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Exploring Livestream Shopping Intentions for Eco-Friendly Products: The Roles of Green Self-Brand Connection, PU, and Green Information Credibility

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ABSTRACT

This study investigates the growing trend of livestream purchasing, with a focus on eco-friendly products. By examining perceived usefulness, green self-brand connection, green information credibility, and perceived ease of use, the research aims to uncover the drivers of consumer intentions to engage in livestream shopping for environmentally friendly items. The study collected data from 690 Chinese customers through a questionnaire and employed structural equation modeling for analysis. Results indicated that green self-brand connection significantly influenced perceived ease of use, perceived usefulness, and intentions to purchase eco-friendly products via livestream. Furthermore, green information credibility positively moderated relationships between perceived usefulness, green self-brand connection, and livestream shopping intentions for eco-friendly products, though it did not moderate the relationship between perceived ease of use and shopping intentions. The research contributes to the literature by uniquely combining green self-brand connection, perceived ease of use, perceived usefulness, green information credibility, and livestream shopping intentions within an eco-friendly product context. The introduction of green information credibility as a moderating variable offers new insights into its impact on the relationships between the other factors and livestream shopping intentions for sustainable products.

1. INTRODUCTION

As consumers' environmental awareness rises, so too does their propensity to purchase green products [1]. Factors such as environmental awareness [2], demographic characteristics [1], and product information [3] influence green purchasing behavior. Many brands have introduced green products, but consumers are not always familiar with these [4]. Green self-brand connection (GSBC) is an important factor influencing the purchase behaviour as consumers are likely to go for environmentally friendly products if the brand is linked with their self-identity [5]. However, in cases where this connection is weak, consumers may struggle to recognize the benefits of environmentally friendly products due to information irregularity. This information gap poses a significant challenge in identifying eco-friendly products, emphasizing the need to strengthen GSBCs to reduce information asymmetry (it is a state where one of the transacting parties in a given market or organization possesses more or better information than the other) and boost consumer engagement with intentions to buy eco-friendly products.

Livestreaming is a process of capturing and broadcasting in real-time to enhance sales for e-retailers [6]. When live streaming is incorporated in the e-shopping, the customers can view live demonstrations of the products as opposed to the text and pictures [7]. The audience of live shopping content increased by more than 40% in 2022 compared to 2021 [8]. The live-streaming e-commerce platform Taobao Live has 400 million users and achieved more than 200 billion yuan in gross merchandise value in 2019 [8]. Some of the companies now use live streaming to market green products. Streamers can create the bonding with the consumers by increasing the trust towards themselves and products that they endorse, increasing the credibility of the information transmitted and therefore decreasing the information asymmetry [9]. Through the course of live streaming, streamers create real-time communication that can enhance the audience's buying intentions of green products [3].

Although there has been a rising attention on livestream shopping and environmentalism, there is limited research that examines factors affecting consumers' willingness to buy environmentally friendly products through livestreaming channels. The research on livestream shopping has been focused on consumers' attitudes, influences and the effects of e-service quality on customer buying behaviour [10]. Nevertheless, the influence of psychological factors (perceived usefulness (PU), perceived ease of use (PEU) and GSBC) on purchase intentions of eco-friendly products in the livestream environment has not been much studied.

One of the key gaps is the integration of GSBC into the live stream shopping framework. GSBC is the emotional bond consumers have to a brand in terms of its alignment with their environmental values [11]. Although GSBC is shown to have an impact on brand loyalty and purchase intention [12], the

concept of GSBC has not been developed extensively in the context of sustainable consumption and the livestream shopping environment. Given the increasing number of eco-conscious consumers, that gap is all the more important. As such, examining how GSBC affects consumer behavior in the livestream shopping context, especially for eco-friendly products, is an understudied area.

Furthermore, we lack an understanding of how green information credibility influences consumers' attitudes and behaviors toward eco-friendly products in the livestream shopping setting. The trustworthiness of the environmental claims made by brands or livestream presenters is called green information credibility. Previous studies have shown that if consumers believe the environmental claims, they are more likely to adopt green products [13]. Nevertheless, little research exists on how green information credibility moderates relations between GSBC, PU, PEU, and livestream purchase intentions. In particular, trust in the information shared during livestream shopping is particularly important given the largely less formal nature of the livestream sessions in comparison to traditional marketing channels and their reliance on real-time interactions between the streamer and an audience.

