CONSUMER BEHAVIOR

Green in a Hurry? The Sustainability–Value Paradox in Customers' Cognitive Evaluation of Quick Commerce Platforms

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Abstract

Purpose: Quick commerce platforms promise daily essentials within minutes, yet their packaging-intensive, last-mile-heavy model raises doubts about how sustainable they really are. This study examines how customers' perceptions of a platform's Sustainable Finance Orientation (SFO) shape their Customer Cognitive Evaluation (CCE) of the platform, with Customer Perceived Value (CPV) as a mediator and Environmental Concern (EC) as a moderator. Design/methodology/approach: A cross-sectional survey of 390 quick commerce users in Bengaluru, India, was analysed using partial least squares structural equation modelling (PLS-SEM) in SmartPLS 4 with bootstrapping. Findings: SFO significantly enhances CPV ($\beta = 0.253$, $p < .001$). Contrary to expectations, both CPV ($\beta = -0.411$, $p < .001$) and SFO ($\beta = -0.090$, $p = .035$) are negatively related to CCE, and CPV carries a significant negative indirect effect of SFO on CCE ($\beta = -0.104$, $p < .001$), yielding a negative total effect ($\beta = -0.195$). EC improves CCE directly ($\beta = 0.158$, $p < .001$) but does not moderate the SFO–CCE relationship. Originality/value: The study uncovers a sustainability–value paradox in ultra-fast retail: customers credit green initiatives with added value, yet judge the platform more critically. Sustainability orientation earns favourable evaluations only when it is credible, verifiable and visibly tied to customer benefits.

Keywords: Quick commerce; sustainable finance orientation; customer perceived value; cognitive evaluation; environmental concern; greenwashing scepticism; PLS-SEM

1 Introduction

Quick commerce (q-commerce) has become one of the most disruptive formats in digital retailing. Built on dense networks of dark stores, real-time inventory visibility and app-based ordering, platforms such as Blinkit, Zepto, Swiggy Instamart and BigBasket BB Now deliver groceries and household essentials within minutes rather than days. India now leads the world in this format: q-commerce gross merchandise value reached an estimated US$10–11 billion in 2025 after doubling annually, accounting for roughly 16–17% of the country's e-retail value (Bain & Company, 2026). Bengaluru, with its digitally mature consumers, dense residential clusters and habitual use of app-based services, is a fitting setting in which to study how customers evaluate these platforms.

Speed, however, carries an environmental price. Ultra-fast fulfilment multiplies small-basket orders, single-use packaging and carbon-intensive last-mile trips, and it raises questions about the long-term financial viability of the model. Platforms are therefore expected not only to deliver quickly but also to demonstrate responsibility for their environmental and social footprint. We capture this expectation through Sustainable Finance Orientation (SFO), defined as the degree to which customers perceive a platform as financially and strategically committed to sustainability-oriented

practices: responsible delivery systems, eco-friendly packaging, green incentives and rewards, and transparent communication of sustainability efforts (Schoenmaker & Schramade, 2019).

Customers judge digital platforms on usefulness, performance and value (Davis, 1989; Venkatesh et al., 2003), and perceived value, the trade-off between what is received and what is given up, is a central driver of customer responses (Blut et al., 2024; Sweeney & Soutar, 2001; Zeithaml, 1988). Yet the links among sustainability orientation, perceived value and cognitive evaluation may not be straightforward in q-commerce. Customers may welcome sustainability initiatives as value-adding while doubting whether they are genuine, suspecting greenwashing or worrying that sustainability costs are passed on to them; the persuasive force of online sustainability claims depends heavily on whether customers trust them (Mume & Sun, 2026). Environmental concern complicates the picture further: environmentally concerned consumers weigh ecological consequences more heavily and tend to favour responsible firms (Dunlap et al., 2000; Haws et al., 2014; Hudayah et al., 2023), but whether this concern shapes reactions to platform sustainability in q-commerce remains untested.

