

Explaining resistance toward sustainable food: The dark side of algorithmic recommendation in short-video social commerce

Chi Thi Mai Vu ^{1*} 

¹ Faculty of Commerce and Tourism, Industrial University of Ho Chi Minh City, VIETNAM

*Corresponding Author: vuthimaichi@iuh.edu.vn

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ABSTRACT

This study examines the dark side of algorithm-driven recommendation systems in short-video social commerce, with a specific focus on sustainable food consumption. Drawing on the Stressor–Strain–Outcome (SSO) framework, the study investigates how greedy recommendation mechanisms reshape users' information environments and influence their psychological and behavioral responses. Data were collected from 327 Vietnamese users with prior experience using short-video social commerce platforms and exposure to sustainable food-related content. The proposed model was tested using partial least squares structural equation modeling (PLS-SEM). The results show that greedy recommendations significantly increase three information-related stressors, including information overload, information redundancy, and information narrowing. Among these stressors, information overload and information redundancy exert stronger effects on emotional exhaustion than information narrowing. Emotional exhaustion, in turn, significantly increases resistance purchase behavior toward sustainable food. This study contributes to the literature by reframing digital food environments as ambivalent algorithmic environments that may both facilitate and undermine sustainable consumption. It also shows how algorithm-induced information stressors may hinder consumers' willingness to engage with sustainable products. The findings provide important implications for platform design and sustainable food marketing strategies in emerging markets.

Keywords: greedy recommendation, emotional exhaustion, resistance purchase behavior, sustainable foods, SSO framework

INTRODUCTION

The rapid advancement of digital technologies has fundamentally transformed how consumers search for, evaluate, and purchase products, particularly in social media environments. Social commerce, defined as the integration of commercial activities into social networking platforms, has emerged as a dominant channel for product discovery and consumption. In 2025, there are over 5.04 billion social media users worldwide, with a substantial proportion actively using these platforms to explore brands and products, highlighting the central role of social media in shaping contemporary consumer decision-making (Kemp, 2025). This transformation is further accelerated by the proliferation of short-form video content, which has become the primary format for engaging users and delivering commercial messages. At the same time, demand for sustainable food products has grown significantly as awareness of environmental and health-related concerns has increased. The global organic food market has reached approximately 145 billion USD in retail sales, reflecting the

rising importance of sustainable consumption in modern markets (FIBL, 2024).

Existing research on digital food environments and sustainable food consumption has largely emphasized the enabling role of digital technologies. Prior studies have shown that online green interactions, social media information sharing, livestream-based information richness, platform design, blockchain-enabled traceability, and digital marketing communication can enhance consumers' awareness, attitudes, purchase intentions, and sustainable consumption behaviors (Boen et al., 2025; Coman et al., 2025; Duong et al., 2024; Zhang et al., 2024). In this dominant perspective, digital platforms are commonly treated as informational and persuasive infrastructures that help consumers access sustainability-related product information more efficiently (Filippelli et al., 2025). However, this positive-effect orientation provides only a partial explanation of consumer responses in digital food environments. As consumers are increasingly exposed to personalized, repeated, and algorithmically filtered food-related content, digital environments may also generate unintended psychological

costs, such as information uncertainty, confusion, overload, skepticism, decision fatigue, or avoidance (Coman et al., 2025; Simeone & Scarpato, 2020; Weber, 2021). In addition, the study by Mahdavian et al. (2025) also examined the relationship between climate change, methane emissions, and livestock production from a food security perspective. Therefore, a clearer understanding is needed of how the same digital mechanisms that are designed to facilitate sustainable food consumption may also inhibit it.

This issue is particularly important in short-video social commerce, where algorithm-driven content delivery has become a central mechanism for organizing users' exposure to food-related information. While recommendation systems are designed to enhance the user experience by delivering personalized, relevant content, they may also have unintended negative consequences. Prior research suggests that recommendation systems are primarily built to satisfy users' information needs by filtering and prioritizing relevant content (Liu et al., 2011). However, modern systems often adopt a greedy recommendation mechanism, which emphasizes exploiting users' historical preferences rather than exploring diverse information (Bastani et al., 2021). As a result, users may be repeatedly exposed to highly similar sustainability-related food content, leading to structural distortions in their information environments. Specifically, greedy recommendations may generate three information-related stressors: information narrowing, information redundancy, and information overload (Ma et al., 2022; Nguyen et al., 2024). Information narrowing restricts content diversity, information redundancy increases repetitive exposure, and information overload exceeds users' cognitive processing capacity. These issues are particularly salient on short-video platforms, where commercial content is delivered continuously and rapidly, often with explicit persuasive intent.

Although prior studies have examined the negative consequences of recommendation systems in digital environments, the conceptual novelty of the present study lies in connecting this dark-side perspective with sustainable food consumption. Existing research on digital food environments has mainly examined how digital platforms, online interactions, and information technologies encourage sustainable consumption. In contrast, studies on greedy recommendation have primarily focused on general short-video use, technology resistance, or platform-related discontinuance. Consequently, little is known about how algorithm-induced information stressors may undermine consumers' responses to sustainable food products. This category normally requires deliberate evaluation of health, environmental, ethical, price, and credibility-related claims.