Hence, the aim of this study is to investigate factors influencing livestream purchasing intentions for eco-friendly products among Chinese customers, focusing on GSBC, PU, and PEU. The study also explores whether green information credibility moderates these relationships. We set out to answer three research questions:

RQ1: Does GSBC positively influence PEU, PU, and livestream purchase intentions for eco-friendly products?

RQ2: Do PEU and PU impact customer intentions to purchase eco-friendly products?

RQ3: Does green information credibility moderate relationships between GSBC, PEU, PU, and livestream purchase intentions for eco-friendly products?

In this work, we have the following main contributions. First, our model that incorporates PU, GSBC, green information credibility, PEU, and livestream shopping intentions for eco-friendly products provides a novel approach to an emerging e-commerce practice. Second, we examine the moderating effect of green information credibility and extend the understanding of how it moderates the effects of PU, GSBC, and PEU on livestream shopping intentions. Third, we enrich the literature on consumer behavior in eco-friendly product marketing by investigating these factors in the context of livestream shopping, which has not been explored before.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Green self-brand connection and perceived usefulness

According to Bhattacharjee and Sanford [14], PU facilitates the efficient use of technological platforms. Xin et al. [15] articulate that PU captures how viewers feel about the accessibility of shopping platforms and the seamlessness of the purchasing experience. Self-brand connection promotes trust and faith in the business and its products and services [16]. Green brands aim to align with consumers' environmental identities and altruistic values, fostering strong self-brand connections. Those with strong self-brand connections may find livestream purchasing platforms more useful as they already have favorable opinions of the brand and its products (refer to Figure 1) [6]. Based on this argument, we postulate the following hypothesis:

H1. GSBC has a positive influence on PU.

2.2 Green self-brand connection and perceived ease of use

The literature review reveals that when consumers have a brand attitude that relates to self-identity, they are inclined to have a positive attitude towards the product line associated with that brand [12]. For instance, GSBC may improve consumers' perceptions of the convenience of using products, services or platforms related to environmentally friendly brands. In particular, if a brand creates a positive self-brand connection that is linked to sustainable practices and environmental responsibility by supporting eco-friendly campaigns, there is no psychological resistance regarding the adoption or usage of a product, which increases PEU [17].

In addition, research on consumer perceptions of eco-friendly products confirms that brands that promote sustainability tend to simplify user experience through intuitive design and accessibility of environmentally friendly options [18]. Consumers may also feel more trust in the brand's usability and effectiveness if they have an emotional connection with these brands. According to TAM [19], users' emotional engagement with the product can affect their PEU. Similarly, a positive GSBC could actually enhance PEU by creating a seamless and satisfying experience.

H2. GSBC has a positive influence on PEU.

2.3 Green self-brand connection and livestream shopping intentions for eco-friendly products

According to Khodabandeh and Lindh [20], consumers are more likely to buy from brands that have meaning for them than from those that do not. Tan et al. [21] found that a stronger self-brand connection resulted in increased brand engagement. The concept of GSBC can influence consumers' intentions to participate in livestream shopping for eco-friendly products. Consumers who perceive a brand as a green brand are more likely to buy eco-friendly products. This connection fosters alignment between consumers' green identity and brands' sustainability efforts [22], leading to higher engagement and a greater likelihood of purchasing during livestream events. Thus, we make the following hypothesis:

H3. GSBC has a positive influence on livestream shopping intentions for eco-friendly products.

2.4 Perceived usefulness and livestream shopping intention for eco-friendly products

Livestreaming helps consumers make purchasing decisions [23]. During livestream shopping sessions, broadcasters can showcase items in real-time. These displays provide greater flexibility in the buying experience and assist in a better understanding of product elements [24]. The interactive nature of livestream shopping allows consumers to gain immediate insights about the eco-friendly attributes of products, ask questions, and receive real-time responses from sellers or brand representatives. Cai et al. [25] found that the opportunity to interact with hosts and participate in live conversations is appreciated by consumers and increases the desire to engage in livestreaming. Thus, we propose:

H4. PU has a positive influence on livestream shopping intention for eco-friendly products.

