Digital Payments and Green Rewards: a Model for Promoting Sustainable Consumption

P Anupama[1] and Punna Sravanthi Kumari[2]
[1]Lecturer in Commerce, TGSWR Degree College for Women, Jagathgirigutta, Hyderabad, Telangana, India.
e-mail: babaispog@gmail.com
ORCID: https://orcid.org/0009-0009-5316-8257
[2] Research Scholar, Dept. of Commerce, Telangana University, Telangana, India.
e-mail: punnasravanthikumari@gmail.com
ORCID: https://orcid.org/0009-0003-7547-8156

Digital payments have become an integral part of India's consumption ecosystem, creating opportunities to integrate behavioural incentives with sustainability objectives. This study examines whether digital payment-based rewards can encourage consumers to adopt sustainable and healthier consumption practices. It proposes a Digital Green Reward Model in which consumers receive points, discounts, cashback or environmental benefits for eligible digital transactions involving sustainable, low-pollution, reusable, low-packaging or healthier products. The study adopts a quantitative research design based on primary data collected from digital payment users in India. A structured questionnaire will measure digital payment usage, environmental awareness, health consciousness, perceived environmental benefits, perceived economic benefits, reward attractiveness, trust, ease of redemption and willingness to participate in a digital green reward programme. The reliability and validity of the measurement scales were assessed using Cronbach's alpha while descriptive statistics, correlation employed to examine the proposed relationships. The study is expected to provide evidence on whether reward attractiveness, environmental awareness and perceived economic and environmental benefits influence consumers' willingness to participate in digital green reward programmes and encourage sustainable and healthier product choices. The study contributes to the emerging sustainable FinTech literature by integrating digital payments with green incentive mechanisms. Unlike approaches that consider digital payments inherently sustainable, it positions digital payment infrastructure as a behavioural mechanism for promoting responsible consumption. The findings may offer useful implications for payment platforms, retailers, policymakers and sustainability-oriented businesses seeking to integrate environmental objectives into India's digital economy.

Keywords: Consumer behaviour; Digital payments; FinTech; Green incentives; Green rewards; Sustainable consumption; Sustainable FinTech; UPI.

JEL Classification: E42, D12, Q56, O33, M31

1. Introduction

Digital payments have become an important component of contemporary consumer transactions, changing not only how consumers make payments but also how purchasing activities are integrated with digital platforms. As digital payment ecosystems increasingly connect consumers, retailers and financial service providers, they provide an opportunity to incorporate behavioural incentives into everyday consumption activities. Recent research suggests that payment practices are not inherently sustainable; their sustainability implications depend on how payment systems are embedded within consumption processes and connected with responsible consumer behaviour [1].

At the same time, sustainable consumption has received increasing attention as consumers, businesses and policymakers seek ways to reduce environmentally harmful consumption practices. Research in the Indian context indicates that green awareness and green behaviour are important components of sustainable consumption and that environmental attitudes and awareness can contribute to environmentally responsible purchasing behaviour [2]. This suggests that creating mechanisms that connect consumers' everyday purchasing decisions with sustainability objectives may provide an additional approach to encouraging responsible consumption.

Behavioural incentives represent an important mechanism for promoting sustainable consumption. Digital platforms have demonstrated the potential to combine technology, rewards and environmental objectives. research on sustainable loyalty programmes shows that consumers consider reward characteristics, economic value and sustainability attributes when deciding whether to participate in incentive-based programmes [4]. These findings provide a basis for considering whether similar incentive mechanisms can be incorporated into digital payment transactions.

Consumer characteristics are also important in understanding sustainable consumption decisions. Recent evidence from India indicates that environmental beliefs and health consciousness are associated with green purchase intention, highlighting the relevance of both environmental and personal well-being considerations in sustainable consumption [5]. Thus,

environmental awareness, health consciousness, perceived environmental benefits and economic benefits may shape consumers' willingness to participate in sustainability-oriented reward programmes.

Against this background, this study proposes a Digital Green Reward Model, in which consumers receive points, discounts, cashback or other environmental benefits for eligible digital transactions involving sustainable, low-pollution, reusable, low-packaging or healthier products. The model seeks to connect existing digital payment infrastructure with sustainability-oriented incentives rather than treating digital payments themselves as inherently sustainable. The study therefore examines consumers' perceptions of digital payment usage, environmental awareness, health consciousness, perceived environmental and economic benefits, reward attractiveness, trust, redemption convenience and behavioural intention to participate in a digital green reward programme. By bringing these dimensions together, the study provides preliminary empirical evidence on the potential of digital payment-based rewards as a mechanism for encouraging sustainable consumption.

