e-commerce channel (Forbes, 2022). The success of these platforms lies in their unique ability to present products while allowing consumers to ask questions, express their opinions, and purchase the products in real time (Sun et al., 2020). The COVID-19 pandemic accelerated the use of SMLSs for online shopping (Lu & Chen, 2021; Sun et al., 2020). It enabled many e-tailers to attract customers due to SMLS's ability to overcome traditional e-commerce platforms' limitations through high social interactions (Guo et al., 2022; Zhang et al., 2022; Zhang, Sun, et al., 2020). This trend is expected to continue due to the growing integration of live streaming features into social networking sites, internet telecommunication technology advancements, and consumers' ubiquitous use of mobile devices (Kang et al., 2021).

Despite the growing prevalence of SMLSs in e-commerce, attracting viewers and improving conversion rates remain significant challenges for e-tailers (Guo et al., 2022). McKinsey & Company (Arora A. et al., 2021) highlighted that organisations that plan to adopt SMLSs as a shopping channel must think critically about converting consumers' interest into purchase intentions. This concern was confirmed by the global marketing & business development director of a leading technology company, who pointed out that the whole point of a SMLS is to increase consumers' purchase intention so that they can go to the store (online or offline) and make the actual purchase. Therefore, it is critical to understand the factors that affect consumers' purchase intentions during SMLSs. However, it is still unclear to e-tailers how SMLSs affect consumers' purchase intentions (Lu & Chen, 2021; M. Zhang, Sun, et al., 2020). Thus, they face difficulties capitalising on such platforms to enhance retail operations (Sun et al., 2020). This industry concern has generated several calls for research from academics and practitioners to help businesses better understand consumer purchase intention drivers during SMLSs

(Forbes, 2022; Kang et al., 2021; Qiu et al., 2021; Sun et al., 2020). Although several researchers have attempted to address these issues from perspectives like uncertainty reduction (Lu & Chen, 2021) and information technology (IT) affordances (Sun et al., 2019), the extant body of knowledge has two main limitations. First, it does not explain why consumers actively seek and use SMLSs for online shopping. Second, although it discusses SMLS factors that have causal relationships with purchase intention, it does not document how these factors lead to high or low purchase intention. This study aims to address these research gaps by leveraging the uses and gratifications (U&G) theoretical to explain how using SMLSs to satisfy consumers' needs would affect their purchase intentions. Thus, our research objective can be framed into the following research question:

What factors influence consumers' purchase intentions during SMLSs?

Our study provides a deeper understanding of the effects of SMLSs on consumers' purchase intentions. It leverages structural equation modelling (SEM) and fuzzy set qualitative comparative analysis (fsQCA) to analyse cross-sectional data from 795 consumers and uses the U&G theory to explain why consumers actively seek and use SMLSs for online shopping. The findings reveal that people use SMLSs to satisfy their need for value, social identification, and media attributes. The effect of these factors on consumers' purchase intentions is mediated by attitude towards SMLSs and the brands marketed through these platforms. Also, invasiveness is a crucial media attribute determining consumers' low or high purchase intentions. Thus, this study contributes to the research and practice of using SMLSs to enhance online retail operations, especially in attracting potential buyers and improving conversion rates.

The next section presents a literature review of SMLSs in e-tailing. In section 3, we discuss the theoretical background and present our hypotheses. In the fourth section, we present the methodologies used, followed by section 5, wherein we present our findings. The sixth section discusses these findings and their implications for research and practice. We conclude in the last section.

2 Literature review

SMLSs have become more pervasive among e-tailers (Lu & Chen, 2021; Sun et al., 2020). Thus, understanding factors influencing consumers' purchase intentions during SMLSs has been a growing research interest addressed from different perspectives. One of the main perspectives has been that of customer engagement. The extant literature highlights that

customer engagement through live streams can increase purchase intention through visibility, meta-voicing, and guidance on shopping affordances provided by live streaming platforms (Sun et al., 2020). Therefore, an essential factor is the professionalism of the live streaming platforms, which significantly affects customers' purchase intentions (Xu et al., 2021). It includes the quality of information and interaction features available on the platform (Ma, 2021; Zhang et al., 2020). Swift guanxi, which refers to consumers' perception of an interpersonal relationship with a vendor, forms quickly due to mutual understanding and reciprocal favours (Ou et al., 2014). This relationship positively affects online purchase intention on live streaming platforms (Zhang et al., 2020). Swift guanxi is affected by the information (believability, usefulness and vividness) and interaction quality (responsiveness, real-time interaction and empathy) of the live stream (Zhang et al., 2020).

Another approach to understanding consumers' purchase intentions during SMLSs is congruence. Congruence plays an essential role in consumers' intentions to purchase products presented during live streams, especially when the live stream is made by internet celebrities seeking to endorse a product or service (Park & Lin, 2020). Specifically, hedonic attitudes, the celebrity's trustworthiness, and self-product fit increase purchase intentions (Park & Lin, 2020). Also, product-source fit affects the perceived attractiveness and trustworthiness of the celebrity, while product-content fit affects utilitarian and hedonic attitudes toward the live stream's content (Park & Lin, 2020). Consumers who perceive themselves as physically or socially similar to a live stream presenter experience a lower product-fit uncertainty, which enhances their purchase intention (Guo et al., 2022; Lu & Chen, 2021). Social similarities could be identified through shared values, enabling the consumer to judge whether the presenter is trustworthy and eventually increase purchase intention if the presenter is deemed trustworthy (Lu & Chen, 2021; Zhang, Qin, et al., 2020). Furthermore, the presenter's characteristics (trustworthiness and attractiveness), information characteristics (completeness and accuracy), and audience involvement in the live stream positively affect perceived persuasiveness, which increases consumers' purchase intentions (Gao et al., 2021).

This review highlights two main limitations in the extant research on factors influencing consumers' purchase intentions during SMLSs. First, the extant literature does not explain why consumers actively seek SMLSs for their online shopping activities. Second, although the studies provide sound justification for causal relationships that affect purchase intention, they do not explain how these factors lead to high or low purchase intentions. These limitations prevent practitioners from having a more systematic understanding of consumers' motivations

for using SMLSs compared to other media and the complexity of how it affects their purchase intentions. [Table 1](#) summarises the findings of this literature review.

Table 1. Literature review findings

Approach to understanding SMLSs	Sample studies	Research gaps
Customer engagement; professionalism/quality of the SMLS platform	(Hilvert-Bruce et al., 2018) (Kang et al., 2021) (Li et al., 2021) (Zhang M. et al., 2020) (Zhang M. et al., 2022) (Hu & Chaudhry, 2020) (Ou et al., 2014) (Sun et al., 2019) (Sun et al., 2020) (Wongkitrungrueng & Assarut, 2020) (Wongkitrungrueng et al., 2020) (Xu et al., 2021)	1) Why would consumers actively seek and use SMLSs for online shopping? 2) What factors drive high or low purchase intention in consumers?
Congruence	(Gao et al., 2021) (Guo et al., 2022) (Lu & Chen, 2021) (Zhang M. et al., 2022) (Hu & Chaudhry, 2020) (Hu et al., 2017) (Park & Lin, 2020) (Singh S. et al., 2021)	

3 Theoretical background and hypotheses development

3.1. Theoretical background

This paper attempts to address the highlighted research gaps by leveraging the well-established *uses and gratifications (U&G) theory*, initially developed in communications research, to understand people's motivations for using different media (Katz et al., 1973). The theory asserts that users actively seek media sources that best fulfil their specific needs (Katz et al., 1973). This assertion is based on the principle that (i) media users actively choose the media they consume and (ii) they are fully conscious of their reasons for choosing one from many media options. In this light, the theory is suitable for our research for two main reasons: (i) online shoppers actively choose SMLSs for their shopping activities and (ii) they are fully conscious of why they choose SMLSs for such activities instead of other shopping platforms like physical stores or online marketplaces (Boardman & McCormick, 2018; Park & Lee, 2017;

Wang, 2023). In addition, our research objective ties strongly with the five tenets of the U&G theory (Katz et al., 1973).

The first tenet is that *the audience is conceived as active, and media use is goal-directed*. Consumers actively seek to join SMLSs because they need to be informed of the time a SMLS will take place and actively seek to join it at the appointed time to participate. Participation includes watching, listening, and reacting to the live stream's content (through comments, Likes, purchases, etc.). Therefore, joining a SMLS is implicitly purposeful and directed towards a specific goal, which in the case of this study, is related to actively seeking information regarding a given product or service of interest to the participant.