To address these gaps, this study proposes a research model grounded in the Stressor–Strain–Outcome (SSO) framework to examine how greedy recommendations in short-video social commerce generate information narrowing, information redundancy, and information overload, which subsequently increase emotional exhaustion and lead to resistance purchase behavior toward sustainable food. This approach offers three specific contributions. First, it reframes digital food environments from purely enabling infrastructures into ambivalent algorithmic environments that may both facilitate and undermine sustainable consumption.

Second, it extends prior research on greedy recommendation by moving beyond general platform resistance and examining purchase resistance in a sustainability-oriented product category. Third, it identifies emotional exhaustion as a psychological mechanism through which algorithm-induced information stressors can convert sustainability-related exposure into consumer resistance. Therefore, the novelty of this study lies not merely in adding sustainable food as a new empirical context, but in explaining why algorithmically intensified exposure to sustainable food content may paradoxically discourage consumers from purchasing such products.

THEORETICAL BACKGROUND

Stressor–Strain–Outcome (SSO) Framework

In algorithm-driven contexts, prior studies emphasize that recommendation mechanisms, particularly those characterized by excessive personalization, can distort users' information environments. Specifically, greedy recommendation systems tend to repeatedly present similar content, thereby generating information narrowing, information redundancy, and information overload (Ma et al., 2022; Nguyen et al., 2024). These stressors collectively increase users' cognitive burden and reduce their ability to efficiently process information, especially in short-video environments where content is delivered continuously and rapidly. As a result, users may experience emotional exhaustion, a form of psychological strain characterized by mental fatigue, reduced engagement, and diminished motivation (Üztemur et al., 2025). Prior research further indicates that such strain can lead to negative behavioral responses, including resistance or avoidance of platform content (Lee & Pan, 2023). Building on this logic, the present study adopts the SSO framework to explain how greedy recommendations in short-video advertising generate information-related stressors, which lead to emotional exhaustion and ultimately result in resistance to purchase behavior toward sustainable food.

Greedy Recommendation

As conceptualized by Ma et al. (2022), greedy recommendation refers to an operational algorithmic feature that prioritizes short-term engagement by strictly exploiting current user profiles while omitting exploration. Its core mechanism is the repeated use of users' past behavioral signals to recommend highly similar content, thereby directly inducing information redundancy and information narrowing. This construct differs from algorithmic bias. Algorithmic bias refers to a systematic and unfair skewing of content or algorithmic outputs, driven by commercial, political, institutional, or data-related factors rather than users' authentic interests (Chau et al., 2013; Nguyen et al., 2024). Thus, while algorithmic bias emphasizes unfair or distorted representation, greedy recommendation emphasizes the technical imbalance between exploitation and exploration. Greedy recommendations also differ from filter bubbles and echo chambers. In algorithm-driven short-video contexts, greedy recommendation functions as a technical antecedent,

whereas a filter bubble is the resulting informational state. Greedy algorithms continuously reduce content diversity and may trap users in an isolated “filter bubble” of highly similar topics, which is operationalized in this study as information narrowing (Huang et al., 2020; Pariser, 2011). By contrast, an echo chamber is a broader macro-social phenomenon in which individuals’ pre-existing beliefs are structurally amplified within a network ecosystem (Geschke et al., 2019). Therefore, greedy recommendation is theoretically relevant to this study because it captures the platform-level mechanism through which short-video systems repeatedly expose consumers to similar, sustainable food-related content. Within the SSO framework, greedy recommendation serves as the algorithmic antecedent that generates information-related stressors, including information narrowing, redundancy, and overload.

Greedy Recommendation and Information Narrowing

While recommendation systems are designed to match users’ information needs, excessive reliance on past behavior limits exposure to novel information (Huang et al., 2020; Liu et al., 2011). As a result, users are repeatedly exposed to similar types of content, reducing informational diversity (Nguyen et al., 2014). Prior research further suggests that reduced diversity constrains users’ information environment and limits their ability to access alternative perspectives (Ma et al., 2022; Nguyen et al., 2024). Therefore, greedy recommendation is expected to increase information narrowing.

H1. Greedy recommendation positively influences information narrowing.

Greedy Recommendation and Information Redundancy

Information redundancy refers to the repeated exposure to similar or overlapping content that lacks novelty (Zhang et al., 2002). Greedy recommendation systems continuously deliver content aligned with users’ previous interactions, leading to repetitive exposure patterns. This occurs because algorithms optimize engagement by reinforcing known preferences rather than introducing new information (Nguyen et al., 2024; Xing et al., 2014). Prior research conceptualizes redundant information as repeated or duplicated content that does not provide additional value (Zhu et al., 2017). Over time, such repetition reduces perceived informational usefulness and increases cognitive inefficiency (Liang & Fu, 2017). Therefore, greedy recommendation is expected to increase information redundancy.

H2. Greedy recommendation positively influences information redundancy.