2.5 Perceived ease of use and livestream shopping intention for eco-friendly products

When it comes to livestream purchasing, customers prefer simple and intuitive systems [26]. Using the technology acceptance model (TAM), Davis [19] highlights the significance of PEU in consumer intentions to use technology. PEU in livestream shopping reduces cognitive strain for viewers [7]. For eco-friendly products, where consumers often seek detailed information and reassurance about environmental benefits, a user-friendly platform can enhance confidence and willingness to complete purchases during livestream events. Consequently, the PEU of the platform is likely to positively influence intentions to buy. Prompt customer service and support increase trust and satisfaction, strengthening intentions to participate in livestreaming purchasing [27]. Thus, we propose:

H5. PEU has a positive influence on livestream shopping intention for eco-friendly products.

2.6 The moderating role of green information credibility

Credibility plays a vital role in communication-persuasion dynamics and in fostering strong relationships between stores and consumers [28]. Consistent eco-friendly practices can develop a store's reputation for environmental commitment [29]. The significance of green information credibility arises from consumer skepticism toward green claims, which can lead to uncertainty and perceived risks, impeding consumer decision-making [30]. Information perceived to be credible is considered more legitimate, useful and acceptable and results in increased consumer confidence in the product or brand as well as in its claims [31].

In the green brands context, information, together with highly credible eco-labels may have a greater impact on green brand credibility than less credible eco labels [28]. If consumers perceive green information as credible, it validates ease of use and reduces perceived risks of purchase, increasing the probability of purchase. For livestream shopping of eco-friendly products, PU depends on the availability of detailed, reliable information that aids consumers in decision-making [32]. Green information credibility is paramount, as it strengthens PU by assuring consumers that the environmental claims made during a livestream are accurate and trustworthy. Therefore, we hypothesize:

H6. Green information credibility positively moderates the relationship between GSBC and livestream purchase intentions for eco-friendly products.

H7. Green information credibility positively moderates the relationship between PU and livestream purchase intentions for eco-friendly products.

H8. Green information credibility positively moderates the relationship between PEU and livestream purchase intentions for eco-friendly products.

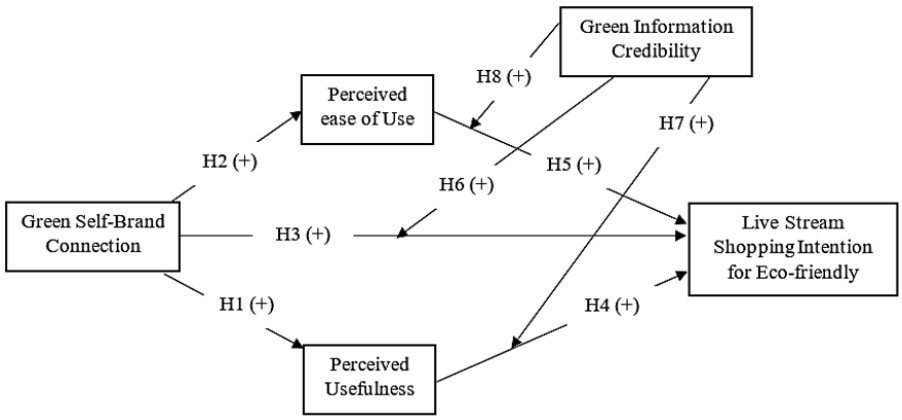

Figure 1. Proposed research model

3. METHOD

3.1 Sampling and data collection

For the validation of our conceptual model, we used an online survey. The sample included consumers who had made purchases during live streaming. There are many live streaming shopping applications in China and some of them are Taobao, JD, Douyin, Kuaishou, and Pinduoduo. Taobao is a C2C platform, which belongs to Alibaba and is famous for its extensive product range, including environmentally friendly items, and for its live streaming service that enables sellers and consumers to communicate in real time. JD.com is a B2C platform, which offers high-quality products and quick delivery, and the JD Live service, which is a livestreaming service, advertises products, including environmentally friendly products. Douyin is the Chinese equivalent of TikTok and it is a short-video sharing social media application that has successfully adopted e-commerce and hence can be used to promote green products through live streaming sales by influencers. Another short-video app Kuaishou has also emerged as popular by promoting real content from the community and incorporating the commerce element where users can purchase environmentally friendly products during live streams. Pinduoduo is a social commerce platform where consumers can join together to purchase environmentally friendly products at lower prices, using group purchasing and game elements. All these platforms are useful in promoting green product sales in China through the integration of social media and live streaming shopping to enhance consumer conveniences.