Second, *the initiative in linking need gratification and media choice lies with the participant*. A *need* refers to the motivation for media use, while *gratification* refers to the experience of satisfaction in response to meeting a need (Ruggiero, 2000). Indeed, only the consumer is aware of the "true" reason for selecting SMLSs for online shopping activities rather than any other online shopping media and thus is the only one who can tell if the media choice gratifies their needs. This tenet highlights the complexity of understanding the effect of using SMLSs on consumer attitudes and behaviours as it signals an indirect relationship between them.

Third, *the media compete with other sources of need satisfaction*. The needs served by SMLSs constitute only a segment of the range of human needs, and the extent to which they can adequately meet them varies. It implies that consumers who use SMLSs for online shopping do so to satisfy a wide range of needs, and the extent to which SMLSs help them fulfil their needs varies. Thus, analysing the role of need satisfaction with regard to the use of SMLSs should be done while keeping in mind other functional alternatives (e.g., stores and online marketplaces).

Fourth, *many of the goals of media use can be derived from data supplied by individual audience members*. Indeed, unlike the radio or TV advertisements that one might stumble upon, consumers are sufficiently self-aware to report their interests and motivations for using SMLSs or recognise them when appropriately formulated and presented to them. It is in line with the first tenet because the consumer actively seeks to use SMLSs by making the necessary effort to connect to the SMLS at the appropriate time. Thus, it is logical to assume that they understand why they are taking that action and are expected to be able to provide that information without difficulty.

Fifth, *value judgements about the cultural significance of mass communication should be suspended while audience orientations are explored on their terms*. Indeed, consumers are

usually in control of SMLSs and therefore are not particularly influenced by them. Generally, no one forces anyone to use SMLSs for online shopping activities. Therefore, consumers who use SMLSs for online shopping do so on their terms, in line with their values and cultures.

These principles and assumptions made by the U&G theory make it relevant to understanding what motivates consumers to use SMLSs for online shopping activities and how it affects their purchase intentions. It emphasises the power of the individual over SMLSs rather than that of SMLSs over the consumer. Thus, we use the theory to develop a research model, hypotheses, and propositions about consumers by connecting user gratifications to needs, media attributes, and behavioural outcomes.

3.2. Hypotheses development

Figure 1 presents the proposed research model.

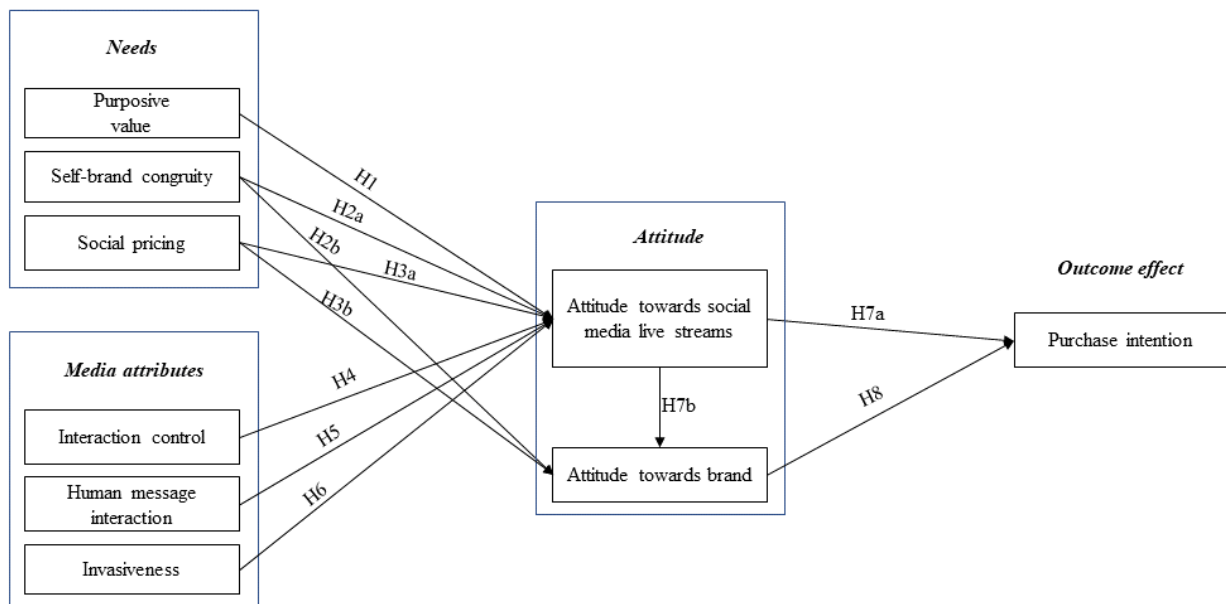


Figure 1. Research model

3.2.1. Gratification and needs

The first U&G tenet highlights that media users are active and goal-directed. It implies that they actively seek media that can help them meet their goal (needs). As highlighted by tenet 3, consumer needs vary widely. However, according to tenets 2 and 4, consumers are fully aware of their reasons for selecting media suited to their needs. They can supply this information if asked the right questions. It implies that consumers can provide reliable information on their motivations for using SMLSs for need gratifications in online shopping contexts. This

information would facilitate understanding the effect of using SMLSs on consumer attitudes and behaviours. On these grounds, we explored the extant U&G and SMLS literature and identified three fundamental needs that we hypothesise consumers seek to gratify when using SMLSs for online shopping activities.

The first need identified is based on the *purposive value of SMLSs*, which refers to the utility derived from using SMLSs (Yen et al., 2019). It includes the informational and instrumental value derived by consumers from using SMLSs (Dholakia et al., 2004; Jin & Huang, 2017). Regarding information value, SMLSs provide consumers with more complete and dynamic information about the product of interest compared to traditional online shopping websites and market places that generally provide short and static product descriptions (Cai et al., 2018). Since SMLSs are usually organised by product experts or highly knowledgeable people, consumers can easily access expert and reliable information on a product through this channel (Hudders et al., 2021; Lee & Theokary, 2021; Ouvrein et al., 2021). SMLSs also give consumers access to the opinions of other consumers participating in the live stream and instant access to answers to any questions they may have, which are not possible just by reading reviews on the product or emailing the vendors (Cai et al., 2018).

The instrumental value of SMLSs with respect to other online shopping platforms is their ability to provide consumers access to real-time product demonstrations while continuing to benefit from the convenience of online shopping (Cai et al., 2018; Xu et al., 2020). This advantage is combined with information value as the consumer can ask highly personalised questions like the product's suitability for personal uses and obtain responses in (near) real-time. Using SMLSs for these purposes gratifies the consumers' need for instant access to product information and opinions needed to make informed purchase decisions (Cai et al., 2018; Y. Wang et al., 2021). Generally, when consumers are satisfied with an experience, they develop a positive attitude towards it (Amoroso & Lim, 2017; Lo & Qu, 2015; Shin et al., 2015). Therefore, we would logically expect that consumers who experience need gratification because of SMLS's purposive value would develop positive attitudes towards this online shopping channel. Thus, we hypothesise that:

Hypothesis 1 (H1): Purposive value positively affects consumers' attitudes towards online shopping with SMLSs.

The second need identified is based on *self-brand congruity*, which refers to the relationship between a brand and a consumer resulting from experienced or perceived similarities between their personalities (Taylor et al., 2011). The literature review highlights that congruence plays

an essential role in consumers' intentions to purchase products presented during SMLSs, especially when the live stream is hosted by internet celebrities seeking to endorse a brand (Park & Lin, 2020; Xu et al., 2020). Thus, it helps them fulfil their need for social identification with the brand. However, the congruence between the brand and its endorser increases their proclivity to like, share, comment, and demonstrate other forms of active participation in the SMLS (Liu et al., 2020; Rabbanee et al., 2020). Thus, consumers' attitudes towards SMLSs tend to be affected because their favourite brand or its endorser implicitly endorses SMLSs. Therefore, we hypothesise that:

Hypothesis 2a (H2a): Self-brand congruity positively affects consumers' attitudes towards online shopping with SMLSs.

Based on the U&G tenets, consumers have no reason to join the SMLS of a brand they are not interested in consuming. If they do, then one can argue that it is because they identify with the brand in one way or the other. This argument is based on the fact that consumers tend to engage in branded activities due to self-brand congruity, which creates a feeling of psychological ownership and attachment (Donvito et al., 2020; Saeida et al., 2017; Tseng, 2020). Signing up for branded activities also helps consumers demonstrate consistency in their actions and commitment to brand activities (Augusto et al., 2019). Compared to low self-brand congruity, high self-brand congruity increases consumers' attitudes towards ads inserted into streaming videos, attitudes towards the advertised brand, and purchase intention due to similarities in self-concept (Holmes, 2021). These arguments suggest that if consumers are satisfied with SMLS's ability to meet their need for social identification with a brand community, they will develop a positive attitude towards SMLSs and eventually reinforce their positive attitudes towards the brand. Thus, we hypothesise that:

Hypothesis 2b (H2b): Self-brand congruity positively affects consumers' attitudes towards the brand presented during SMLSs.