2. Literature Review

Early research on financial technology established the transformative role of digital technologies in financial services. Arner et al. (2016) explained the emergence of FinTech as a new paradigm in financial services, while Gomber et al. (2017) highlighted how digital technologies were reshaping financial services and creating new research opportunities [6,7]. These studies provide the technological foundation for examining digital payments beyond their conventional transactional role.

Research on sustainable consumption subsequently focused on the psychological and environmental factors underlying consumers' green purchasing behaviour. Maki et al. (2016) demonstrated through a meta-analysis that behavioural interventions, including financial incentives, can support pro-environmental behaviour, although their effectiveness depends on the context and design of the intervention [12]. Joshi and Rahman (2018) identified environmental concern, environmental knowledge and perceived consumer effectiveness as important factors associated with sustainable purchase behaviour, while Taufique and Vaithianathan (2018) emphasized environmental attitudes and perceived consumer effectiveness among young urban Indian consumers [8,9]. These studies established the

importance of environmental awareness but largely examined sustainable consumption without integrating digital payment-based incentives.

Further research highlighted the gap between environmental attitudes and actual green purchasing behaviour. Trivedi et al. (2018) examined the relationship between environmental attitudes, intentions and green purchase behaviour, while Rustam et al. (2020) emphasized environmental awareness and related consumer factors in explaining green consumption [10,11]. This stream of research indicates that awareness and positive attitudes may require additional behavioural mechanisms to facilitate sustainable consumption.

More recent studies have increasingly examined digital technologies, gamification and rewards as mechanisms for encouraging environmentally responsible behaviour. Sun and Xing (2023) found that gamification motivation was associated with green consumption behaviour in the Ant Forest platform [3]. Krampe et al. (2025) examined sustainable temporary loyalty programmes and found that reward characteristics, economic value and sustainability attributes are relevant to consumer preferences [4]. These studies indicate the potential of digitally delivered incentives to connect consumer participation with sustainability-oriented outcomes.

Recent research has also expanded attention to individual characteristics associated with sustainable purchasing. Sriramaneni et al. (2025) found that environmental beliefs and health consciousness are relevant to green purchase intention in the Indian context [5]. Such evidence supports the inclusion of both environmental awareness and health consciousness when examining sustainable and healthier consumption choices.

Despite this development, existing studies have generally examined digital payments, green consumption, environmental awareness, health consciousness and reward mechanisms as separate research streams. Limited attention has been given to using the digital payment transaction itself as a mechanism for delivering rewards for sustainable and healthier purchases. Therefore, the proposed study addresses this gap by integrating digital payment usage, environmental awareness, health consciousness, perceived environmental benefits, perceived economic benefits, reward attractiveness, trust and redemption convenience within a Digital Green Reward Model.

3. Objectives:

1. To examine the usage of digital payments among consumers.

2. To assess consumers' environmental awareness and health consciousness towards sustainable consumption.
3. To examine consumers' perceptions of the environmental and economic benefits of digital green rewards.
4. To assess consumers' perceptions of reward attractiveness, trust and redemption convenience.
5. To examine the relationship between the selected factors and consumers' behavioural intention to participate in a digital green reward programme.

4. Research Methodology

The study adopts a quantitative, exploratory research design to examine consumers' perceptions of a proposed Digital Green Reward Model. The study is based on primary data collected through a structured questionnaire administered to digital payment users. The target population comprises consumers who use digital payment services in India. A total of 54 valid responses were obtained and included in the analysis. Given the relatively small sample, the study is positioned as an exploratory investigation and the findings are interpreted cautiously.

The questionnaire covered:

- Digital Payment Usage
- Environmental Awareness
- Health Consciousness
- Perceived Environmental Benefits
- Economic Benefits
- Reward Motivation/Attractiveness
- Trust
- Redemption Convenience
- Behavioural Intention

The proposed rewards include points, discounts, cashback and environmental benefits associated with eligible transactions involving sustainable, low-pollution, reusable, low-packaging or healthier products. The constructs were measured using multiple questionnaire items. The items were evaluated using a Likert-type response scale. Composite scores were calculated for each construct for the purpose of descriptive and correlation analysis.

Descriptive statistics such as mean and standard deviation were used to summarise respondents' perceptions of each construct. The reliability of the measurement scales is examined using ronbach's alpha was used to assess the internal consistency of the items measuring each construct. Pearson's correlation coefficient was used to examine the direction and strength of the relationships between the selected constructs and Behavioural Intention.