Existing q-commerce research concentrates on convenience, adoption, service quality, instant gratification and loyalty (Chavadi et al., 2024; Panesar et al., 2026), whereas sustainability research has focused mainly on green products, green purchase intention and corporate social responsibility (CSR) in conventional retail and banking. Q-commerce uniquely combines instant gratification, very high order frequency, app-mediated decision-making, packaging intensity and last-mile delivery, conditions under which sustainability signals may be read very differently. Addressing this gap, the study asks: (1) Does SFO enhance CPV and, in turn, customers' cognitive evaluation of q-commerce platforms? (2) Does CPV mediate the SFO–CCE relationship? (3) Does EC strengthen the effect of SFO on CCE? By integrating sustainability orientation, perceived value, cognitive evaluation and environmental concern in a single model, the study offers a nuanced account of how customers think about "green" claims in fast-paced digital retail.

2 Theoretical background and hypotheses

2.1 Quick commerce and customer cognitive evaluation

Q-commerce is an accelerated form of platform retailing that relies on dark stores, location-based demand forecasting, last-mile logistics, digital payments and real-time order management. Its value proposition centres on immediacy, small baskets and habitual, convenience-driven shopping missions that save customers the time and effort of searching, travelling and waiting. Technological, marketing, social and service-quality stimuli shape perceived value and trust, which in turn drive q-commerce usage intention (Panesar et al., 2026), and instant gratification enhances customer engagement, experience and satisfaction (Chavadi et al., 2024). In adjacent online food delivery services, price, ease of payment and time efficiency are decisive loyalty drivers (Siddiqi et al., 2024).

We define Customer Cognitive Evaluation (CCE) as the customer's reasoned judgement that a platform is useful, suitable, beneficial and worth using. The construct draws on the cognitive logic of technology acceptance research, in which beliefs such as perceived usefulness and performance expectancy underpin acceptance and continued use (Davis, 1989; Venkatesh et al., 2003); in sustainability-oriented e-commerce, performance expectancy and trust jointly shape purchase intention (Farhat et al., 2025). The study adopts a stimulus–organism–response lens in which platform sustainability practices act as stimuli, perceived value as the internal appraisal and cognitive evaluation as

the response, a framework widely applied to sustainable consumption and packaging (Kıymalıoğlu et al., 2024; Shih et al., 2024).

2.2 Sustainable finance orientation and customer perceived value

SFO reflects customers' perception that a platform supports sustainability both strategically and financially. Sustainable finance integrates environmental, social and governance (ESG) considerations into financial and strategic decision-making (Schoenmaker & Schramade, 2019); in q-commerce it can surface as green delivery programmes, recyclable or reduced packaging, sustainability-linked incentives, responsible sourcing and carbon-conscious logistics. Customers form favourable impressions when they perceive a firm's responsibility as grounded in genuine social and environmental behaviour (Pérez & Rodríguez del Bosque, 2013; Turker, 2009), and ESG practices shape customer behaviour towards brands in digitally transformed markets (Hasan et al., 2024). Perceived sustainability strengthens emotional and social value (Shih et al., 2024), and sustainable packaging operates as a salient marketing stimulus in consumer decisions (Kıymalıoğlu et al., 2024). Green rewards and responsible-consumption options that do not compromise convenience may therefore be read as added value.

H1: Sustainable Finance Orientation has a positive effect on Customer Perceived Value.

2.3 Customer perceived value and customer cognitive evaluation

Perceived value is the consumer's overall assessment of a product's utility based on perceptions of what is received and what is given (Zeithaml, 1988), encompassing functional, emotional, social and price dimensions (Sweeney & Soutar, 2001). The value-based adoption model positions perceived value as a key determinant of technology adoption (Kim et al., 2007), and meta-analytic evidence confirms its central role in shaping customer outcomes (Blut et al., 2024). Perceived value drives satisfaction, trust and loyalty on entertainment platforms (Yum & Kim, 2024) and repurchase intention in B2C e-commerce (Miao et al., 2022). In q-commerce, value arises from rapid delivery, product availability, payment convenience, promotions, time savings and perceived sustainability benefits, so customers who perceive greater value should evaluate the platform more favourably.

H2: Customer Perceived Value has a positive effect on Customer Cognitive Evaluation.