The third need identified is *social pricing*, which refers to consumers' feelings about a progressive pricing strategy based on differentiated income and consumption levels (Chettri & Venkatesan, 1983; Gao et al., 2022). Extant literature has emphasised the importance of personalised pricing schemes and voluntary gifting behaviours, such as participative pricing (Hufnagel et al., 2022; Liu et al., 2022; Ma et al., 2022). As consumers get more concerned about sustainable development, brands increasingly practice buyer-determined pricing, allowing buyers (near) complete control over product pricing (Ampountolas et al., 2019; Gao et al., 2022; Marett et al., 2012). This trend is becoming popular as e-tailers have started knitting

social pricing strategies with consumers' social networks, allowing consumers to benefit from differential prices based on their social capital (Gao et al., 2022; Pratono, 2018). We argue that this value proposition would motivate consumers to develop a positive attitude towards online shopping with SMLSs. Thus, we state the following hypothesis:

Hypothesis 3a (H3a): Social pricing positively affects consumers' attitudes towards online shopping with SMLSs.

Social pricing has been credited for its effectiveness in helping brands acquire new customers and increase the purchase frequency of existing ones (Gao et al., 2022). Unlike other online shopping channels, SMLSs allow consumers to leverage social media to satisfy their need to be sustainable consumers while purchasing from their preferred brands through direct interactions (Ampountolas et al., 2019). For example, it allows them to negotiate pricing based on personal preferences and the firm's corporate social responsibility (CSR) effort (Nouri-Harzvili et al., 2022; Seyedhosseini et al., 2019). Therefore, one would expect that a brand that helps its consumers satisfy their need to demonstrate their engagement as sustainable consumers through SMLSs would make consumers develop positive attitudes towards the brand. Thus, we hypothesise that:

Hypothesis 3b (H3b): Social pricing positively affects consumers' attitudes towards the brand presented during SMLSs.

3.2.2. Gratification and media attributes

The U&G theory highlights that different media have unique technical, aesthetic, or functional attributes that meet users' specific requirements, which render some media more conducive to satisfying specific needs (Katz et al., 1973). Indeed, besides the social and psychological needs consumers seek to gratify using SMLSs, they also have needs related to their perceived or intrinsic attributes of SMLSs. Therefore, it is important to identify those attributes that attract online buyers to SMLSs compared to other online shopping channels.

One of those attributes is *interaction control*. Interaction control refers to the extent to which individuals believe they have control over how they interact with the SMLS platform. It is a perceived attribute that satisfies consumers' need for control over their interactions with a brand's live streaming platform through their knowledge of its functionalities, uses, and socialisation system (Pujadas-Hostench et al., 2019). Popular SMLS platforms today include YouTube, Instagram, Facebook (Meta), TikTok, and Twitch. On traditional online shopping platforms like websites and online marketplaces, the consumer must actively participate in acquiring relevant information (through clicks). Unlike them, SMLS platforms generally give

consumers high interaction control (pause/play, mute/unmute, Like/Unlike, comment/not comment, etc.). Consumers appreciate that they can be active or passive participants during SMLSs without interfering with the streamer's content (Lessel et al., 2018). Since interaction control positively affects consumers' attitudes toward e-commerce platforms (Mainardes et al., 2020; Tsai & Tiwasing, 2021), we argue that it will also be the case for SMLSs as it provides more interaction control to consumers. Therefore, we hypothesise that:

Hypothesis 4 (H4): Perceived interaction control positively affects consumers' attitudes towards online shopping with SMLSs.

Human-message interaction refers to the extent to which users can customise the message received from media sources. It is another attribute that makes SMLSs very attractive to online shoppers. As opposed to interaction control, the emphasis here is on control over the SMLS content, not the platform. The U&G theory suggests that consumers adopt media sources that best fulfil their needs. Studies show that consumers who seek to satisfy their information needs are more likely to engage in human-message interaction on websites (Ko et al., 2005). However, users have many choices on websites and online marketplaces but almost no control over the messages. Thus, they can only scroll through the available content, hoping it will satisfy their information needs. With SMLSs, users have significant control over their interaction with content. They can interact directly with the streamer and other users' reactions (e.g., opinions, comments and likes) to instantly satisfy information needs required to facilitate purchase decisions (Cai et al., 2018; Lessel et al., 2018). Participants can ask personal questions and get responses in real-time while benefitting from the questions asked by other participants that could help them arrive at more informed decisions or develop new questions. This attribute is not available on other online shopping channels (or at much lower rates), making SMLSs very attractive for instant and detailed information need gratification. Therefore, we expect that consumers whose information needs are gratified would develop positive attitudes towards SMLSs (Ko et al., 2005; Lin et al., 2019; Wei et al., 2015). Thus, we hypothesise that:

Hypothesis 5 (H5): Human-message interaction positively affects consumers' attitudes towards online shopping with SMLSs.

A third key attribute that attracts consumers to SMLSs is (the absence of) *perceived invasiveness*. Perceived invasiveness refers to a user's feeling of losing control over their privacy (Jung et al., 2016). Advertising on e-commerce and social networking sites is increasingly invasive, and consumers find it irritating, making them avoid such platforms as often as possible (Loiacono & McCoy, 2018; Maseeh et al., 2021; Niu et al., 2021). However,

such ads are difficult to avoid because e-commerce and social media platforms increasingly and systematically use cookies and related techniques to collect personal information on consumers for targeted advertising. This phenomenon makes consumers feel powerless on several e-commerce platforms (Gironda & Korgaonkar, 2018; Khan et al., 2022). The feelings of powerlessness and irritation have generated the need for less invasive e-commerce platforms (Gironda & Korgaonkar, 2018; Maseeh et al., 2021), and SMLSs seem to be meeting this need quite well. Generally, SMLSs often showcase a specific brand and allow participants to purchase it directly. It implies that any other ad during the SMLS will distract the participants from the intended brand, explaining why ads are not systematically popped into live streams (Gironda & Korgaonkar, 2018; West, 2019). Thus, in the U&G logic, consumers are expected to increasingly use SMLSs for online shopping as it gratifies their need for a less invasive online shopping outlet. Since consumers tend to develop negative attitudes towards online shopping platforms or services that they perceive as invasive (Godfrey et al., 2011; Taylor et al., 2011; Tran & Strutton, 2013), we hypothesise that:

Hypothesis 6 (H6): Perceived invasiveness negatively affects consumers' attitudes towards online shopping with SMLSs.

3.2.3. Gratifications and effects

According to the U&G theory, it is essential to connect the variety of media user needs to the effects of satisfying those needs (Katz et al., 1973). In this research, our interest is to understand the connection between the needs investigated and consumers' purchase intentions when using SMLSs for online shopping activities since this relationship remains unclear to e-tailers (Lu & Chen, 2021; Zhang M. et al., 2020). In the paragraphs above, we have hypothesised that need gratifications affect consumers' attitudes towards SMLSs and the brands advertised. However, the theory of planned behaviour (TPB) and the theory of reasoned action (TRA) highlight that attitude is a strong determinant of behavioural intention (Ajzen, 1991; Ajzen & Fishbein, 1972; Hill et al., 1977). These theories have established that the more favourable a person's attitude is towards engaging in a behaviour, the more likely the person will form an intention to perform that behaviour. Several studies have validated this argument in e-commerce (Lee et al., 2017; Yang et al., 2016). Therefore, we expect that consumers with a positive attitude towards SMLS shopping will be more willing to purchase products sold through this media and vice versa. Thus, we hypothesise that:

Hypothesis 7a (H7a): Attitude towards online shopping with SMLSs positively affects consumers' purchase intentions.

Also, the extant literature supports that consumers' attitudes toward technology or social media strongly affect their attitudes towards brands using the technology (McClure & Seock, 2020; Wang et al., 2019). It helps consumers demonstrate their social competence, fulfil their need for sharing, and demonstrate their relationship with the brand (Rauniar et al., 2019; VanMeter et al., 2018). The extant literature also shows that consumers' attitudes towards advocacy advertising positively affect their attitudes towards the brand since it is attributed to corporate social responsibility (Bravo & Lee, 2020; Rana & Arora, 2022). This phenomenon is related to the self-congruity factor previously raised, as consumers usually use SMLSs to better identify with brands. Therefore, we would expect consumers with a positive attitude towards SMLSs to also have a positive attitude towards brands they follow that leverage this shopping channel. Thus, we hypothesise that:

Hypothesis 7b (H7b): Attitude towards SMLSs positively affects consumers' attitudes towards the brand presented during online shopping with SMLSs.