Greedy Recommendation and Information Overload

Information overload occurs when the volume of information exceeds users’ cognitive processing capacity. In algorithm-driven environments, greedy recommendations continuously push large amounts of content to maximize engagement. This mechanism can increase the likelihood of excessive exposure to information, particularly on short-video platforms where content is delivered rapidly and continuously. Prior research indicates that algorithmic optimization strategies may unintentionally increase cognitive burden when users are exposed to excessive information (Bastani et al., 2021; Luqman et al., 2018). Additionally, continuous

content delivery without active search further intensifies information load (Nguyen et al., 2024). Therefore, greedy recommendation is expected to increase information overload.

H3. Greedy recommendation positively influences information overload.

Information Narrowing and Emotional Exhaustion

Information narrowing reflects the restriction of content diversity within users’ information environment. When users are exposed to a limited range of similar content, their ability to explore alternative information is reduced, leading to diminished perceived control. Prior research suggests that users have an inherent need for information diversity, and the lack of such diversity can create psychological discomfort (Chen et al., 2013). Furthermore, unmet informational needs have been linked to emotional strain and frustration (Van den Broeck et al., 2008). Over time, this constrained environment leads to mental fatigue and reduced engagement. Cognitive Load Theory and consumer information-processing research imply that restricted and repetitive information environments can deplete users’ limited attentional resources, especially when consumers need diverse cues to evaluate complex products (Ayyagari et al., 2011; Bettman, 1979; Sweller, 1988). Therefore, information narrowing is expected to increase emotional exhaustion.

H4. Information narrowing positively influences emotional exhaustion.

Information Redundancy and Emotional Exhaustion

Information redundancy imposes repeated cognitive processing demands while providing limited additional informational value. When users are exposed to repetitive content, they must continuously process overlapping information, which leads to inefficiency and cognitive fatigue. Prior research indicates that redundant information reduces perceived usefulness and increases mental burden (Ma et al., 2022). Moreover, repetitive exposure has been shown to contribute to psychological fatigue and disengagement in digital environments (Nguyen et al., 2024). As users experience repeated, unnecessary processing demands, their cognitive resources are gradually depleted, leading to emotional exhaustion. Under cognitive load theory, repeatedly processing overlapping content consumes working-memory resources without providing additional informational value (Sweller, 1988). Technostress research also indicates that technology-induced demands can strain users when they must manage persistent and inefficient information inputs (Ayyagari et al., 2011; Ragu-Nathan et al., 2008). Therefore, information redundancy is expected to increase emotional exhaustion.

H5. Information redundancy positively influences emotional exhaustion.

Information Overload and Emotional Exhaustion

Information overload arises when the volume of information exceeds users’ cognitive processing capacity. In such conditions, users are unable to process or evaluate incoming information effectively, leading to cognitive strain. Prior studies have shown that excessive exposure to information increases mental fatigue and reduces users’ ability

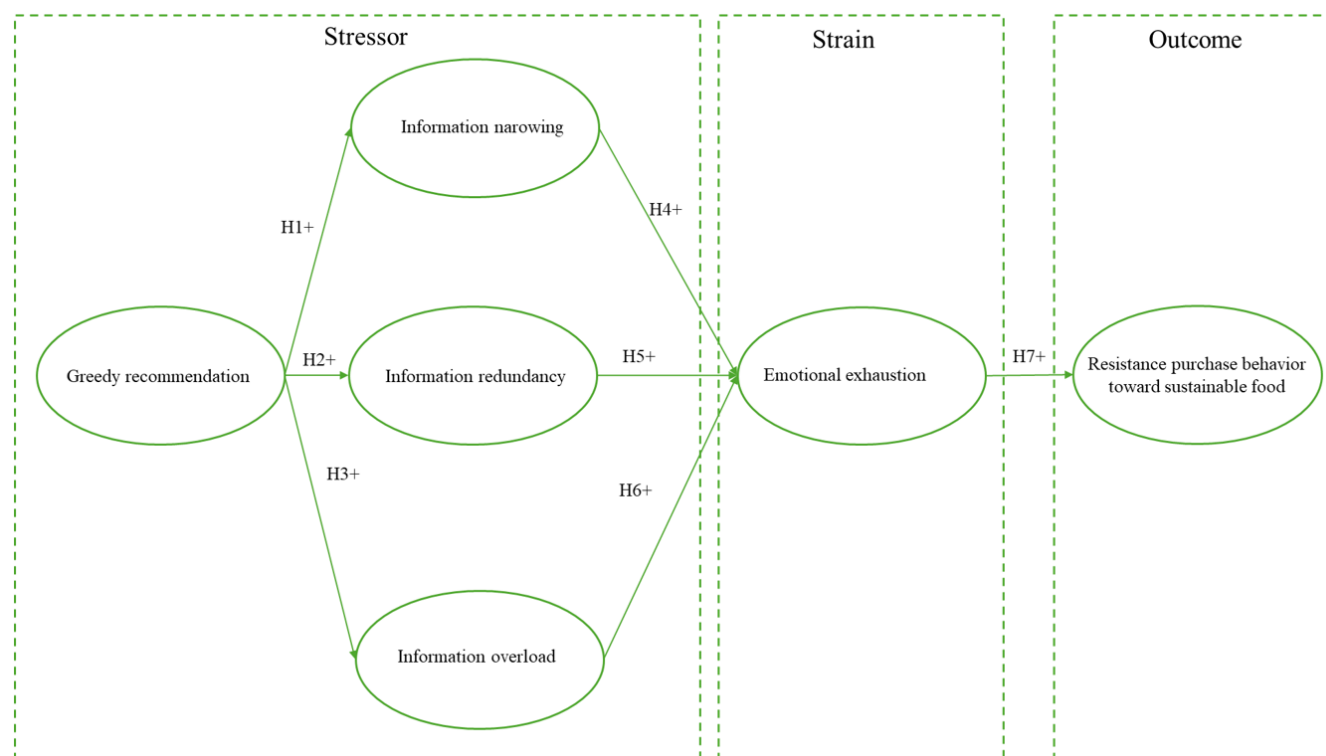


Figure 1. Proposed research model (Source: Authors' own elaboration)