5. Data Analysis and Interpretation

5.1 Descriptive Analysis

Table 1: Descriptive Statistics of Study Constructs

Construct	Mean	SD	N
Digital Payment Usage	3.917	1.144	54
Environmental Awareness	4.198	0.955	54
Health Consciousness	4.171	0.907	54
Perceived Environmental Benefits	4.043	1.097	54
Economic Benefits	3.653	1.038	54
Reward Motivation/Attractiveness	3.864	1.100	54
Trust	3.537	1.075	54
Redemption Convenience	4.012	0.965	54
Behavioral Intention	3.904	0.868	54

Interpretation

The descriptive results are shown in Table 1 indicate generally favourable perceptions across all the study constructs. Environmental Awareness recorded the highest mean score (M = 4.198, SD = 0.955), followed by Health Consciousness (M = 4.171, SD = 0.907). Perceived Environmental Benefits also recorded a relatively high mean (M = 4.043, SD = 1.097).

Redemption Convenience recorded a mean of 4.012 (SD = 0.965), indicating favourable perceptions regarding the convenience of redeeming rewards. Digital Payment Usage (M = 3.917, SD = 1.144) and Behavioural Intention (M = 3.904, SD = 0.868) also recorded relatively high scores.

Economic Benefits (M = 3.653, SD = 1.038) and Trust (M = 3.537, SD = 1.075) recorded comparatively lower mean scores, although both remained above the midpoint of the scale. Overall, the results suggest that respondents generally demonstrate favourable perceptions towards sustainability-related rewards and the proposed digital payment-based mechanism.

5.2 Reliability Analysis

Table 2: Reliability Analysis of Study Constructs

Construct	No. of Items	N	Cronbach's Alpha (α)
Digital Payment Usage	4	54	0.871
Environmental Awareness	3	54	0.852
Health Consciousness	4	54	0.890
Perceived Environmental Benefits	3	54	0.966
Economic Benefits	4	54	0.900
Reward Motivation/Attractiveness	3	54	0.911
Trust	3	54	0.898
Redemption Convenience	3	54	0.890
Behavioral Intention	5	54	0.908

Interpretation

Table 2 shows the Cronbach's alpha coefficients range from 0.852 to 0.966, indicating strong internal consistency across all constructs. Digital Payment Usage (α = 0.871) and Environmental Awareness (α = 0.852) demonstrate good reliability. Health Consciousness (α = 0.890), Trust (α = 0.898) and Redemption Convenience (α = 0.890) also show high internal consistency.

Economic Benefits (α = 0.900), Reward Motivation/Attractiveness (α = 0.911) and Behavioural Intention (α = 0.908) demonstrate very strong internal consistency. Perceived Environmental Benefits recorded the highest coefficient (α = 0.966), indicating very high consistency among its three items.

Overall, the reliability findings indicate that the measurement items are internally consistent and suitable for the subsequent correlation analysis. The exceptionally high alpha for Perceived Environmental Benefits should nevertheless be checked for possible similarity or redundancy among the three items.

5.3 Pearson Correlation Analysis

Table 3: Pearson Correlation with Behavioural Intention

Construct	Pearson r	p-value
Digital Payment Usage	0.503	< .001
Environmental Awareness	0.479	< .001
Health Consciousness	0.624	< .001
Perceived Environmental Benefits	0.598	< .001
Economic Benefits	0.612	< .001
Reward Motivation/Attractiveness	0.724	< .001

Construct	Pearson r	p-value
Trust	0.763	< .001
Redemption Convenience	0.634	< .001

Interpretation

Table 3 depicts Pearson correlation analysis indicates positive and statistically significant associations between all eight examined constructs and Behavioural Intention, with all p-values below .001.

Digital Payment Usage demonstrates a moderate positive association with Behavioural Intention ($r = 0.503$, $p < .001$). Environmental Awareness also demonstrates a positive association ($r = 0.479$, $p < .001$), indicating that greater environmental awareness is associated with greater willingness to participate in the proposed programme.

Health Consciousness ($r = 0.624$, $p < .001$), Perceived Environmental Benefits ($r = 0.598$, $p < .001$) and Economic Benefits ($r = 0.612$, $p < .001$) show relatively strong positive associations with Behavioural Intention.

Reward Motivation/Attractiveness demonstrates a strong positive association with Behavioural Intention ($r = 0.724$, $p < .001$). This indicates that respondents who perceive the proposed rewards as more attractive also tend to report greater willingness to participate.