Still based on the classic TPB and TRA (Ajzen, 1991; Ajzen & Fishbein, 1972; Hill et al., 1977), we would expect that the more consumers develop positive attitudes towards engaging with their favourite brands through SMLSs, the greater their purchase intentions. This expectation is supported by the extant literature validating the positive effects of consumers' positive attitudes towards brands on their purchase intentions when shopping online from celebrities (Arora et al., 2019). Consumers with positive attitudes towards brands also tend to develop higher intentions to purchase their sustainability labels (Bezaz & Kacha, 2021). This relationship has been further validated in other e-commerce settings, including in the sport (Christian et al., 2022) and automobile context (Nikhashemi & Delgado-Ballester, 2022). This broad validation leads us to state the following hypothesis based on the general rule:

Hypothesis 8 (H8): Attitude towards the brand positively affects consumers' purchase intentions.

4 Research methodology

4.1. Data collection

The hypotheses and propositions were tested using data collected through an online questionnaire-based survey from consumers who have participated in online shopping activities via SMLSs. We chose cross-sectional data collection because it is highly adapted and extensively used in exploratory studies like ours that explores factors that influence consumers'

purchase intentions during SMLSs (Albanna et al., 2022; Li & Fang, 2022). It is also very appropriate for this study because it has a clearly defined unit of analysis (SMLS users) (Pinsonneault & Kraemer, 1993). Furthermore, user needs and media attributes investigated in this study are concrete, the measurement format and scales used are well-established, the U&G theory used to develop the research model is extensively used in academic literature, and the beginning and end of using SMLSs in society are unclear. All these factors make cross-sectional data suitable for this study (Pinsonneault & Kraemer, 1993; Rindfleisch et al., 2008). The survey data collection approach was chosen because it is a well-established one in management sciences for reliably collecting large amounts of individual-level data (Ertekin et al., 2020; Sila, 2018).

The survey instrument was developed based on existing scales that have been empirically tested and validated in previous studies (see Table 4). All items were measured using a 7-point Likert scale (1: strongly disagree; 7 strongly agree). Once the measurement instrument was assembled, we developed an online questionnaire on the *Qualtrics* survey platform¹. We conducted a pretest with 20 graduate students with experience participating in online SMLS shopping. The pretest was to validate the clarity of the questionnaire and its fluidity online (face validity). As expected, we had no major feedback because the items used are from existing scales. Thus, they have been tested and validated in previous studies. After validation, we hosted the complete survey and recruited participants using the Prolific² platform. This GDPR³-compliant platform allows researchers to identify high-quality survey participants while respecting their privacy (Harnish & Roster, 2019; Lelieveld & Hendriks, 2021). Participation in this survey was voluntary, and the participants received financial compensation for their time based on the platform's policies. We did not focus our research on any specific world region, so participants were selected randomly worldwide. Using the G*Power 3.1 statistical software (Erdfelder et al., 2009), the recommended minimum sample size for this research was 386 participants. However, we collected 800 responses from November 24 to December 10, 2021. Based on the attention check set in the questionnaire ("select strongly agree if you are following"), five responses were eliminated from our dataset, leaving 795 valid responses (99.4% response rate) that were used for analysis. Table 2 presents a description of the sample used in this study.

Table 2. Description of sample

¹ <https://www.qualtrics.com/uk/>

² <https://prolific.co/>

³ General Data Protection Regulation (GDPR)

Age (N=795)		
Label	Frequency	Percentage
18-24	366	46.0
25-34	304	38.2
35-44	99	12.5
45-54	19	2.4
55-64	4	0.5
65-74	3	0.4
Total	795	100.0
Gender (N=795)		
Label	Frequency	Percentage
Female	377	47.4
Male	407	51.2
Non-binary/third gender	10	1.3
Prefer not to say	1	0.1
Total	795	100.0
Education (N=795)		
Label	Frequency	Percentage
Bachelor's degree or equivalent	378	47.5
Doctorate (PhD) or equivalent	7	0.9
High school diploma or equivalent	284	35.7
Less than a high school diploma	6	0.8
Master's degree or equivalent	120	15.1
Total	795	100.0

Table 3 presents different live streaming platforms and the number of respondents who had used them to participate in e-commerce SMLSs at least once. Several participants had used more than one platform. The reported dominant platforms for e-commerce SMLSs are YouTube, Instagram, Facebook (Meta), TikTok, and Twitch.

Table 3. Online streaming platforms used by participants

Online streaming platform	Nb of respondents
YouTube	568
Instagram	462
Facebook (Meta)	374
TikTok	242
Twitch	103
LinkedIn	69
Twitter	17
Zoom	7
WhatsApp	5
Google Meet	4
Microsoft Teams	4
Discord	3

Reddit	2
Clubhouse	1
GoToWebinar	1
Snapchat	1
Tumblr	1

Before analysis, we addressed issues related to common method bias using the following guidelines from MacKenzie and Podsakoff (2012). Thus, we selected respondents with the necessary experience with SMLSs, explained the study's relevance to them, highlighted that there are no wrong or correct answers to the survey, and emphasised that only their personal experiences are needed to complete the survey. We also used simplified language in the survey and avoided double-barrelled questions to increase the ability of participants to respond accurately to the survey. After the survey data was collected, Harman's single-factor test was used to detect issues of common method bias. Using SPSS 25, the maximum variance explained by any factor was 32.8 %. This value is below the critical threshold of 50 % (Podsakoff et al., 2003), indicating that data analysis could proceed without fear of errors due to common method bias.

4.2.Data analysis

The data collected was analysed using a combination of PLS-SEM and fsQCA. Management scientists are increasingly using this combined approach to overcome each method's limitations and improve the robustness of their findings (Pappas & Woodside, 2021; Rasoolimanesh et al., 2021). This paper uses PLS-SEM to test the causal relationships that explain the variance in purchase intention. We used PLS-SEM instead of covariance-based SEM (CB-SEM) because it is more suitable when the research objective is to predict behaviours like purchase intention using non-metric data (Hair Jr et al., 2017). However, it does not reveal the combinations of these factors that lead to high or low purchase intention. fsQCA helps us identify cases (combinations of factors) that answer this question of great importance to retail operations managers. Rasoolimanesh et al. (2021) proposed the three-stage procedural approach in this study. Stage 1 requires assessing the proposed research model using PLS-SEM. It involves assessing the model's measurement models, structural models, and predictive power. Stage 2 requires extracting the standardised PLS-SEM latent variable scores. Stage 3 requires performing fsQCA in four steps: (i) calibrating the latent variable scores for the independent variables, (ii) creating a truth table that includes all possible configurations, (iii) identifying relevant configurations, and (iv) validating the relevant configurations on subsamples of the

dataset. fsQCA 3.0 Windows⁴ was used for the fsQCA analysis. It was first used to calibrate the dataset with crossover points of 0.95, 0.05, and 0.5 for full-set membership, non-membership, and partial membership, respectively (Ragin et al., 2008). Quine-McCluskey's truth table algorithm was used to analyse different configurations of the variables to arrive at the solution sets for high and low purchase intentions (Ragin et al., 2008). Only configurations with at least 80% consistencies were retained (Ragin et al., 2008).

5 Results

5.1. Measurement model results

Estimating the PLS model paths shows that all item loadings were higher than 0.7, supporting their reliability (Leguina, 2015). All Cronbach's alpha, DG rho, and composite reliability values were above 0.7, and the average variance extracted values (AVE) were greater than the 0.5 thresholds. These results attest to the internal consistency and reliability of all the model's constructs (Leguina, 2015). Table 4 presents the measurement model results.

Table 4. Measurement model results

Measurement model results⁵	Item loadings
ASP: Social pricing (Baiman, 2001, 2002) ($\alpha = 0.889$, $\rho = 0.897$, $CR = 0.918$, $AVE = 0.693$)	
I want the product to be cheaper for people with lower incomes than me.	0.843
I would like the product to be more affordable for low-income households than for high-income households.	0.857
I would like the product to be more affordable for people who need it to survive.	0.832
I would like the product to be more affordable for people who need it for the welfare of their families.	0.887
I would like the product to be more affordable for people who consume it more than me.	0.736
ATB: Attitude towards the brand (Ko et al., 2005) ($\alpha = 0.940$, $\rho = 0.940$, $CR = 0.962$, $AVE = 0.893$)	
I find the brands advertised via social media live streams Bad/good.	0.939
I find the brands advertised via social media live streams Unpleasant/pleasant.	0.944
I find the brands advertised via social media live streams Unfavourable/favourable.	0.952
ATS: Attitude towards social media live streams (Taylor et al., 2011) ($\alpha = 0.865$, $\rho = 0.884$, $CR = 0.909$, $AVE = 0.714$)	
I like social media live streams that advertise products.	0.883
I like social media live streams created by the product or brand company.	0.886
I like social media live streams created by customers/fans of the product or brand.	0.720
I like social media live streams regarding a product or brand.	0.880

⁴ <https://www.socsci.uci.edu/~cragin/fsQCA/software.shtml>

⁵ Legend: α =Cronbach's alpha, ρ = DG rho, CR = composite reliability, AVE = average variance extracted.