to engage with content (Üztemur et al., 2025). Within the SSO framework, overload is considered a primary stressor that depletes psychological resources and leads to emotional exhaustion (Ma et al., 2022). In short-video environments, continuous content delivery intensifies this effect by accelerating cognitive depletion. Consumer information-processing research shows that excessive information can impair decision quality and cause overload when it exceeds users' evaluative capacity (Jacoby et al., 1974; Malhotra, 1982). Technostress literature further suggests that overload is a core technology-induced stressor that contributes to psychological strain (Ayyagari et al., 2011; Ragu-Nathan et al., 2008). Therefore, information overload is expected to increase emotional exhaustion.

H6. Information overload positively influences emotional exhaustion.

Emotional Exhaustion and Resistance Purchase Behavior Toward Sustainable Food

Emotional exhaustion represents a state of psychological strain characterized by mental fatigue, reduced motivation, and diminished engagement. According to stress-based frameworks, accumulated strain leads to negative behavioral responses as individuals attempt to cope with cognitive overload. Prior research indicates that emotional exhaustion increases users' likelihood of developing avoidance and resistance behaviors toward digital platforms and associated content (Lee & Pan, 2023). Furthermore, recommendation-related stressors have been shown to influence negative behavioral outcomes, including purchase resistance (Nguyen et al., 2024). In the context of sustainable food, such resistance may occur even when products align with consumers' values due to negative content experiences. Therefore, emotional

exhaustion is expected to increase resistance to purchase behavior.

H7. Emotional exhaustion positively influences resistance purchase behavior toward sustainable food.

METHODOLOGY

Data Collection

This study employs a quantitative research design to test the proposed model (see **Figure 1**) within the Stressor–Strain–Outcome (SSO) framework in the context of short-video advertising for sustainable food products on social commerce platforms. Data were collected through a structured survey administered to consumers who use short-video-based social commerce platforms. A purposive sampling approach was adopted because the study required respondents with specific platform and product exposure experience. To ensure the relevance of the sample, respondents had to satisfy three screening criteria: first, they had experience using short-video social commerce platforms such as TikTok, Facebook Reels, Instagram Reels, or similar platforms; second, they had previously been exposed to video-based advertising or recommended video content related to sustainable food products; and third, they were potential consumers who had either purchased, searched for, or considered purchasing sustainable food products in the past. A total of 350 questionnaires were collected. After data screening, 23 responses were removed due to missing values, straight-lining patterns, or failure to meet screening requirements, leaving 327 (achieving an excellent rate of 93.43%) valid responses for the final analysis.

Table 1. Demographic characteristics

Variable	Responses	Frequency	Percentage %
Gender	Total	327	100%
	Male	141	43.1
	Female	186	56.9
Age	Total	327	100%
	18–29 years	159	48.6
	29–39 years	93	28.4
	39–49 years	44	13.5
	50–59 years	21	6.4
	From 60 years and above	10	3.1
Education level	Total	327	100%
	Secondary – High school	8	2.4
	Vocational – College	36	11.0
	University degree	184	56.3
	Postgraduate	99	30.3
Income	Total	327	100%
	Under 10 million VND/month	97	29.6
	10–under 20 million VND/month	117	35.8
	20–under 30 million VND/month	62	19.0
	30 million VND/month or more	51	15.6

Measurement Scale

The measurement instruments were adapted from validated scales in prior studies and slightly modified to ensure contextual relevance to short-video advertising and sustainable food consumption in social commerce. Specifically, greedy recommendation, information narrowing, information redundancy, information overload, and emotional exhaustion were adapted from Ma et al. (2022). While resistance purchase behavior toward sustainable food was adapted from Nguyen et al. (2024). All constructs were measured using multiple items on a five-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). The questionnaire was first developed in English and then translated into Vietnamese using a back-translation procedure to ensure semantic equivalence (Brislin, 1970). A pilot test with a small sample was conducted to refine wording, clarity, and contextual relevance before the main data collection.

Data Analysis

Data analysis was performed using Partial Least Squares Structural Equation Modeling (PLS-SEM), which is suitable for testing complex models involving multiple latent constructs and does not impose strict normality assumptions (Guenther et al., 2023; Hair et al., 2022). PLS-SEM was preferred over covariance-based SEM because the present study aims primarily to predict and explain variance in key endogenous constructs within a relatively complex model, rather than to confirm a well-established theory through strict model-fit assessment. Following the standard two-step procedure, the measurement model was first assessed for internal consistency reliability, convergent validity, and discriminant validity using outerloading, cronbach’s alpha, composite reliability, average variance extracted (AVE), and the HTMT. The structural model was then evaluated through path coefficients, coefficient of determination (R^2), and bootstrapping with 5,000 resamples to test the significance of the proposed hypotheses.