2.4 Sustainable finance orientation and customer cognitive evaluation

SFO may also shape CCE directly. Customers increasingly expect businesses to take responsibility for their environmental and social impact, and meaningful sustainability efforts can lead customers to judge a platform as responsible, forward-looking and trustworthy (Pérez & Rodríguez del Bosque, 2013; Turker, 2009). The relationship may nonetheless be fragile: sustainability claims improve evaluations only when they are credible and visible, and their effect on online purchasing runs partly through green trust (Mume & Sun, 2026). Ultra-fast delivery, with its repeated orders and packaging-heavy consumption, can make such claims look superficial. On balance, however, theory suggests that sustainability-oriented practices signal responsibility and long-term orientation.

H3: Sustainable Finance Orientation has a positive effect on Customer Cognitive Evaluation.

2.5 The mediating role of customer perceived value

Sustainability initiatives are likely to influence evaluation only to the extent that customers perceive them as valuable, because customers judge firms less on stated policies than on whether those

policies create value for them. Shih et al. (2024) found that perceived sustainability influenced satisfaction only through perceived value, with no direct link, and Rana et al. (2024) showed that online environmental platforms affect green consumer behaviour through attitudinal and evaluative mediators. SFO may therefore first raise CPV, which then shapes CCE.

H4: Customer Perceived Value mediates the relationship between Sustainable Finance Orientation and Customer Cognitive Evaluation.

2.6 The moderating role of environmental concern

Environmental concern is the extent to which people are aware of environmental problems and willing to weigh them in consumption choices (Dunlap et al., 2000; Haws et al., 2014). Highly concerned consumers pay closer attention to eco-friendly packaging, responsible delivery and sustainability communication, whereas less concerned consumers prioritise convenience, price and speed. Environmental concern moderates the effect of green perceived value on Generation Z consumers' purchase intentions (Hudayah et al., 2023), and digital platforms can shape green attitudes by raising awareness and supplying information (Rana et al., 2024). Figure 1 summarises the proposed model.

H5: Environmental Concern moderates the relationship between Sustainable Finance Orientation and Customer Cognitive Evaluation, such that the relationship is stronger when Environmental Concern is high.

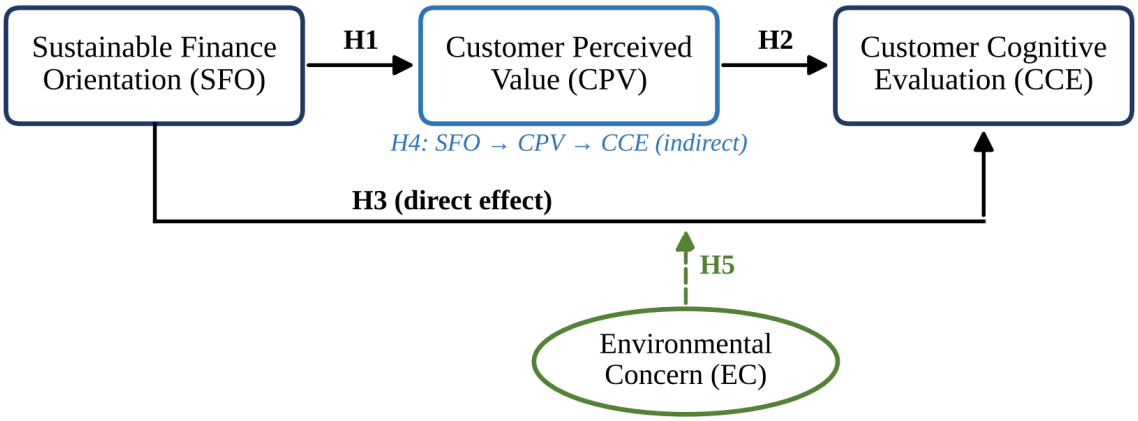


Figure 1. Conceptual model.

Note. Solid arrows denote hypothesised direct effects; the dashed arrow denotes the hypothesised moderating effect. Authors' own conceptualisation.