HMI: Human-message interaction (Ko et al., 2005) ($\alpha = 0.785$, $\rho = 0.791$, $CR = 0.861$, $AVE = 0.609$)	
When participating in a social media live stream...	
I click on links shared by the host.	0.820
I stay longer for more details.	0.818
I use interactive features made available by the host (chat, voice, etc.).	0.760
I use a search engine to find more information on what the host says.	0.719
IC: Interaction control (Korgaonkar & Wolin, 1999) ($\alpha = 0.825$, $\rho = 0.824$, $CR = 0.896$, $AVE = 0.742$)	
I participate in social media live streams...	
Because I decide if I want to continue participating or not.	0.874
Because it gives me control over when I want to take part in them.	0.889
Because it is interactive.	0.819
INV: Invasiveness (Taylor et al., 2011) ($\alpha = 0.881$, $\rho = 0.897$, $CR = 0.913$, $AVE = 0.678$)	
I find ads shown on social media live streams distracting.	0.700
I find ads shown on social media live streams intrusive.	0.823
I find ads shown on social media live streams irritating.	0.845
I find ads shown on social media live streams invasive.	0.864
I find ads shown on social media live streams interfering.	0.872
PI: Purchase intention (Ko et al., 2005) ($\alpha = 0.927$, $\rho = 0.932$, $CR = 0.953$, $AVE = 0.872$)	
How likely are you to purchase the product/services discussed in the social media live stream?	
Unlikely/likely.	0.947
Improbable/probable.	0.953
Impossible/possible.	0.902
PV: Purposive value (Dholakia et al., 2004) ($\alpha = 0.890$, $\rho = 0.893$, $CR = 0.912$, $AVE = 0.566$)	
I participate in social media live streams...	
To get information.	0.730
To learn how to do things.	0.759
To provide others with information.	0.807
To contribute to a pool of information.	0.806
To generate ideas.	0.768
To negotiate or bargain.	0.704
To get someone to do something for me.	0.739
To solve problems.	0.701
SBC: Self-brand congruity (Taylor et al., 2011) ($\alpha = 0.906$, $\rho = 0.908$, $CR = 0.934$, $AVE = 0.781$)	
The brands advertised through social media live streams are consistent with how I see myself.	0.872
The brands advertised through social media live streams cater to people like me.	0.896
The brands advertised through social media live streams reflect who I am.	0.886
The typical customers of brands advertised through social media live streams are like me.	0.880
Note: α = Cronbach's alpha, ρ = rho A, CR = composite reliability, AVE = average variance extracted.	

The Fornell-Larcker criterion was used to establish discriminant validity (Henseler et al., 2015; Leguina, 2015). According to this criterion, the square root of the AVE of each latent variable should be greater than the correlation values among the latent variables, which is the case in this study, as shown in [Table 5](#).

Table 5. Discriminant validity using the Fornell-Larcker criterion⁶

	ASP	ATB	ATS	HMI	IC	INV	PI	PV	SBC
ASP	<i>0.833</i>								
ATB	0.208	<i>0.945</i>							
ATS	0.227	0.591	<i>0.845</i>						
HMI	0.263	0.385	0.496	<i>0.781</i>					
IC	0.280	0.349	0.470	0.512	<i>0.861</i>				
INV	-0.136	-0.348	-0.323	-0.289	-0.292	<i>0.823</i>			
PI	0.174	0.625	0.516	0.444	0.312	-0.290	<i>0.934</i>		
PV	0.242	0.432	0.581	0.557	0.492	-0.220	0.449	<i>0.753</i>	
SBC	0.205	0.407	0.579	0.473	0.494	-0.286	0.419	0.562	<i>0.883</i>

Note: ASP stands for Social Pricing, ATB for Attitude towards the brand, ATS for Attitude towards social media live streams, HMI for Human-message interaction, IC for Interaction control, INV for Invasiveness, PI for Purchase intention, PV for Purposive value, and SBC for Self-brand congruity. The square roots of AVE of each variable are on the diagonal of this matrix (in italic).

5.2. Structural model results

The structural model was assessed based on the significance of path coefficients and the endogenous constructs' R^2 values (Hair et al., 2019; Leguina, 2015). The model's predictive power was assessed using the PLS predict procedure with ten folds and ten repetitions (Shmueli et al., 2019). The structural model's path coefficients range between absolute values of 0.071 and 0.522, and they are all significant ($p < 0.05$) based on the bootstrapping results of 10,000 subsamples, thus supporting all hypothesised relationships. Purchase intention has an R^2 of 0.424, indicating that the model explains 42.4% of the variance in purchase intention during SMLSs. This variance explained is satisfactory considering the model's complexity (Rasoolimanesh et al., 2021; Shmueli et al., 2019). [Table 6](#) and [Figure 2](#) present a summary of the structural model results.

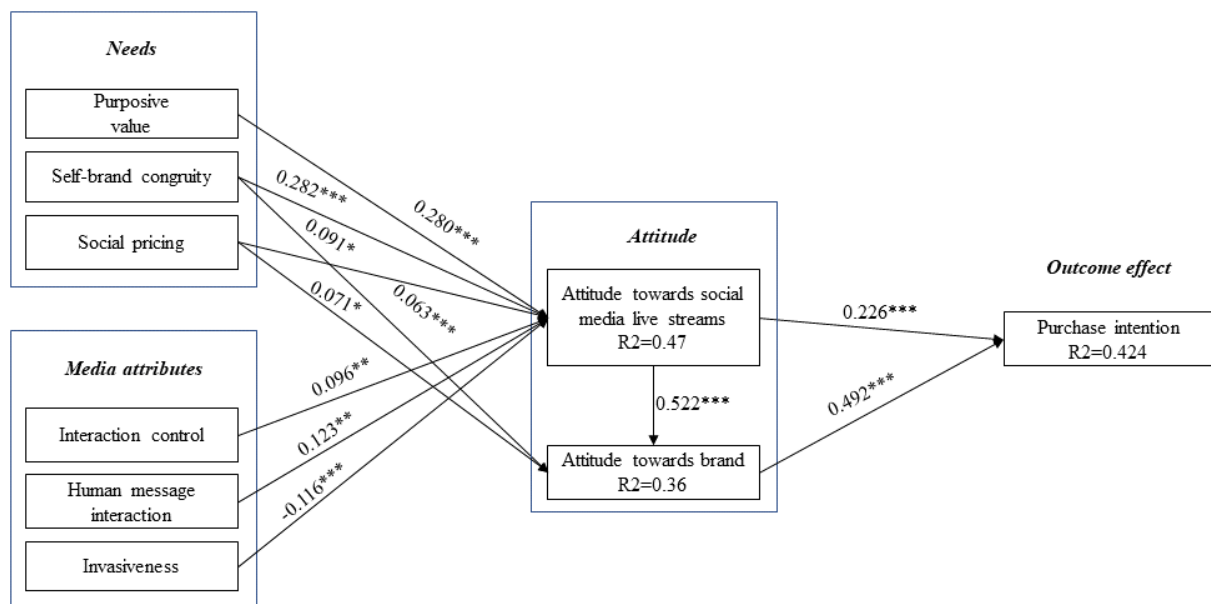
Table 6. Path coefficients and their significance

Hypothesis	Path coefficients (β)	Significance (p-value)	Hypothesis supported?
H1: PV \rightarrow ATS	0.28	0.000	Yes
H2a: SBC \rightarrow ATS	0.282	0.000	Yes
H2b: SBC \rightarrow ATB	0.091	0.023	Yes

⁶ Correlation matrix with square root of AVEs on the leading diagonal.

H3a: ASP -> ATS	0.063	0.000	Yes
H3b: ASP -> ATB	0.071	0.020	Yes
H4: IC -> ATS	0.096	0.008	Yes
H5: HMI -> ATS	0.123	0.002	Yes
H6: INV -> ATS	-0.116	0.000	Yes
H7a: ATS -> PI	0.226	0.000	Yes
H7b: ATS -> ATB	0.522	0.000	Yes
H8: ATB -> PI	0.492	0.000	Yes

Note: ASP stands for Social Pricing, ATB for Attitude towards the brand, ATS for Attitude towards social media live streams, HMI for Human-message interaction, IC for Interaction control, INV for Invasiveness, PI for Purchase intention, PV for Purposive value, and SBC for Self-brand congruity.