The survey was organized into three sections. The first asked respondents about their experience with livestreaming, including how often they watched and purchased. Screening questions were posed here to filter respondents. These included inquiries about whether the respondents had made any purchases or viewed livestreaming in the previous two months: 1) Have you watched any livestream shopping events

in the past two months? And 2) Have you made any purchases during livestream shopping events in the past two months? Only those who responded 'Yes' were asked to proceed. Formal measurement items comprised the second section, while demographic information constituted the third.

The primary target group for the study was Chinese online consumers. The survey was, therefore, written in Chinese. All latent variables were assessed based on published papers and were translated as well as checked by two marketing experts using the back translation technique. The questionnaire was sent to a random sample of 1,612 internet users using the WenJuanXing sample services. Participants who completed the survey were rewarded 3 RMB. From 1612, 412 were excluded based on screening. The mean age of excluded respondents was 44.3, and majority respondents were males (i.e. 62%). While 491 did not responded. Rest, 709 respondents completed surveys, giving a 43.93% response rate. We eliminated those who finished the questionnaire in less than 120 seconds, leaving 690 valid responses for our final sample.

Table 1 displays the characteristics of our dataset. There were 265 women (38.4%) and 425 men (61.6%). The majority were young adults aged 18 to 30, and all had experience using many livestream purchasing platforms. The majority shopped via livestream between one and six times a month. Approximately 73% spent 1–3 hours per week on livestream shopping (see Table 1).

Table 1. Sample characteristics

Participant Characteristics	Frequency	Percentage
Gender		
Male	425	61.59
Female	265	38.41
Age		
18-22	64	9.28
23-27	415	60.14
28-30	211	30.58
Livestream shopping platforms utilized		
Taobao	210	30.43
JD	72	10.43
Douyin	259	37.54
Pinduoduo	89	12.90
Kuaishou	60	8.70
The frequency of livestream shopping every month		
1-3 times	315	45.65
4-6 times	293	42.46
7-9 times	67	9.71
More than 9 times	15	2.17
The amount of time spent livestream shopping every week		
Less than 1 h	27	3.91
1-3 h	509	73.77
4-6 h	94	13.62
7-9 h	45	6.52
More than 9 h	15	2.17

3.2 Measurements

Questionnaire items were adapted from previous research. We adjusted item meaning in line with livestream shopping intentions for eco-friendly products. A six-item scale was used to assess GSBC, adapted from Li et al. [33]. A four-item scale was used to measure green information credibility, adapted from Erkan and Evans [34]. Our PU scale consisted of four items and the PEU scale had four items, both adapted from Xie et al. [35]. A three-item livestream shopping intentions for eco-friendly products scale was adapted from previous literature [36].

4. RESULTS

4.1 Measurement model validation

Several significant relationships were found in the correlation analysis (Table 2). Construct validity was assessed by using the square root of AVE. Since the square root of the AVE was larger than the correlation of the construct with other variables, the results suggest construct validity. AVE values by MSV values for all factors can be used to determine the discriminant validity. Discriminant validity is confirmed if AVE is greater than MSV [37]. As shown in Table 3, all of the variables had composite reliability (CR) values greater than 0.70 [38]. A convergent validity test was then conducted using AVE and item loadings to examine the link between these items [39]. The results showed that all variables' AVE values were over 0.5, which means that the variables were above the criteria and had 50% variation. The results are displayed in Table 3.

4.2 Reliability analysis

In this study, the internal consistency reliability was determined by using Cronbach's alpha (CA). The findings indicate that CA for each of the constructs is greater than 0.7 which is an acceptable level of reliability. Furthermore, composite reliability (CR) was also calculated to check the internal consistency of all items in each construct and it was observed that it is greater than 0.70 [38]. Further elaboration of these analyses is presented in Table 3.

4.3 Common method variance

Several approaches were used to evaluate common method variance (CMV). A pilot study was carried out to evaluate the instruments' applicability [40]. The impact of CMV was assessed using Harman's single-factor test, which proposes that CMV exists if one component explains at least 50% of the overall variation [40]. The main significant component explained 39.89% of the variation, which is less than the 50% criterion, indicating CMV was not present. Additionally, we used Bagozzi et al.'s [41] test of relationships between latent variables. Correlations were all below .90, indicating no CMV.

4.4 Multicollinearity

A regression was conducted to assess multicollinearity and determine variance inflation factor (VIF) values. The VIF value should not be more than 0.5 [42]. Our model did not exhibit multicollinearity as the scores of VIF and threshold were within each variable's recommended ranges.