RESULTS

Descriptive Statistics

Table 1 shows that out of a total of 327 survey participants, the number of men (141 people, 43.1%) was smaller than the number of women (186 people, 56.9%). Furthermore, the age group of participants aged 18–29 accounted for 48.6% with 159 people, followed by those aged 29–39 at 28.4% with 93 people, those aged 39–49 at 13.5% with 44 people, those aged 50–59 at 6.4% with 21 people, and finally, the group aged 60 and above accounted for the least with 10 people (3.1%). Regarding educational level, university graduates accounted for the largest number with 184 people (56.3%), followed by postgraduate graduates with 99 people (30.3%), vocational/college graduates with 36 people (11.0%), and finally junior/senior high school graduates with 8 people (2.4%). In terms of income, the group with incomes between 10 million and under 20 million VND accounts for the largest proportion with 117 people (35.8%), followed by the group with incomes under 10 million VND with 97 people (29.6%), the group with incomes between 20 million and under 30 million VND with 62 people (15.6%), and finally the group with incomes of 30 million VND or more with 51 people (15.6%).

Common Method Bias (CMB)

The study rigorously tested for CMB to ensure the validity of the collected data. The mitigation strategy was initiated with the application of marker-variable techniques, followed by robust statistical checks. Specifically, Harman’s single-factor extraction yielded only 32.731% explained variance, well below the acceptable limit (<50%) set by Podsakoff et al. (2003). Supporting this result, all calculated VIF values were below the maximum limit of 3.3 recommended by Hair et al. (2022). Taken together, these metrics clearly show that the data set is not affected by severe method bias.

Table 2. Measurement model

Constructs/variables	Outer Loadings	Cronbach's Alpha	Composite Reliability	AVE
GR: Greedy recommendation		0.795	0.880	0.709
GR1	0.843			
GR2	0.855			
GR3	0.828			
IO: Information overload		0.799	0.882	0.713
IO1	0.845			
IO2	0.837			
IO3	0.851			
IR: Information redundancy		0.797	0.881	0.712
IR1	0.854			
IR2	0.812			
IR3	0.864			
IN: Information narrowing		0.750	0.857	0.666
IN1	0.832			
IN2	0.802			
IN3	0.815			
EX: Emotional exhaustion		0.826	0.896	0.741
EX1	0.859			
EX2	0.859			
EX3	0.865			
RPB: Resistance purchase behavior toward sustainable food		0.808	0.887	0.723
RPB1	0.833			
RPB2	0.865			
RPB3	0.869			

Table 3. HTMT values

	EX	GR	IN	IO	IR	RPB
EX						
GR	0.539					
IN	0.427	0.512				
IO	0.480	0.622	0.275			
IR	0.497	0.606	0.392	0.333		
RPB	0.604	0.361	0.188	0.271	0.341	

The Measurement Model

The results presented in **Table 2** indicate that the measurement model demonstrates strong reliability and convergent validity. All outer loadings exceed the recommended threshold of 0.70, ranging from 0.802 to 0.869, suggesting that the observed indicators adequately represent their corresponding latent constructs. In addition, Cronbach's alpha values range from 0.750 to 0.826, while composite reliability (CR) values exceed 0.85 for all constructs, confirming high internal consistency. Furthermore, the average variance extracted (AVE) values for all constructs are above the acceptable threshold of 0.50 (ranging from 0.666 to 0.741), indicating satisfactory convergent validity. Overall, these findings confirm that the measurement model meets established criteria and that the constructs are measured with sufficient accuracy and consistency (Hair et al., 2022).

Table 3 presents the HTMT ratios used to assess discriminant validity. All HTMT values are below the conservative threshold of 0.85, with the highest value being 0.622 (between GR and IO). This confirms that all constructs are empirically distinct from one another. Notably, the relationships among the three stressor constructs (information narrowing, redundancy, and overload) remain moderate, suggesting conceptual relatedness without

redundancy. Additionally, the relatively stronger association between emotional exhaustion (EX) and resistance purchase behavior toward sustainable food (RPB) (HTMT = 0.604) is theoretically consistent with the SSO framework, which posits that strain leads to behavioral outcomes. Therefore, the model's discriminant validity is well established (Henseler et al., 2015).