* denotes $p < 0.05$; ** denotes $p < 0.01$; and *** denotes $p < 0.001$

Figure 2. Structural model results

Mediation analyses also reveal that *attitude towards social media live streams* and *attitude towards the brand* mediate the relationship between the independent variables and purchase intention. The mediations are presented in Table 7.

Table 7. Mediation effects and their significance

Mediation effects	Path coefficients	P values
IC -> ATS -> ATB	0.05	0.009
ATS -> ATB -> PI	0.257	0
IC -> ATS -> ATB -> PI	0.025	0.01
PV -> ATS -> ATB -> PI	0.072	0
HMI -> ATS -> ATB	0.065	0.003
SBC -> ATS -> ATB -> PI	0.073	0
PV -> ATS -> PI	0.063	0

SBC -> ATS -> PI	0.064	0
HMI -> ATS -> ATB -> PI	0.032	0.004
SBC -> ATB -> PI	0.045	0.026
ASP -> ATB -> PI	0.035	0.021
INV -> ATS -> PI	-0.026	0.001
INV -> ATS -> ATB -> PI	-0.03	0
PV -> ATS -> ATB	0.146	0
INV -> ATS -> ATB	-0.061	0
SBC -> ATS -> ATB	0.148	0
IC -> ATS -> PI	0.022	0.015
HMI -> ATS -> PI	0.028	0.006
Note: ASP stands for Social Pricing, ATB for Attitude towards the brand, ATS for Attitude towards social media live streams, HMI for Human-message interaction, IC for Interaction control, INV for Invasiveness, PI for Purchase intention, PV for Purposive value, and SBC for Self-brand congruity.		

Q^2_{predict} values from the PLS_{predict} analysis are all above zero for all items of the dependent variables. Furthermore, the root mean square error (RMSE) values for all the dependent variables are lower for PLS-SEM than for the linear model. These results indicate that the PLS path model acceptably predicts purchase intention, attitude towards SMLSs and brand attitude (Table 8).

Table 8. Results of predictive power assessment using PLS_{predict}

Items	Q^2_{predict}	RMSE	
		PLS-SEM model	Linear model
ATB2	0.224	1.295	1.296
ATB3	0.234	1.316	1.318
ATB1	0.226	1.26	1.268
ATS4	0.343	1.15	1.153
ATS2	0.391	1.27	1.285
ATS3	0.224	1.256	1.261
ATS1	0.349	1.37	1.373
PI1	0.245	1.499	1.524
PI2	0.237	1.436	1.462
PI3	0.173	1.411	1.429
Note: RMSE stands for root mean square error.			

5.3. FsQCA results

Table 9 presents the configurations with acceptable consistency (>0.8) and coverage (>0.2) levels (Rasoolimanesh et al., 2021) required to sufficiently explain high and low purchase intentions. The results highlight three configurations covering 69.6% of high purchase

intentions with 94.6% consistency. Meanwhile, it highlights three configurations that account for 59.2% of low purchase intentions with 79.4% consistency.

Table 9. Sufficient configurations of purchase intentions during social media live streams

Configurations	Solutions for high purchase intention Model: $PI = f(SBC, INV, ATS, PV, IC, HMI, ATB, ASP)$ <i>Frequency cut-off: 10</i>			Solutions for low purchase intention Model: $\sim PI = f(SBC, INV, ATS, PV, IC, HMI, ATB, ASP)$ <i>Frequency cut-off: 5</i>		
	1	2	3	1	2	3
Purposive value		•	•	•	○	○
Interaction control	•	•		•	○	•
Human-message interaction	•	•	•	•	•	○
Invasiveness	○		○		•	•
Self-brand congruity			•	•	○	○
Social pricing	•	•	•	•	•	•
Attitude towards social media live streams	•	•	•	•	○	•
Attitude towards the brand	•	•	•	○	•	•
Raw coverage	0.579	0.662	0.524	0.443	0.438	0.469
Unique coverage	0.023	0.106	0.010	0.072	0.040	0.049
Consistency	0.956	0.952	0.970	0.897	0.858	0.819
Solution coverage	0.696			0.592		
Solution consistency	0.946			0.794		
• Variable's presence in the solution	○ Variable's absence in the solution					
Note: ASP stands for Social Pricing, ATB for Attitude towards the brand, ATS for Attitude towards social media live streams, HMI for Human-message interaction, IC for Interaction control, INV for Invasiveness, PI for Purchase intention, PV for Purposive value, and SBC for Self-brand congruity.						

All three solutions indicate that human-message interaction and positive attitudes towards the brand, social pricing, and SMLSs are four factors that need to be present to obtain high purchase intention. However, other variables make the difference between the three solutions. Solution 1 represents consumers who require interaction control and the absence of invasiveness during the SMLS to have high purchase intentions. Such consumers are insensitive to purposive value and self-brand congruity. Solution 2 represents consumers who require the presence of purposive value and interaction control in addition to the four common factors to achieve high purchase intentions. Solution 3 represents consumers who require the absence of invasiveness and the presence of purposive value, self-brand congruity, and the four factors common to all solutions to achieve high purchase intention.

For low purchase intention, solution 1 highlights consumers who have low purchase intentions due to negative attitudes towards the brand, despite all other gratifications and positive attitudes towards SMLSs and social pricing. Solution 2 represents consumers with low purchase intentions due to a negative attitude towards SMLSs and the absence of purposive value, interaction control, and self-brand congruity. The presence of invasiveness also dissuades such

consumers. This low purchase intention scenario occurs despite human-message interaction and positive feelings towards social pricing and the brand. Solution 3 identifies consumers with low purchase intentions despite interaction control and positive feelings towards social pricing, SMLSs, and the brand. They are also negatively affected by the presence of invasiveness. The following section discusses these results and their implications for research and practice.

6 Discussion

This paper attempts to explain why consumers choose SMLSs over other online shopping channels, as SMLSs are becoming increasingly popular for online shopping activities. It is a timely study because e-tailers struggle to leverage this shopping channel to attract new customers, build relationships, and increase customer loyalty (Hu & Chaudhry, 2020; Zhang et al., 2020). We identify specific needs and media attributes that affect consumers' attitudes towards SMLSs and, eventually, their purchase intentions by leveraging the U&G theory. The PLS-SEM results confirm that consumers actively seek to participate in SMLSs to fulfil a specific informational or instrumental need. The purpose could be anything the consumers want, from obtaining more information on a particular product to purchasing it. The ability of SMLSs to meet such needs increases consumers' positive attitudes towards SMLSs. These results complement findings from a recent study showing that through attitude, purposive value influences the value cocreation behaviour of social media users (Zadeh et al., 2022).

Also, our result confirms that self-brand congruity positively affects attitudes toward SMLSs and the brand. This result is in line with the extant literature demonstrating that self-brand congruity positively affects attitudes towards social network advertising from a specific brand (Taylor et al., 2011). Furthermore, we show that social pricing strongly affects consumers' attitudes towards brands and SMLSs. Thus, our research tests and validates the positive effects of knitting social pricing strategies with SMLSs to enable consumers to benefit from differential prices based on their social capital (Gao et al., 2022; Pratono, 2018).

Regarding media attributes, our results prove that interaction control strongly affects consumers' attitudes towards SMLSs. This result is in line with the extant literature showing that consumers prefer social media platforms through which they can control their interactions with brands, especially regarding information sharing and unsolicited ads (Hajli & Lin, 2016; Hu & Wise, 2021). Also, we show that human-message interaction has a strong positive effect on attitudes towards SMLSs. This finding is in line with the extant literature showing that

human-message interaction improves attitudes towards social networking sites (Chang, 2018; Wei et al., 2015).

Furthermore, we show that invasiveness negatively affects consumers' attitudes towards SMLSs. This result complements prior research showing that consumers tend to abandon social media platforms that invade their space (Loiacono & McCoy, 2018). This invasion could be perceived through platforms that allow excessive unsolicited advertisements (Niu et al., 2021; Taylor et al., 2011). We also show that consumer attitudes towards SMLSs and a brand affect their purchase intentions during SMLSs. This finding aligns with previous studies showing that brand attitude is a strong determinant of purchase intention on social networking sites (Chu & Chen, 2019; Wang et al., 2019). It also complements studies suggesting that consumers' attitudes towards social media marketing strongly determine their purchase intentions (Motwani et al., 2014; Mukherjee & Banerjee, 2019).

6.1. Theoretical propositions for SMLS shopping

The fsQCA results reveal configurations that lead to high purchase intentions and three others leading to low purchase intentions regarding shopping with SMLSs. These configurations point to context-specific theoretical propositions suggesting boundary conditions for SMLS shopping by consumers based on their needs, attitudes, and media attributes.