4.5 Predictive power of model (Q2)

The analysis of our structural model was done using the Stone and Geisser test in SmartPLS. The predictive validity of the conceptual model depends on the Q2 value being positive. All the dependent variables in our path model had Q2 values greater than zero and this means that the path model is valid (see Table 4).

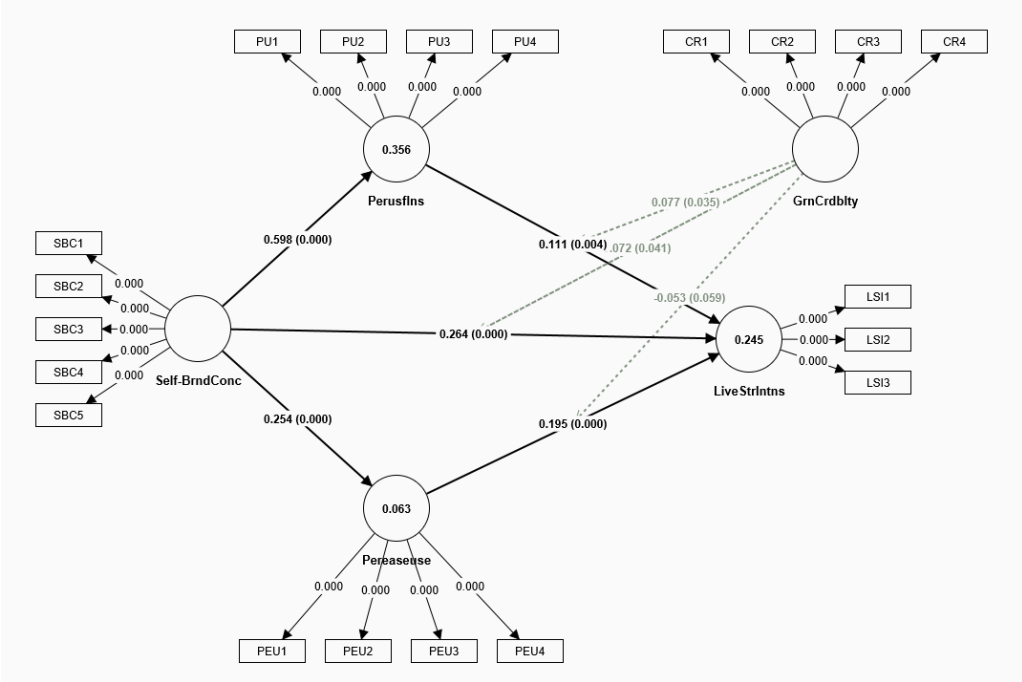

Figure 2. Structural model

Table 2. Discriminant validity (HTMT ratios)

Constructs	1	2	3	4	5	6	7	8
GIC								
Livestream shopping intention	0.259							
PEU	0.383	0.422						
PUS	0.172	0.484	0.385					
GSBC	0.137	0.529	0.319	0.748				
GIC x PUS	0.058	0.194	0.075	0.090	0.163			
GIC x PEU	0.174	0.109	0.467	0.078	0.034	0.275		
GIC x GSBC	0.041	0.142	0.044	0.164	0.016	0.659	0.230	

4.6 Structural model and hypothesis tests

In Figure 2, the R2 value was determined to be .253 which is considered moderate since it is above the recommended level. In addition, the model was examined by covariance-based regression analysis and the SEM algorithm. The findings showed high linearity in all the links as depicted by the high F-value. Furthermore, several fitness tests were performed and the results of these tests (e.g., chi-square = 921.211, NFI = 0.851, CFI = 0.91, RMSEA = 0.042, SRMR = 0.058) have been found to be appropriate for the current data (as seen in Table 5).

For the structural model, bootstrapping was set to a .05 significance level using a one-tailed test and 5,000 subsamples. Results revealed that GSBC had a positive and significant relationship with PUS (H1–β = 0.598, t > 2, p < 0.01), PEU (H2–β = 0.254, t > 2, p < .01) and livestream shopping intentions for eco-friendly products H3–β = 0.264, t > 2, p < .01). Results supported H1, H2 and H3. These findings suggest that a strong emotional connection with a green brand enhances consumers' perception of its usefulness and ease of use, and their intention to engage in eco-friendly livestream shopping. Moreover, PUS (H4–β = 0.111, t > 2, p < .01) and PEU (H5–β = 0.195, t > 2, p < .01) showed a significant positive relationship with livestream shopping intentions for eco-friendly products. These results supported hypotheses H4 and H5. These results underscore the importance of both the PU and ease of use in driving consumer intentions to shop eco-friendly products through livestreaming. Moreover, the moderating role of GIC was also significant and positive on GSBC (H6–β = 0.072, p = .041), PUS (H7–β = 0.077, p = .035), and livestream shopping intentions for eco-friendly products. However, we found no moderating relationship between GIC on PEU (H8–β = -0.053, p = .059) and livestream shopping intentions for eco-friendly products. These results supported H6 and H7, but not H8. Overall, when consumers feel a strong connection with a brand that aligns with their green values, the credibility of the information presented further amplifies intentions to purchase.