3 Methodology

3.1 Research design, sampling and data collection

A quantitative, cross-sectional survey design was used to test the hypothesised relationships among latent constructs. The target population comprised customers in Bengaluru who had used at least one q-commerce platform. Because no complete sampling frame of q-commerce users exists and active users had to be reached directly, convenience sampling was employed; although this limits statistical generalisability, it is common in theory-testing research on consumer behaviour and digital

platforms. A screening question confirmed that respondents had previously purchased groceries, food, household items or other daily-use products through a q-commerce service. Participation was voluntary, and respondents were assured that their answers would remain anonymous, confidential and used solely for academic purposes. A total of 390 valid responses were retained. Under the inverse square root method (Kock & Hadaya, 2018), this sample provides 80% power to detect path coefficients of about |0.13| or larger at the 5% significance level, satisfying common PLS-SEM recommendations (Hair et al., 2022); smaller effects should be interpreted with caution.

3.2 Measures

All constructs were measured reflectively using items adapted from validated scales and reworded for the q-commerce context (Table 1). SFO items were adapted from CSR image, CSR perception and sustainability-oriented practice scales (Pérez & Rodríguez del Bosque, 2013; Turker, 2009); CPV items from perceived value, PERVAL and value-based adoption research (Kim et al., 2007; Sweeney & Soutar, 2001; Zeithaml, 1988); CCE items from perceived usefulness, performance expectancy and technology-evaluation scales (Davis, 1989; Venkatesh et al., 2003); and EC items from the New Ecological Paradigm and green consumption values scales (Dunlap et al., 2000; Haws et al., 2014). Items were rated on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). The questionnaire was pretested for clarity and contextual fit, leading to minor wording changes.

Table 1. Measurement items and outer loadings.

Construct	Code	Item	Loading
Sustainable finance orientation (SFO)	SFO1	This quick commerce platform supports environmentally responsible business practices.	0.964
	SFO2	This platform encourages sustainable choices through discounts, rewards or financial incentives.	0.974
	SFO3	This platform invests in sustainable delivery, packaging or operational practices.	0.973
	SFO4	This platform communicates its sustainability-related initiatives clearly to customers.	0.963
	SFO5	This platform balances business growth with environmental and social responsibility.	0.971
Customer perceived value (CPV)	CPV1	Using this quick commerce platform provides good value for the money I spend.	0.968
	CPV2	The benefits I receive from this platform are greater than the cost and effort involved.	0.971
	CPV3	This platform saves my time and improves my shopping efficiency.	0.968
	CPV4	Overall, this platform is worthwhile compared with other shopping alternatives.	0.967
	CPV5	The sustainability-related initiatives of this platform increase its overall value for me.	0.967
Customer cognitive evaluation (CCE)	CCE1	I consider this quick commerce platform a useful option for my shopping needs.	0.966
	CCE2	I believe this platform is a smart choice for quick and convenient purchases.	0.965

Construct	Code	Item	Loading
	CCE3	I think this platform provides a rational and beneficial shopping solution.	0.965
	CCE4	Compared with other shopping alternatives, this platform appears more suitable for my needs.	0.970
	CCE5	I evaluate this platform positively because of its service quality and sustainability orientation.	0.963
	CCE6	Overall, my judgement of this quick commerce platform is favourable.	0.963
Environmental concern (EC)	EC1	Environmental protection is important to me when making consumption decisions.	0.964
	EC2	I consider environmental impact when choosing shopping platforms.	0.970
	EC3	My purchasing decisions are influenced by concern for the environment.	0.978
	EC4	I prefer platforms that try to reduce environmental harm.	0.966
	EC5	I am willing to support responsible platforms even when it requires some extra effort.	0.964
	EC6	I prefer platforms that try to use environmental safe products	0.961
	EC7	I am willing to Greenism.	0.968

Note. N = 390. All loadings are significant at $p < .001$ (bootstrapping). Items rated on a five-point Likert scale. Source scales are given in Section 3.2.