6.1.1. Theoretical propositions leading to high purchase intentions

TPB and TRA highlight that attitude is a strong determinant of behavioural intention (Ajzen, 1991; Ajzen & Fishbein, 1972; Hill et al., 1977). These theories are once again verified in the SMLS shopping context as our findings show that positive attitudes towards SMLSs and the brand are necessary conditions for consumers to develop high purchase intentions during SMLS shopping, irrespective of the configuration. Social pricing is also essential for consumers to develop high purchase intentions during SMLS shopping, regardless of the configuration. It implies that consumers increasingly prefer platforms that enable people with different social profiles to enjoy preferential prices (Diakité et al., 2009; Gao H. et al., 2022). This pricing discrimination strategy has the potential to significantly increase online retailers' profits as it increases purchase frequency and order value per purchase (Gao H. et al., 2022).

In addition to the three common factors mentioned above, consumer groups choose SMLS shopping for its interactive features and are very sensitive to invasiveness. This behaviour can

be grounded in the literature highlighting that there are consumer groups that are generally more willing to use internet platforms that provide high interaction control features because it helps them to avoid the growing invasiveness on such platforms (Gironde & Korgaonkar, 2018; Ko et al., 2006; Niu et al., 2021). Such consumers tend to stick to the platforms that give them high human-message interaction capabilities (Wei et al., 2015). It is especially true for consumers with high information motivations since they seek instant information or responses to any questions they may have (Ko et al., 2005). Therefore, platforms that provide high human-message interactions tend to positively affect consumers' attitudes towards the platform and the brand, thus increasing their purchase intentions (Ko et al., 2005). Such consumers are more open to internet advertising (Ko et al., 2005). However, perceived invasiveness would negatively affect their acceptance of ads and increase their likelihood of complaints about the platform unless they help satisfy their information needs (Tran & Strutton, 2013). Nevertheless, high invasiveness tends to diminish attitudes towards ads on social media platforms (Jung et al., 2016). Based on this discussion, we make the proposition that:

Proposition 1. In SMLS shopping contexts, in addition to positive attitudes towards SMLSs, the brand and social pricing, the experience of human-message interaction and interaction control are sufficient conditions for high purchase intentions, provided consumers do not perceive invasiveness in the process.

Our findings reveal another group of consumers similar to the previous group, but less concerned about invasiveness. However, they expect to perceive the utility of the SMLS in terms of informational and instrumental value. Grounded in the extant literature, this consumer group expects to obtain complete information on products or services dynamically compared to what they would get from less interactive online shopping platforms (Cai et al., 2018). They expect to instantly gratify their need for reliable expert information and opinions on the products or services to support their purchase decisions (Hudders et al., 2021; Lee & Theokary, 2021; Ouvrein et al., 2021). They would also expect real-time demonstrations of how the products or services can be used and obtain live feedback from experienced users to make informed purchase decisions (Cai et al., 2018; Xu et al., 2020). Furthermore, consumers are more willing to pay for a product or service when they perceive information value from its ad with demonstrations regarding what they may gain from purchasing it (Yang K. et al., 2014). Thus, we make the theoretical proposition that:

Proposition 2. In SMLS shopping contexts, in addition to positive attitudes towards SMLSs, the brand and social pricing, the experience of human-message interaction, interaction control, and purposive value are sufficient conditions for high purchase intention.

Our results highlight a third consumer group similar to the first. However, this group cares less about interaction control and more about the purposive value of SMLS shopping and self-brand congruity. Grounded in the extant literature, these consumers' perceived purposive value is activated when they acquire new (versus outdated) information during the SMLS (Zhang J. & Lee, 2022). Suppose the new information they perceive is useful. In that case, it increases their intention to share and comment, thus increasing their interactivity with the message communicated and their engagement with the brand (Ko et al., 2005; Mar García-de los Salmones et al., 2021). It implies that consumers with high information motivations are likelier to engage in human-message interactions during SMLS shopping. It also means, as evidenced by previous research (Burton et al., 2016; Phua & Lim, 2019), that perceived information value significantly moderates the relationship between the information communicated and the consumers' attitudes toward the brand because it increases the brand appeal. This increase in brand appeal reinforces how consumers perceive their similarity with the advertised brand, contributing to their high purchase intentions (Jiménez-Castillo & Sánchez-Fernández, 2019). Thus, we make the theoretical proposition that:

Proposition 3. In SMLS shopping contexts, in addition to positive attitudes towards SMLSs, the brand and social pricing, the experience of self-brand congruence, human-message interaction, and purposive value are sufficient conditions for high purchase intention if consumers do not perceive invasiveness in the process.

6.1.2. Theoretical propositions leading to low purchase intentions

One configuration revealed by our fsQCA results highlights a very brand-sensitive consumer group. In this group, consumers have a negative attitude towards the brand presented during SMLSs despite their positive attitudes towards SMLSs. This condition remains valid for them even if the SMLS can eventually satisfy their needs and the SMLS platform has all the features they seek. This behaviour can be grounded in the growing literature showing that consumers are increasingly sensitive to brand image on social networking platforms. For these consumers, it is not about SMLSs or what they can bring to them but rather about the brand's image on social media. Brand communication on social media has become essential for building consumers' attitudes towards brands and enhancing their intentions to purchase products on

social media (Dwivedi & McDonald, 2020). Brands with a positive image and eWOM on social media tend to increase consumers' brand attitudes and willingness to purchase the brand (Chu & Chen, 2019). Meanwhile, negative communication or anti-branding of brands on such platforms negatively affects consumers' attitudes towards such brands or branded products and lowers their intentions to purchase them even if they like the brand (Awasthi & Mehta, 2022). The extant literature points out that Generation Z is the most likely candidate for this consumer group since they are the most active social media marketing consumers (Singh D. et al., 2022). Based on this discussion, we make the theoretical proposition that:

Proposition 4. In SMLS shopping contexts, a negative attitude towards the brand is sufficient for low purchase intention, all factors considered.

Our results reveal another consumer group with a negative attitude towards SMLS that does not perceive the value of SMLSs for online shopping. They find that the platforms are highly invasive with low interaction control, and they also experience the absence of self-brand congruity through this shopping channel. Grounded in live streaming literature, IT affordances regarding purposive value and interactivity positively correlate with consumers' purchase intentions in social commerce contexts (Sun et al., 2019). It implies that consumers in this group probably do not have much control over interactive features of SMLS platforms to provide them detailed descriptions or visual demonstrations of the products, their attributes, and their use during SMLSs, thus lacking in purposive value (Sun et al., 2019). This lack of perceived value and interaction control negatively affects their purchase intentions and reduces their ability to identify with the brand and its community (Chao et al., 2022; Rana & Arora, 2022). Also, they may have experienced in-stream advertising during SMLSs or somewhere on the SMLS platform during the live stream, which creates perceptions of intrusiveness during SMLS shopping, thus creating anger in consumers and reducing their purchase intentions (Freeman et al., 2022). This discussion leads us to propose that:

Proposition 5. In SMLS shopping contexts, invasiveness, a negative attitude towards SMLSs and the absence of self-brand congruity, interaction control, and purposive value are sufficient conditions for low purchase intention. This proposition is true even if the consumer has a positive attitude towards the brand and the SMLS offers high human-message interaction and social pricing opportunities.

One final consumer group was found that is very similar to the previous one. However, unlike the last group, they have a positive attitude towards SMLSs but are turned off by low human-

message interaction during SMLS shopping. The interactive qualities of SMLSs regarding human-message interactions are crucial determinants of purchase intentions during SMLS shopping (Zhang M. et al., 2021). Members of this group are concerned that SMLSs do not provide them with sufficient possibilities to comment on products, react to the streamers' feedback, share their opinions, share their experiences, and engage in discussions on the product advertised or sold. This absence of participant interaction takes away the immersive shopping experience and social presence they seek in SMLSs compared to other online shopping platforms (Ma X. et al., 2022; Sun et al., 2019). This discussion leads us to propose that:

Proposition 6. In SMLS shopping contexts, invasiveness, low purposive value, low human-message interaction, and low self-brand congruity are sufficient conditions for low purchase intention. This proposition stands true even if the consumer has interaction control over the platform and positive attitudes towards SMLSs, the brand and social pricing.

6.2. Implications for research

From a research standpoint, this study increases our understanding of how consumers' purchase intentions are affected during SMLSs. One of our key contributions is combining cause-effect relationships and factor configurations to develop a better understanding of consumer purchase intentions during SMLSs. Based on the U&G theory, this study provides empirical evidence that purchase intention is driven by need gratifications and media attributes that positively influence consumers' attitudes. This perspective opens researchers to a new way of understanding consumers' purchase intentions by associating their needs with the unique capabilities of SMLSs. On this basis, researchers could identify and categorise factors as needs and gratifications or media attributes when trying to understand consumers' behavioural outcomes like purchase intention. Rather than looking at congruence as a singular factor, as done in previous research, our research positions it as a consumer's attempt to satisfy their need for social identification. SMLSs provide more direct access to the presenter or brand community than other online shopping platforms, making the U&G relevant in explaining this factor. Similarly, our research identifies purposive value and social pricing as essential factors affecting consumers' purchase intentions during SMLS shopping. Also, our research points to media attributes that give consumers greater control over their privacy and interaction with the SMLS platform and messages. These factors can be understood as the underlying motivations for using SMLSs for online shopping activities before assessing their engagement, as done in the extant literature.