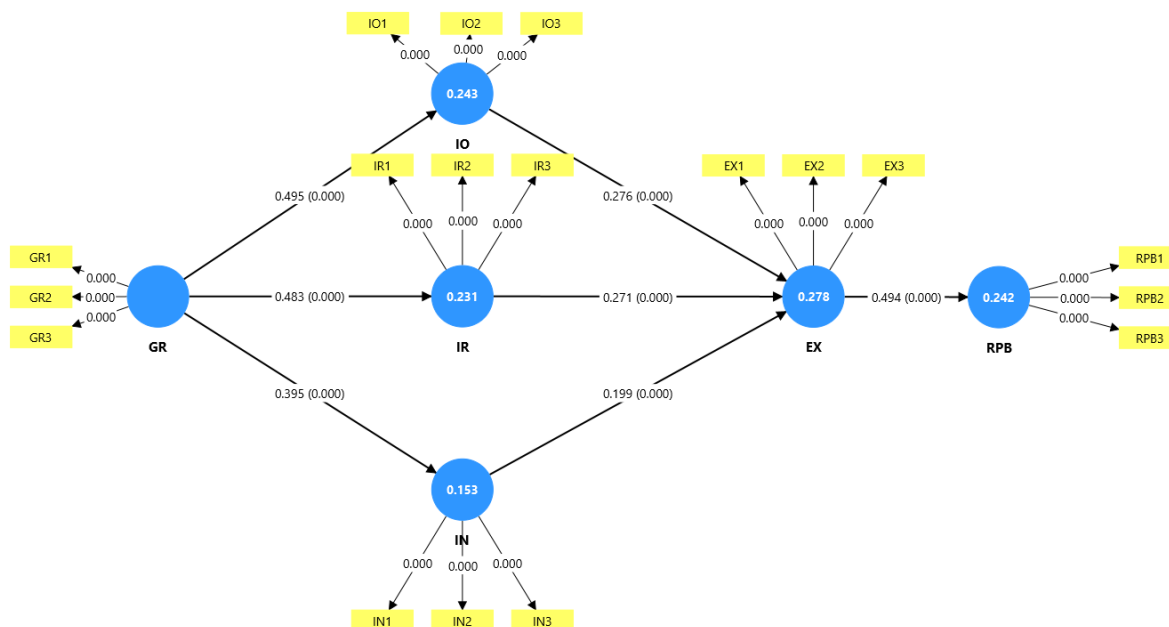
The Structural Model

The structural model results in **Table 4** and **Figure 2** show that all hypothesized relationships are statistically significant, with p-values equal to 0.000, supporting all proposed hypotheses. Specifically, greedy recommendations exhibit the strongest impact on information overload ($\beta = 0.495$) and information redundancy ($\beta = 0.483$), followed by information narrowing ($\beta = 0.395$). This suggests that algorithmic recommendation primarily intensifies information volume and repetition rather than merely restricting diversity. In terms of strain, both information overload ($\beta = 0.276$) and information redundancy ($\beta = 0.271$) exert stronger effects on emotional exhaustion compared to information narrowing ($\beta = 0.199$), indicating that excessive and repetitive information plays a more critical role in inducing psychological fatigue. Most importantly, emotional exhaustion has a strong positive effect on resistance purchase behavior toward sustainable food

Table 4. The path coefficients

Path	Hypothesis	Effect	T-statistic	P-values	95% CI [LL,UL]	VIF	Conclusion
GR=>IN	H1	0.395	8.549	0.000	[0.307-0.486]	1.000	Accepted
GR=>IR	H2	0.483	10.833	0.000	[0.397-0.570]	1.000	Accepted
GR=>IO	H3	0.495	11.384	0.000	[0.407-0.580]	1.000	Accepted
IN=>EX	H4	0.199	4.077	0.000	[0.104-0.297]	1.123	Accepted
IR=>EX	H5	0.271	5.132	0.000	[0.165-0.375]	1.155	Accepted
IO=>EX	H6	0.276	5.642	0.000	[0.179-0.297]	1.098	Accepted
EX=>RPB	H7	0.494	12.072	0.000	[0.415-0.574]	1.000	Accepted
Model fit		R² Adjusted					
SRMR	0.057	IN	0.153				
		IR	0.231				
		IO	0.243				
		EX	0.278				
		RPB	0.242				

Notes: GR = Greedy recommendation; IN = Information narrowing; IR = Information redundancy; IO = Information overload; EX = Emotional exhaustion; RPB = Resistance purchase behavior toward sustainable food; CI = Confidence Interval; LL = Lower Limit; UL = Upper Limit.

**Figure 2.** Path coefficient model (Source: Authors' own elaboration)

($\beta = 0.494$), confirming its central role as a mediating mechanism in the SSO framework. All VIF values are below 2, indicating no multicollinearity concerns. Additionally, the adjusted R^2 values (EX = 0.278; RPB = 0.242). Furthermore, the model's fit is also reflected through the SRMR index = 0.058 < 0.08 indicate moderate model explanatory power, which is acceptable in behavioral research (Hair et al., 2022).

DISCUSSION

The results show that greedy recommendations have a significant positive effect on information narrowing ($\beta = 0.395$). This finding indicates that when recommendation systems rely heavily on users' historical preferences, the diversity of content exposure is reduced, and users become increasingly confined to a narrower information environment. This result is consistent with Ma et al. (2022), who argue that greedy recommendations decrease information diversity and narrow users' information scope in short-video platforms. It is also in line with Nguyen et al. (2024), who report that greedy

recommendation contributes to information narrowing in AI-based short-video recommendation systems. Overall, the present result reinforces the view that personalization can unintentionally reduce informational diversity. In the context of emerging markets like Vietnam, where short-video commerce has experienced explosive growth, algorithms often aggressively optimize for immediate user retention. Consequently, users are quickly categorized into specific behavioral niches based on their initial interactions, accelerating the narrowing effect as the system prioritizes safe, highly engaging content over diverse exploration.