Table 3. Factor loadings, validity, and reliability of indicators

Constructs	Items	Loadings	α	*CR*	*AVE*
Livestream shopping intention	LSI1	0.843	0.714	0.727	0.637
	LSI2	0.733			
	LSI3	0.814			
PEU	PEU1	0.769	0.751	0.760	0.570
	PEU2	0.769			
	PEU3	0.754			
	PEU4	0.727			
PU	PUS1	0.795	0.772	0.774	0.594
	PUS2	0.760			
	PUS3	0.784			
	PUS4	0.744			
Green self-brand connection	GSBC1	0.777	0.754	0.860	0.672
	GSBC2	0.725			
	GSBC3	0.776			
	GSBC4	0.759			
	GSBC5	0.755			
Green information credibility	GIC1	0.928	0.773	0.854	0.596
	GIC2	0.922			
	GIC3	0.917			
	GIC4	0.921			

Table 4. Model fitness

Construct	SSO	SSE	(Q^2 = 1-SSE/SSO)
GIC	2760	2760	0.000
LiveStrIntns	2070	1747.716	0.156
PUS	2760	2663.826	0.035
PEU	2760	2185.485	0.208
GSBC	3450	3450	0.000

Table 5. Hypotheses testing

	Hypotheses	Beta	*SD*	*t*	*p*	Decision
H1	GSBC -> PUS	0.598	0.026	22.876	0.000	Accepted
H2	GSBC -> PEU	0.254	0.040	6.297	0.000	Accepted
H3	GSBC -> LiveStrIntns	0.264	0.042	6.290	0.000	Accepted
H4	PUS-> LiveStrIntns	0.111	0.042	2.661	0.004	Accepted
H5	PEU -> LiveStrIntns	0.195	0.039	4.968	0.000	Accepted
H6	GIC x GSBC -> LiveStrIntns	0.072	0.041	1.742	0.041	Accepted
H7	GIC x PUS -> LiveStrIntns	0.077	0.042	1.815	0.035	Accepted
H8	GIC x PEU -> LiveStrIntns	-0.053	0.034	1.567	0.059	Rejected

5. DISCUSSION

Livestream shopping is increasingly popular, but there is currently no comprehensive theory to explain consumer intentions to livestream shop for eco-friendly products. We thus tested a theoretically integrated model to explore how GSBC, PU, and PEU influenced livestream shopping intentions for eco-friendly products. We also explored the moderation role of green information credibility on the link between GSBC, PU, PEU, and livestream shopping intentions for eco-friendly products.

Our findings showed that GSBC had a positive influence on PU, PEU, and livestream shopping intentions for eco-friendly products. The findings are comparable with prior literature, suggesting that when people feel emotionally connected to a brand, they are more likely to feel positive about it, which translates into a better shopping experience. Livestream buying platforms may be beneficial to those who have strong self-brand relationships as they already have positive perceptions of the brand and its offerings [6]. Customers' pleasure with the online buying experience strengthens their bond with the brand [35]. Fournier [43] found that brand-loyal consumers were more likely to keep buying from the company and recommend it to others. These findings suggest that when consumers feel a strong emotional connection with a green brand, they are more likely to perceive its products and associated technologies as useful and easy to use.

The results reveal that GSBC is positively associated with livestream shopping intention for eco-friendly products. This finding concurs with Tan et al.'s [21] research, which indicated that a stronger sense of self-brand connection resulted in increased brand identification and engagement. Strong brand connections make consumers more likely to purchase products featured during livestream shopping sessions because they see the brand as consistent with their values [21]. GSBC's effect on livestream purchase intentions highlights the role of emotional brand connections in driving consumer behavior in digital environments. Consumers with strong GSBC are more likely to perceive a brand's products as useful and easy to use and more likely to engage with the brand through livestreams.