This study is evidence of the relevance of the U&G theory in understanding the factors that motivate consumers to actively seek SMLSs for e-commerce purposes and how it affects their purchase intentions. Therefore, it extends the list of relevant theoretical frameworks used to explain this phenomenon (Gao et al., 2021; Lu & Chen, 2021; Park & Lin, 2020; Zhang, Sun, et al., 2020). Researchers can continue leveraging the U&G theoretical model to understand SMLS users in e-commerce contexts. In retail operations management, satisfying customers' needs for instant gratification remains a significant challenge (Soysal et al., 2019; Stafford, 2003; Tang et al., 2021). This research identifies some gratifications customers actively seek when using SMLSs for e-commerce. Researchers could use the U&G theory to identify and conceptualise other gratifications that customers actively seek during SMLSs to help e-tailers provide more effective SMLSs and increase sales through this channel.

This study also contributes to research on social pricing in online retailing. Several studies have shown that online retailing platforms increasingly adopt social pricing practices (H. Gao et al., 2020; Guan et al., 2022; Marett et al., 2012). This paper further shows that social pricing positively affects brand attitudes and eventually leads to high purchase intentions. During our analysis, social pricing was present in all three configurations leading to high purchase intentions. These findings highlight the importance of social pricing strategies during SMLSs for e-commerce. They are also in line with current research showing that people are willing to pay more for products or services if they believe they are for a cause (Kim & Han, 2020). Therefore, this research paves the way for further research on the antecedents of social pricing and the configurations that lead to positive or negative attitudes towards pricing strategies during SMLS shopping. Such insights could lead to the development of mechanisms through which social pricing can be effectively integrated into sales processes during SMLSs to increase customers' purchase intentions. They could also help researchers develop optimised and personalised social pricing models for e-tailers.

Furthermore, this study identifies attitudes towards SMLSs and brands as two key determinants of purchase intention in e-commerce SMLSs. Thus, it complements the extant body of knowledge by adding these two factors to the list of determinants of purchase intention during SMLSs. It includes information quality, interaction quality of the SMLS platform and retailer (Zhang M. et al., 2020), customer engagement (Sun et al., 2020), and professionalism of the SMLS (Xu et al., 2021). Thus, our research contributes to a better understanding of the drivers of purchase intention during SMLSs in e-commerce contexts. The factors identified in this research explain 42.4% of the variance in purchase intention. It implies that more research is

needed to extend our research model to arrive at one with greater explanatory power for purchase intention. Finally, from a methodological standpoint, this research goes beyond simple descriptive, text, or correlation analysis that limited our understanding of the effects of SMLSs on consumers' purchase intentions (Sun et al., 2020). It combines PLS-SEM and fsQCA to provide deeper insights into this phenomenon, thus, creating incremental knowledge and solid foundations for future research.

6.2.Implications for practice

Based on our results, we provide several recommendations for brands seeking to leverage SMLSs as a new shopping channel. First, brands need to understand the needs of consumers attending their SMLSs to ensure they are gratified. This study identifies and validates the importance of satisfying consumers' purposive value, self-brand congruity, and social pricing needs. Brands seeking to leverage SMLSs for their retail activities must ensure that their SMLSs contain identifiable informational and instrumental benefits (purposive value) for consumers. Informational value can be achieved by allowing consumers to obtain and share relevant and complete information dynamically. Meanwhile, instrumental value can be achieved by using SMLSs as a platform through which consumers can learn how to use a product, generate ideas, solve problems, negotiate, and access services quickly. Also, brands using SMLSs for online shopping should leverage this platform to build a more substantial congruence with their customers (self-congruity). SMLSs create a unique opportunity, through live video interactions, to help brands demonstrate how similar they are to their followers. Thus, brands can capitalise on this channel to reinforce social identification with consumers, which would help improve their attitude towards the brand's SMLSs, hence their intentions to purchase the brand. Furthermore, consumers will develop positive attitudes toward a brand's SMLSs if it contains social pricing features, increasing their purchase intentions. It implies that brands should incorporate differential pricing strategies in their SMLSs based on differentiated income and consumption levels and social capital. It includes adopting personalised and participative pricing schemes and voluntary gifting opportunities through SMLSs.

Our study also highlights interaction control, human-message interaction, and invasiveness as essential determinants of consumers' attitudes towards SMLSs. Specifically, brands providing online shopping services through SMLSs should select platforms that give users control over the choice and manner of interacting with the brand. Our study reveals that YouTube, Instagram, Facebook (Meta), TikTok, and Twitch are among the most popular platforms brands

use for SMLSs. Thus, based on our results, these platforms most likely have features that give consumers control over the decision to be active or passive participants in SMLSs. Such control over interactions improves consumers' attitudes towards SMLSs, hence their purchase intentions.

Furthermore, brands should leverage their SMLSs to allow participants to choose what they would like to talk about and how they would like the information to be presented (human-message interaction). It includes the possibility to ask personal questions, get responses in real time, and interact directly with reactions from other participants to satisfy information needs instantly. This feature, which consumers cannot dynamically obtain from other online shopping platforms like websites, improves their attitudes towards SMLSs, hence their purchase intentions. Our results show that the presence of invasive features leads to low purchase intentions, while its absence favours high purchase intentions. Therefore, brands should avoid integrating any features into their SMLSs or using platforms that may seem invasive to consumers. It will generate negative attitudes towards SMLSs, negatively affecting their purchase intentions. As highlighted in previous sections, invasiveness nowadays is mainly related to unsolicited ads on social networking sites, which could eventually lead participants to abandon the platform. Therefore, brands should resist the temptation of making extra money through invasive features like ads during SMLSs, as this may reduce participants' purchase intentions.

Finally, we propose combinations of the factors investigated that lead to high and low purchase intentions. We recommend that brands consider these configurations when planning their SMLSs to increase the purchase intentions of participants and avoid combinations that lower purchase intentions. We show three configurations leading to high purchase intention. In each, media attributes are crucial. SMLSs that favour human-message interaction, social pricing, and are void of invasiveness are likely to lead to high purchase intentions. Conversely, we show three configurations that lead to low purchase intention. Based on them, e-tailers should know that a negative attitude toward brands leads to low purchase intentions. Consumers will also have low purchase intentions if they do not identify with the brand presented during a SMLS. Therefore, e-tailers should consider organising SMLSs based on brands so that they can satisfy targeted participants during each session.

6.3.Limitations and future research

Although our research discusses the role of SMLSs in online retail operations, it does not discuss the types of products or services that are best distributed through SMLS, nor does it explain how e-tailers can assess the contribution of these platforms to overall sales. Some consumers may attend SMLSs and not purchase products during the live stream. However, it may increase brand awareness for some consumers while inciting others to visit and buy products from the brand's website or physical store. Therefore, future research could measure the real impact of SMLSs on a brand through multiple dimensions like brand awareness, customer experience, and customer loyalty. Future research could also investigate an optimised way of mixing SMLSs with other shopping channels to obtain the best results. For example, researchers could explore the frequency of SMLSs needed for a certain number of physical stores per city to optimise the use of the stores or SMLSs for product fulfilment and customer experience. Finally, since this study adopts a global perspective, future research should investigate more context-specific variables that may affect consumers' purchase intentions when shopping through SMLSs.

7 Conclusions

This paper set out to explore the motivations behind why consumers increasingly actively seek SMLSs for their online shopping activities and how it affects their purchase intentions. Based on the U&G theory and our rigorous quantitative analyses (using PLS-SEM and fsQCA), we conclude that consumers are motivated by factors (purposive value, self-brand congruity, social pricing) and media attributes (interaction control, human-message interaction, invasiveness) that enable them to best satisfy their specific needs. In an omnichannel online shopping environment, these factors affect consumers' attitudes towards SMLSs and the brands that use them, affecting their intention to purchase the brands presented. We further reveal that it is essential to consider the combined effects of need satisfaction and media attributes to predict consumers' high and low purchase intentions. This study contributes to the research and practice of using SMLSs to attract potential buyers and improve conversion rates. It also proposes a new perspective relevant to identifying and clarifying user needs, gratifications, and media attributes that render SMLSs a preferential choice for online shopping activities. We hope this study will attract scholars in this emerging e-commerce domain.

Declaration of interests

None.

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