The findings indicate that greedy recommendations significantly increase information redundancy ($\beta = 0.483$). This suggests that when algorithms repeatedly exploit prior user preferences, users are more likely to encounter overlapping, repetitive, and low-novelty content. This result aligns closely with Ma et al. (2022), who explicitly propose and confirm that greedy recommendations increase information redundancy because recommended content tends to resemble what users previously consumed or rated highly. The finding is also consistent with Nguyen et al. (2024), which identifies

redundancy as one of the major information-related problems generated by greedy recommendations on short-video platforms. Thus, the present study confirms that algorithmic exploitation not only personalizes content but also increases repeated exposure, which may gradually undermine the informational value users perceive. This high level of redundancy is particularly pronounced in fast-growing digital economies. To capture algorithm favor and maximize reach, content creators and sellers frequently mimic trending formats, resulting in a herd behavior where successful promotional videos are heavily replicated. Therefore, users are subjected to a massive volume of copycat content, amplifying the feeling of repetition.

The results show that greedy recommendation has the strongest effect on information overload ($\beta = 0.495$). This indicates that the continuous and rapid delivery of recommended short-video content can exceed users' cognitive processing capacity. The finding is directly consistent with Ma et al. (2022), who report that, contrary to the assumption that recommendations may reduce overload, greedy recommendations in short-video contexts actually induce perceived information overload because users receive a steady stream of recommendations. The present result is also consistent with Nguyen et al. (2024), which treats overload as a key stressor arising from greedy recommendations in short-video environments. Therefore, this study strengthens the argument that recommendation systems can become a source of cognitive burden when content delivery is excessive and continuous. Crucially, the effect of information overload ($\beta = 0.495$) is markedly stronger than that of information narrowing ($\beta = 0.395$). This disparity suggests that the sheer volume and rapid velocity of auto-playing videos overwhelm cognitive processing capacities more aggressively than the mere restriction of content variety. In Vietnam, where consumers rank highly for daily mobile screen time, the continuous, rapid-fire nature of short-video feeds quickly depletes mental bandwidth, making volume a more critical and immediate stressor than the lack of content diversity.

The analysis reveals that information narrowing has a positive effect on emotional exhaustion ($\beta = 0.199$). This suggests that when users are repeatedly exposed to a limited and less diverse information environment, they may feel constrained, mentally fatigued, and less engaged. This interpretation is consistent with Ma et al. (2022), who argue that information narrowing reflects unmet needs for informational diversity and, therefore, functions as a stressor that contributes to exhaustion.

The results confirm that information redundancy significantly increases emotional exhaustion ($\beta = 0.271$). This implies that repeated exposure to similar content consumes users' cognitive resources while offering little novelty or additional value, thereby leading to mental fatigue over time. This result is directly consistent with Ma et al. (2022), which reports that information redundancy is positively related to exhaustion and identifies it as a meaningful information-related stressor in short-video platforms. The finding is also broadly compatible with Nguyen et al. (2024), which shows that redundancy is one of the central stressors generated by greedy recommendation and that such stressors are linked to negative psychological responses.

The findings show that information overload has a significant and relatively strong effect on emotional exhaustion ($\beta = 0.276$). This suggests that when the amount of content exceeds users' ability to process it efficiently, they become cognitively strained and emotionally fatigued. This finding is directly consistent with Ma et al. (2022), which shows that information overload is positively associated with exhaustion among users of short-video platforms. Collectively, the stronger impacts of overload and redundancy compared to narrowing on emotional exhaustion highlight that cognitive depletion stems more heavily from processing excessive and repetitive stimuli than from missing out on diverse information. When users must constantly evaluate repetitive promotional claims, their mental resources drain significantly faster.

The results indicate that emotional exhaustion has a strong positive effect on resistance purchase behavior toward sustainable food ($\beta = 0.494$). This means that once users become mentally fatigued and emotionally depleted, they are more likely to avoid or resist purchase-related responses, even toward products that carry positive social or environmental value. This result is broadly consistent with the SSO framework, which posits that psychological strain leads to maladaptive or resistant behaviors. Lee and Pan (2023) show that technostress is positively associated with resistance, while Nguyen et al. (2024) demonstrate that stressors triggered by greedy recommendations are associated with negative psychological and behavioral responses, ultimately influencing purchase resistance behavior. However, the present study extends these findings by showing that, in the sustainable food context, emotional exhaustion specifically can function as a direct driver of purchase resistance. This finding offers profound insights into sustainable consumption within emerging markets. Purchasing sustainable food often requires deliberate cognitive effort to evaluate product claims, verify eco-friendly credentials, and justify price premiums. However, when users are emotionally exhausted by algorithmic stressors, they lack the cognitive capacity for such analytical processing. Consequently, they resort to avoidance strategies, resisting purchases to protect their remaining mental resources. In the Vietnamese context, where sustainable food markets are still developing, and consumer trust requires careful cultivation, algorithmic exhaustion acts as a severe barrier, converting potential eco-conscious intentions into behavioral resistance.