3.3 Data analysis

PLS-SEM was chosen because the study involves multiple latent constructs, mediation and moderation within a prediction-oriented model, and because the method is well established in marketing, consumer behaviour and digital platform research (Hair et al., 2021, 2022; Sarstedt et al., 2022). Analysis was performed in SmartPLS 4 (Ringle et al., 2024) using the recommended two-stage approach. The measurement model was assessed through outer loadings, Cronbach's alpha, composite reliability (ρA and ρC), average variance extracted (AVE) and the heterotrait–monotrait ratio (HTMT; Henseler et al., 2015). The structural model was assessed through path coefficients, bootstrapped significance tests, the coefficient of determination (R^2) and the standardised root mean square residual (SRMR). The indirect effect of SFO on CCE via CPV was bootstrapped and classified following Zhao et al. (2010), and moderation was tested with an SFO × EC interaction term.

3.4 Common method bias

Because all data came from a single self-administered questionnaire, the procedural remedies recommended by Podsakoff et al. (2003) were applied: anonymity and confidentiality were assured to reduce evaluation apprehension, and items were phrased in simple, neutral language. The low inter-construct HTMT values reported below (maximum 0.422) further indicate that a single method factor did not dominate the data.

4 Results

4.1 Measurement model

All outer loadings ranged from 0.961 to 0.978 (Table 1), well above the 0.708 threshold (Hair et al., 2022). Cronbach's alpha (0.983–0.989), ρA (0.984–1.000) and ρC (0.987–0.990) confirmed internal consistency, and AVE values (0.932–0.939) far exceeded 0.50, establishing convergent validity (Table 2). Reliability values above 0.95 can, however, signal item redundancy (Hair et al., 2022), and the ρA of 1.000 for EC warrants caution; future studies might retain only the most theoretically central items. All HTMT values fell below the conservative 0.85 threshold (Henseler et al., 2015), the highest being CPV–CCE (0.422), confirming discriminant validity.

Table 2. Reliability, convergent validity and discriminant validity (HTMT).

Construct	α	ρA	ρC	AVE	CCE	CPV	EC	SFO
CCE	0.985	0.986	0.988	0.932	—			
CPV	0.983	0.984	0.987	0.937	0.422	—		
EC	0.989	1.000	0.990	0.935	0.119	0.117	—	
SFO	0.984	0.986	0.987	0.939	0.202	0.257	0.066	—
EC × SFO					0.048	0.004	0.063	0.115

Note. α = Cronbach's alpha; ρA and ρC = composite reliability; AVE = average variance extracted. Columns CCE–SFO report HTMT ratios (threshold < 0.85).

4.2 Structural model and hypothesis testing

Bootstrapping results are reported in Table 3 and Figure 2. SFO had a positive and significant effect on CPV (β = 0.253, t = 5.845, p < .001), supporting H1: platforms perceived as sustainability-oriented are seen as delivering more value. Strikingly, CPV had a strong negative effect on CCE (β = −0.411, t = 10.728, p < .001), so H2 is not supported; the effect is significant in the opposite direction. The direct effect of SFO on CCE was also negative and significant (β = −0.090, t = 2.114, p = .035), so H3 is not supported. EC had a positive and significant direct effect on CCE (β = 0.158, t = 3.983, p < .001), but the SFO × EC interaction was not significant (β = −0.049, t = 1.169, p = .243); H5 is not supported.

Table 3. Structural model results and hypothesis decisions.

H	Path	β	t	p	Decision
H1	SFO → CPV	0.253	5.845	< .001	Supported
H2	CPV → CCE	−0.411	10.728	< .001	Not supported (significant, opposite direction)
H3	SFO → CCE (direct)	−0.090	2.114	.035	Not supported (significant, opposite direction)
H4	SFO → CPV → CCE (indirect)	−0.104	5.013	< .001	Partially supported (complementary mediation, negative)
H5	SFO × EC → CCE	−0.049	1.169	.243	Not supported
—	EC → CCE (direct)	0.158	3.983	< .001	Significant

H	Path	β	t	p	Decision
—	SFO → CCE (total effect)	−0.195	4.423	< .001	Significant

Note. N = 390; bootstrapped t statistics. R^2(CPV) = 0.064; R^2(CCE) = 0.210; SRMR (estimated model) = 0.052.