The findings suggest that PU and PEU have strong associations with livestream shopping intention. Chauhan et al. [44] concluded that clear, understandable online shopping sites, which require minimal mental effort to make a purchase, are more appealing to potential customers than more complex ones for eco-friendly products. The ease of use of these platforms is a key factor in driving the success of virtual stores specializing in eco-friendly offerings [45]. The findings confirmed all paths in the TAM, revealing that PU and PEU were strong predictors of intentions to purchase eco-friendly products in livestream sessions. The impression of ease of use among customers is favorably influenced by platforms that have simple navigation menus, intuitive design, and quick transaction procedures. Additionally, platforms that provide prompt customer support boost user trust and satisfaction, which in turn strengthens user intentions to purchase [27].

Results indicated that green information credibility positively moderated the relationship between GSBC and livestream purchase intentions for eco-friendly products. When consumers feel a strong connection with a brand that aligns with their green values, the credibility of the information presented further amplifies intentions to purchase. These results are consistent with previous findings [46]. This highlights the synergistic effect of GSBC and green information credibility, where a deep personal connection to a green brand is bolstered by credible information, leading to stronger purchase intentions for eco-friendly products.

Moreover, results showed that green information credibility positively moderated the relationship between PU and livestream purchase intentions for eco-friendly products. This finding supports the idea that green information credibility acts as a trust-building mechanism, which enhances the usefulness consumers associate with a green product. Since several studies have found that consumers are more likely to consider environmentally sustainable products to be helpful when they believe that brands' claims are genuine and trustworthy, it is therefore important for brands to be clear about their claims and to back them up. [28, 30].

By ensuring that the green information provided is credible, brands can increase consumers' confidence in the product's effectiveness, which in turn enhances their perception of the product's usefulness. This aligns with the notion that consumers rely heavily on the credibility of external information to make informed decisions, especially when it comes to products that involve a higher degree of environmental responsibility [28].

The link between PEU and livestream shopping intention for eco-friendly products is not moderated by green information credibility. Research on credibility of green information has shown that it is a crucial component influencing consumer behavior in the domain of sustainable consumption. A number of studies have shown that when consumers believe in environmental claims made by brands, the consumers perceive the brand's offerings as credible, and will be more likely to engage in pro-environmental behavior [29]. Based on the assumption that credible green information would reduce consumer scepticism and increase their willingness to purchase eco-friendly products, it was expected that green information credibility would strengthen the positive influence of PEU on purchase intentions. However, the results of this study do not support this expectation and indicate that green information credibility may not moderate the PEU-intentions relationship as expected.

One possible explanation for this finding is that PEU itself may already be a sufficiently strong driver of purchase intentions, regardless of the credibility of the green information. According to the TAM, PEU is a primary determinant of consumers' intention to use technology or

products, especially in digital environments like livestream shopping [19]. If the process of purchasing eco-friendly products is perceived as easy and hassle-free, consumers might be less influenced by external factors, such as the credibility of the green information, when deciding to make a purchase

5.1 Theoretical implications

Several theoretical contributions are made by this study. First, it extends the understanding of the TAM in the context of livestream shopping intentions for eco-friendly products by adopting concepts of GSBC and green information credibility. TAM has conventionally centred on how PU and PEU affect technology adoption, but this study extends its applicability to the nascent area of sustainable consumption and livestream shopping by exploring these constructs. The study shows how GSBC impacts PU, PEU and livestream purchase intentions and how emotional brand connections influence consumer behavior in digital environments, especially for eco-friendly products.

Second, the results provide new insights into how credibility perceptions can enhance or diminish the effectiveness of traditional TAM antecedents in driving purchase intentions. The results indicate that the relationship between PEU and livestream purchase intentions is moderated by green information credibility, supporting that credibility is important in the sustainable consumption context. This advances the theoretical understanding of how consumer perceptions of technology and brand connection affect the relationship of information credibility and purchase decisions.

Third, the study extends the literature on self-brand connection and sustainability by empirically establishing the positive effect of GSBC on the purchase intention for eco-friendly products in livestreaming. By integrating GSBC in framework like TAM, a full picture is offered on the way emotional and cognitive factors jointly affect consumer behavior for sustainable consumption.