The strongest association is observed between Trust and Behavioural Intention ($r = 0.763$, $p < .001$). This suggests that trust is an important dimension associated with consumers' willingness to participate in a digital green reward programme. Redemption Convenience also demonstrates a relatively strong positive relationship ($r = 0.634$, $p < .001$).

These findings indicate that all the selected dimensions are positively associated with behavioural intention. However, the results should be interpreted as associations rather than causal relationships, because Pearson correlation does not establish causality.

The three analyses collectively provide preliminary empirical support for the proposed Digital Green Reward Model. The descriptive findings demonstrate that respondents generally hold favourable perceptions towards environmental awareness, health consciousness, digital payment usage, perceived environmental benefits and participation in a digital green reward programme.

The reliability analysis further establishes that the measurement scales demonstrate strong internal consistency, with Cronbach's alpha values exceeding 0.85 for all constructs.

This provides support for the consistency of the questionnaire items used to measure the proposed dimensions.

The correlation analysis indicates that all eight examined constructs are positively and significantly associated with Behavioural Intention. In particular, Trust (r = 0.763), Reward Motivation/Attractiveness (r = 0.724), Redemption Convenience (r = 0.634), Health Consciousness (r = 0.624) and Economic Benefits (r = 0.612) show relatively strong associations.

The findings therefore suggest that consumers' willingness to participate in digital green reward programmes is associated not only with environmental considerations but also with economic incentives, trust, reward attractiveness and convenience. This supports the broader conceptual proposition that digital payment infrastructure could potentially be used as a channel for sustainability-oriented behavioural incentives.

6. Findings of the Study

The major findings of the study are as follows:

1. **Favourable sustainability orientation:** Environmental Awareness recorded the highest mean score (M = 4.198), indicating a generally favourable level of environmental awareness among the respondents.
2. **Health consciousness:** Health Consciousness recorded a high mean score of 4.171, indicating that health-related considerations are relevant to respondents' consumption perceptions.
3. **Positive perception of environmental benefits:** Perceived Environmental Benefits recorded a mean of 4.043, suggesting that respondents generally recognise the potential environmental value of sustainable consumption.
4. **Positive perception of digital rewards:** Reward Motivation/Attractiveness recorded a mean of 3.864, indicating favourable perceptions towards incentives such as points, cashback and discounts.
5. **Strong measurement reliability:** All constructs demonstrated high internal consistency, with Cronbach's alpha ranging from 0.852 to 0.966.
6. **Positive association with behavioural intention:** All eight examined constructs demonstrated positive and statistically significant correlations with Behavioural Intention.

7. **Role of reward attractiveness:** Reward Motivation/Attractiveness showed a strong positive association with Behavioural Intention ($r = 0.724$, $p < .001$).
8. **Role of trust:** Trust recorded the strongest correlation with Behavioural Intention ($r = 0.763$, $p < .001$), highlighting the relevance of consumer confidence in the proposed reward mechanism.
9. **Importance of convenience:** Redemption Convenience demonstrated a positive association with Behavioural Intention ($r = 0.634$, $p < .001$), suggesting that ease of reward redemption is an important consideration.
10. **Economic and environmental considerations:** Both Perceived Environmental Benefits ($r = 0.598$) and Economic Benefits ($r = 0.612$) were positively associated with Behavioural Intention, suggesting that consumers may consider both environmental and personal economic value when evaluating the proposed programme.

7. Conclusion

The study provides preliminary empirical evidence regarding the potential of integrating digital payments with sustainability-oriented reward mechanisms. The proposed Digital Green Reward Model positions digital payment infrastructure as a possible behavioural channel through which consumers can receive incentives for sustainable and healthier consumption choices.

The descriptive findings indicate generally favourable perceptions among the respondents towards environmental awareness, health consciousness, perceived environmental benefits and participation in a digital green reward programme. The strong reliability coefficients demonstrate that the questionnaire constructs have satisfactory internal consistency.

The Pearson correlation results further reveal positive and statistically significant associations between all the selected constructs and Behavioural Intention. Trust and Reward Motivation/Attractiveness demonstrate particularly strong relationships with behavioural intention, while redemption convenience, health consciousness, economic benefits and perceived environmental benefits also show relatively strong positive associations.

The findings suggest that a successful digital green reward programme may need to consider more than environmental messaging alone. Consumers may also value economic rewards, attractive incentives, trustworthiness and convenient redemption. This provides a

basis for payment platforms and retailers to consider sustainability-oriented reward mechanisms within digital transaction environments.

The study contributes to sustainable FinTech literature by bringing together two areas that are often examined separately: digital payment behaviour and sustainable consumption incentives. Unlike an approach that assumes digital payments are inherently sustainable, the proposed model considers how existing digital payment infrastructure could be deliberately linked with responsible consumption objectives.