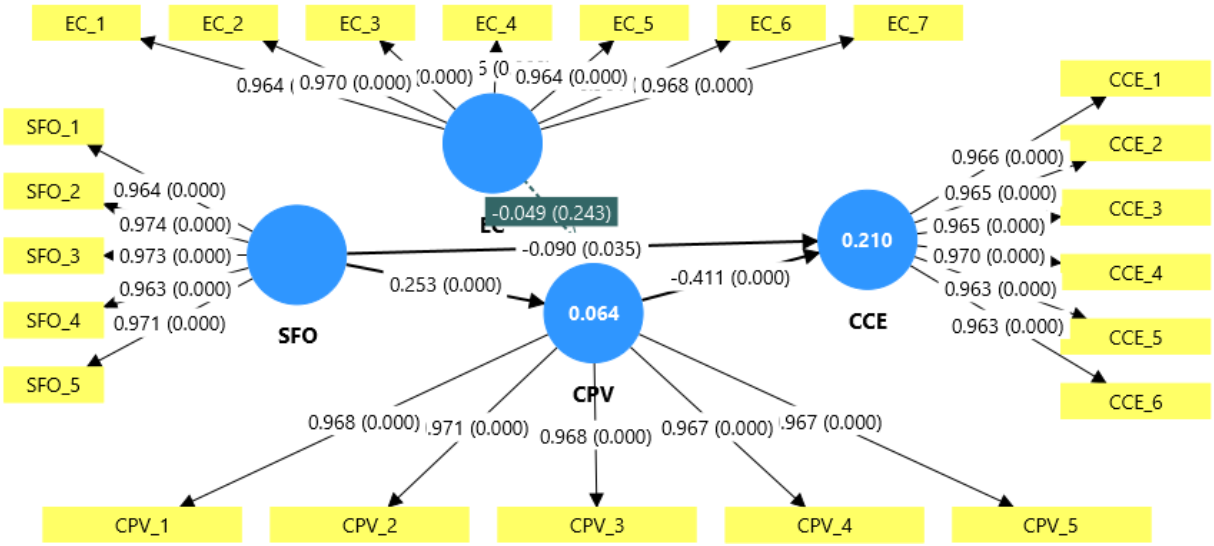


Figure 2. Structural model with path coefficients and p values.

Note. Values on paths are standardised coefficients with p values in parentheses; values inside circles are R^2. Output generated in SmartPLS 4.

4.3 Mediation analysis

The indirect effect of SFO on CCE through CPV was negative and significant (β = −0.104, t = 5.013, p < .001), the product of a positive SFO → CPV path and a negative CPV → CCE path. Because the direct effect was also significant and of the same sign, the mediation is complementary (Zhao et al., 2010), and the total effect of SFO on CCE was negative (β = −0.195, t = 4.423, p < .001). H4 is therefore partially supported: CPV does transmit the influence of SFO, but in a direction opposite to that theorised.

4.4 Explanatory power and model fit

The model explained 21.0% of the variance in CCE (adjusted R^2 = 0.204) and 6.4% of the variance in CPV (adjusted R^2 = 0.062). These modest values are not unusual in consumer research, where evaluations reflect many psychological, economic and platform factors, but they indicate that SFO explains only a small share of perceived value. SRMR was 0.016 for the saturated model and 0.052 for the estimated model, below the 0.08 cut-off (Hu & Bentler, 1999). Because PLS-SEM is prediction-oriented, the model is judged chiefly on measurement quality, path significance, explanatory power and theoretical relevance rather than on global fit alone (Hair et al., 2022).

5 Discussion

The findings reveal what we term a sustainability–value paradox in q-commerce. First, the positive SFO → CPV effect shows that customers do recognise sustainability-oriented financial and operational practices as value-building. This echoes evidence that perceived sustainability enriches perceived

value (Shih et al., 2024) and that green packaging conditions how q-commerce customers respond to the service (Chavadi et al., 2024). Green rewards, recyclable packaging, responsible delivery options and clear sustainability communication can thus strengthen the platform's value proposition.