5.2 Managerial implications

This paper has important implications for managers and marketers working in the e-commerce and sustainability sectors, particularly those operating in the livestream shopping platform and environmentally friendly products sectors. The high impact of GSBC on livestream purchase intention suggests that it is necessary to build up the affective relationship between consumers and green brands. Managers should concentrate on the development of relationships by matching brand values with the values of green consumers. This can be realised through advertising that promotes brands' stewardship, green products and social corporate responsibilities. The following research question can be developed based on the above discussion: How can the organisation cultivate stories and narratives that are aligned to the consumers' environmental attitudes in order to foster brand identification that results in increased purchase intentions? Managers should focus on creating effective and easy-to-navigate live shopping apps and sites. This includes easy-to-use navigation, fast and efficient transaction processes, and real-time interactions with hosts through which consumers can ask questions. Strengthening the visibility of the green attributes of products on platforms can also improve PU and hence the willingness to buy among consumers.

The result of the study also indicates that credible information can enhance the effect of PEU and self-brand connection on purchase intentions. The information that was presented in the livestream sessions should be credible and reliable, and the positive impacts of the products to the environment should be stated to the managers. This can be done through having hosts who are experts in the field, offering certificates or approvals, and openly presenting the sustainability of the products. Thus, credibility allows brands to turn positive user experiences into real purchases.

The study's findings indicate that consumers' perceived relevance of PU may not be affected by credibility cues. It is suggested that managers should split the target market into two groups depending on the primary reason for their purchase: due to a practical requirement or to environmental factors. In the case of more utilitarian consumers, it is more effective to focus on the usage of green products. For those consumers for whom sustainability is important, it seems more likely that they will respond to the responsibility of the company rather than the credibility of the brand and the commitment to the environment.

5.3 Limitations and future research

The current research had some limitations. First, we employed a social media platform to distribute an online survey, potentially favoring individuals who actively engage with social media livestreams. This sampling method may limit the generalizability of the findings. Future studies should use broader samples to increase variety. Second, we used a standard approach for all types of livestreams. It is plausible that viewers react differently to distinct kinds of livestream content. Future studies should focus on specific livestream categories such as commodity auctions, talent screens, and life-sharing. Third, our research was limited to China. The findings may not apply to other cultural settings. To understand the variation in customer behavior in livestreaming purchases, comparative analyses across various cultural situations are needed. Researchers may identify shared patterns and different cultural effects by comparing data from different countries or regions.

6. CONCLUSION

This study focuses on the factors that affect consumers' purchase of green products through live streaming, a fast-rising and popular sales channel. Through the lens of GSBC, PU, ease of use, and green information credibility, the current study establishes that emotional engagement with environmental brands influences consumers' perceptions of ease of use, usefulness, and purchase intentions. Furthermore, the study finds that green information credibility enhances the effect of PU, GSBC, and purchase intentions of green products. This research fills the gaps in the current literature by incorporating these factors into the framework of sustainable consumption and live stream shopping, providing a new insight into how credibility and brand relationship affect consumer green buying behavior.

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APPENDIX

Measures Detail

Green self-brand connection (GSBC)

1. I can relate to this green brand.
2. I have a special bond with this environment-friendly company.
3. This green brand will help me convey my concerns for the environment to other people.
4. I believe this brand that is concerned with the environment can assist me in embracing the environment.
5. This green brand's environmental values suit me well
6. This brand's commitment to sustainability reflects who I am

Livestream shopping intentions for eco-friendly products

1. If I were to suggest live-stream shopping for sustainable goods to friends, I would do so.
2. In the future, I will prefer to shop for green products through live-streaming.
3. In the future, I will often buy green products through live-stream shopping.

PU (PUS)

1. Using livestream shopping helps me make better decisions about eco-friendly products
2. Livestream shopping improves my efficiency in purchasing eco-friendly products
3. Livestream shopping enhances my effectiveness in evaluating eco-friendly products

4. I find livestream shopping useful for purchasing eco-friendly products

PEU (PEU)

1. It is quite simple for me to learn how to shop for environmentally friendly products through live streams.
2. I am quite adept at using live stream commerce for sustainable products
3. I can easily understand the concept of the livestream shopping platform.

4. I like using livestream shopping to buy green products because it's convenient to do so.

Green information credibility (4 items)

1. In my opinion, the green product information is persuasive.
2. I do believe that the environmental benefits of this product are well-stated.
3. I do believe that the information about the environment is quite reliable.
4. In my opinion, the sustainability messages of this product are true.