The study has practical implications for payment platforms, retailers, sustainability-oriented businesses and policymakers. Digital green rewards could potentially be designed around eligible purchases of reusable, low-packaging, low-pollution or healthier products, with rewards delivered through existing digital payment channels.

However, the study has important limitations. The analysis is based on only 54 respondents, and therefore the findings should be regarded as exploratory and should not be generalised to all Indian digital payment users. The study also relies on self-reported perceptions rather than observed purchasing behaviour. Further, Pearson correlation establishes association rather than causality. Future research with larger and more diverse samples can provide stronger empirical validation of the proposed model and examine whether participation intentions translate into actual sustainable consumption behaviour.

References

1] Petroccione, G., & Taddei, M. (2026). Consumer behaviour and digital payments in the post-COVID-19 era: A systematic review and integrative framework for sustainable marketing. *Competitiveness Review*. https://doi.org/10.1108/CR-02-2026-0098

[2] Naini, S. R., & Reddy, M. R. (2024). Role of green awareness and green behaviour in fostering sustainable consumption in India. *Journal of Science and Technology Policy Management, 16*(6), 1022–1042. https://doi.org/10.1108/JSTPM-11-2022-0182

[4] Krampe, C., de Groot, A.-J., & Hurst, W. (2025). Green loyalty? Unveiling consumer preferences in sustainable temporary loyalty programs. *Cleaner and Responsible Consumption, 16*, 100253. https://doi.org/10.1016/j.clrc.2025.100253

[5] Sriramaneni, S. D., Kotni, V. V. D. P., Babu, G. N. P. V., & Sriramneni, C. (2025). Green purchase intention: Understanding the role of environmental beliefs, health consciousness and perceived behavioural control. *Revista Galega de Economía, 34*(2). https://doi.org/10.15304/rge.34.2.10587

[6] Arner, D. W., Barberis, J., & Buckley, R. P. (2016). The evolution of FinTech: A new post-crisis paradigm? *Georgetown Journal of International Law, 47*(4), 1271–1319.

[7] Gomber, P., Koch, J.-A., & Siering, M. (2017). Digital finance and FinTech: Current research and future research directions. *Journal of Business Economics, 87*, 537–580. https://doi.org/10.1007/s11573-017-0852-x

[8] Joshi, Y., & Rahman, Z. (2018). Consumers' sustainable purchase behaviour: Modeling the impact of psychological factors. *Ecological Economics, 150*, 235–246. https://doi.org/10.1016/j.ecolecon.2018.04.028

[9] Taufique, K. M. R., & Vaithianathan, S. (2018). A fresh look at understanding green consumer behaviour among young urban Indian consumers through the lens of theory of planned behaviour. *Journal of Cleaner Production, 183*, 46–55. https://doi.org/10.1016/j.jclepro.2018.02.097

[10] Trivedi, R. H., Patel, J. D., & Acharya, N. (2018). Causality analysis of media influence on environmental attitude, intention and behavior leading to green purchase. *Journal of Cleaner Production, 196*, 11–22. https://doi.org/10.1016/j.jclepro.2018.06.024

[11] Rustam, A., Wang, Y., & Zameer, H. (2020). Environmental awareness, firm sustainability exposure and green consumption behaviors. *Journal of Cleaner Production, 268*, 122200. https://doi.org/10.1016/j.jclepro.2020.122200

[12] Maki, A., Carrico, A. R., Raimi, K. T., Truelove, H. B., & Zhao, J. (2016). Meta-analysis of pro-environmental behaviour spillover. *Nature Climate Change, 6*, 456–461. https://doi.org/10.1038/nclimate3038

[13] Sun, Y., & Xing, J. (2023). The impact of gamification motivation on green consumption behavior—An empirical study based on Ant Forest. *Sustainability, 15*(1), 512. https://doi.org/10.3390/su15010512

[14] Sriramaneni, S. D., Kotni, V. V. D. P., Babu, G. N. P. V., & Sriramneni, C. (2025). Green purchase intention: Understanding the role of environmental beliefs, health consciousness and perceived behavioural control. *Revista Galega de Economía, 34*(2). https://doi.org/10.15304/rge.34.2.10587

[15] Krampe, C., de Groot, A.-J., & Hurst, W. (2025). Green loyalty? Unveiling consumer preferences in sustainable temporary loyalty programs. *Cleaner and Responsible Consumption, 16*, 100253. https://doi.org/10.1016/j.clrc.2025.100253