Second, the negative CPV → CCE path departs sharply from the positive value–outcome link documented across digital contexts (Blut et al., 2024; Miao et al., 2022; Yum & Kim, 2024). A plausible explanation lies in the nature of value in q-commerce. Customers who are most conscious of the value they receive (speed, discounts, time savings) may also be most conscious of what accompanies it: delivery and handling fees, minimum-order thresholds, price premiums, packaging waste and over-consumption. Heightened value awareness may therefore trigger more deliberate, critical scrutiny rather than an automatic favourable judgement. Consistent with this reading, price sensitivity can impede green purchasing even when attitudes are favourable (Rana et al., 2024), and price and time efficiency weigh heavily in delivery-platform loyalty (Siddiqi et al., 2024). The value–evaluation relationship thus appears context-dependent rather than universal.

Third, the negative direct effect of SFO on CCE suggests that sustainability claims can breed doubt when they are not communicated credibly. Customers may regard sustainability programmes as window dressing in a business model whose environmental footprint (riders, dark stores and packaging) is visible on every doorstep. Because the persuasive power of sustainability claims rests on green trust (Mume & Sun, 2026), sustainability orientation must be backed by measurable action, outcomes and transparent communication. Fourth, the positive direct effect of EC confirms that environmentally minded customers evaluate responsible platforms more favourably, in line with the green consumption literature (Dunlap et al., 2000; Haws et al., 2014). However, the absence of moderation implies that even these customers do not reward SFO more strongly; current sustainability signals may not yet be salient, differentiated or convincing enough to shape their judgement.

6 Implications

6.1 Theoretical implications

The study makes three contributions. First, it challenges the widespread assumption that perceived value uniformly produces favourable evaluations, showing that in ultra-fast retail value perceptions can coexist with, and even intensify, critical cognitive appraisal. Second, it extends value-based and stimulus–organism–response reasoning to sustainability in q-commerce by introducing SFO as a customer-perceived construct and demonstrating that its influence on evaluation is transmitted, negatively, through perceived value. Third, it clarifies that environmental concern acts as a direct driver of evaluation rather than as an amplifier of sustainability signals, refining the boundary conditions proposed in green consumption research (Hudayah et al., 2023).

6.2 Managerial implications

For platform managers, marketers and sustainability strategists, four lessons emerge. (1) Make sustainability verifiable. Vague green claims risk scepticism; platforms should report concrete metrics such as plastic reduced, share of electric-vehicle deliveries and optimised routes, ideally with third-party validation. (2) Link sustainability to direct customer benefits. Visible green delivery slots, loyalty points for sustainable baskets, packaging opt-outs and discounts for consolidated orders let customers experience sustainability as personal as well as environmental value. (3) Balance speed with responsible service design. Because value alone does not guarantee a favourable judgement,

transparent fees, right-sized packaging and fair pricing are needed to prevent value perceptions from turning into critical scrutiny. (4) Engage environmentally concerned customers without relying on them. This segment evaluates responsible platforms more positively, but since EC did not moderate the SFO–CCE link, sustainability must be made tangible, accessible and believable to all customers.

7 Limitations and future research

Several limitations qualify the findings. The convenience sample from a single metropolitan city restricts generalisability; future studies should use probability or comparative samples across cities, countries, income groups and platforms. The cross-sectional design captures perceptions at one point in time; longitudinal designs could trace how evaluations evolve with repeated exposure to sustainability initiatives, and experiments could isolate the effects of specific green messages, incentives and delivery options. The modest R^2 values call for richer models incorporating platform trust, perceived service quality, price fairness, delivery reliability, satisfaction and perceived greenwashing. The unexpected negative effects deserve particular scrutiny: researchers should test whether greenwashing perceptions, price sensitivity, trust deficits or sustainability scepticism explain them, and should replicate the CPV → CCE relationship with refined, less redundant measures given the very high reliability values observed here.

8 Conclusion

Using PLS-SEM on data from 390 q-commerce users in Bengaluru, this study shows that sustainability orientation is a double-edged signal in ultra-fast retail. Customers credit platforms' sustainable financial and operational practices with added value, yet this value, and sustainability orientation itself, is associated with more critical cognitive evaluation of the platform. Environmentally concerned customers judge platforms more favourably, but their concern does not amplify the effect of sustainability orientation. For q-commerce platforms, the challenge is to move beyond symbolic sustainability communication towards sustainability systems that are credible, transparent and demonstrably beneficial to customers.

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