CONCLUSION

Theoretical Implications

This study contributes to the literature in three key ways. First, it advances research on digital food environments by reframing digital platforms from purely enabling infrastructures into ambivalent algorithmic environments that may both facilitate and undermine sustainable food consumption. While prior studies have largely emphasized how digital technologies support green or sustainable consumption, this study shows that algorithmically intensified exposure may also generate information-related stressors and weaken consumer engagement with sustainable food. Second,

this study extends the SSO framework to the intersection of short-video social commerce and sustainable food consumption by explaining how greedy recommendations function as algorithmic stressors that produce information narrowing, information redundancy, and information overload. This enriches the theoretical understanding of how platform-level recommendation mechanisms are translated into psychological strain. Third, this study identifies resistance purchase behavior toward sustainable food as a critical behavioral outcome of emotional exhaustion. In doing so, it offers new insight into why consumers may reject environmentally beneficial products not because of unfavorable sustainability attitudes, but because of overwhelming, repetitive digital information environments that deplete their cognitive and emotional resources.

Practical Implications

The findings provide several practical implications for short-video platforms and sustainable food marketers in emerging markets such as Vietnam.

First, platform managers should be cautious about recommendation systems that rely too heavily on users' past interactions. In the context of sustainable food consumption, consumers often need diverse and credible information to evaluate product origin, health value, environmental claims, certification credibility, and price justification. When algorithmic recommendations become overly narrow, they may limit consumers' ability to form a balanced understanding of sustainable food options. Therefore, platforms should manage personalization to preserve informational usefulness rather than merely maximize repeat engagement.

Second, sustainable food marketers should avoid excessive repetition of similar sustainability claims. In practice, many brands repeatedly emphasize terms such as "organic," "clean," "natural," "eco-friendly," "safe," or "healthy." However, when these messages appear repeatedly without providing additional informational value, consumers may perceive the communication as redundant rather than persuasive. Accordingly, marketers should ensure that each message contributes meaningful information, such as clearer evidence about product origin, certification, production process, or practical benefits. The key issue is not to communicate more, but to communicate with greater informational clarity and credibility.

Third, practitioners should pay particular attention to consumers' cognitive burden when communicating sustainable food information on short-video platforms. Sustainable food products often require consumers to process multiple types of information simultaneously, including environmental benefits, health implications, ethical considerations, price premiums, and product authenticity. If these claims are delivered too frequently or too densely, consumers may become mentally fatigued rather than more convinced. Thus, sustainable food communication should be structured to help consumers understand essential claims more easily, rather than overwhelming them with excessive information.

Fourth, marketers should treat emotional exhaustion as a practical barrier to sustainable food adoption. Resistance to purchasing sustainable food may not simply reflect a lack of

environmental concern or unfavorable attitudes toward the products. It may also emerge when consumers feel mentally depleted by repetitive, excessive, or narrowly personalized information. This implication is especially important in Vietnam, where sustainable food markets are still developing, and consumer trust in sustainability claims requires careful cultivation. Practitioners should therefore design communication strategies that inform consumers without creating unnecessary psychological pressure.

Limitations and Future Suggestions

Despite its contributions, this study has several limitations. First, the study was conducted in Vietnam, an emerging market where short-video social commerce and sustainable food consumption are still developing. Therefore, the findings should be interpreted within this specific context and should not be generalized uncritically to other countries or cultural settings. Consumer responses to algorithmic recommendations, emotional exhaustion, and resistance to sustainable food purchasing may differ across cultures due to variations in digital habits, sustainability awareness, trust in green claims, and tolerance for repetitive platform content. Second, the sample characteristics may limit the generalizability of the findings. The respondents were predominantly young and slightly female-dominant, which may reflect active users of short-video social commerce but does not fully represent the broader consumer population. Future studies should use more diverse and representative samples across age, gender, income, education, and geographical regions to examine whether the proposed relationships differ among consumer segments. Third, this study employed a cross-sectional design based on self-reported survey data. As such, causal relationships cannot be firmly established. Although the model is theoretically grounded in the SSO framework, the results should be interpreted as associations rather than definitive causal effects. Future research could adopt longitudinal, experimental, or panel designs to examine the temporal ordering and possible reciprocal relationships among greedy recommendations, informational stressors, emotional exhaustion, and purchase resistance. Fourth, the model's explanatory power remains limited. The R^2 values for emotional exhaustion and resistance purchase behavior toward sustainable food indicate that a substantial portion of the variance remains unexplained. This suggests that other factors, such as attitudes toward sustainable food, perceived price fairness, trust in green claims, social norms, consumption habits, environmental concern, and perceived product authenticity, may also influence emotional exhaustion and resistance to purchasing sustainable food. Future studies should incorporate these variables to provide a more comprehensive explanation. Finally, this study focuses only on sustainable food consumption and examines emotional exhaustion as the main psychological strain. Therefore, the findings may not be directly applicable to other product categories or other psychological mechanisms. Future research should compare different product contexts and examine additional mediators, such as irritation, skepticism, anxiety, decision fatigue, perceived manipulation, and consumer reactance, to better explain resistance behavior in algorithm-driven environments.

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