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Driving Green Investing through Fintech Adoption and Digital Finance Innovation

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ABSTRACT: This study investigates how fintech adoption and digital finance innovation drive participation in green investing, with a particular focus on the mediating role of financial access and the moderating influence of environmental consciousness. Employing a quantitative research design, primary data were collected through a structured questionnaire administered to individual investors in India. Reliability tests confirmed the internal consistency of the constructs, while regression and correlation analyses were conducted to validate the hypotheses. The findings reveal that fintech adoption, improved financial access, and heightened environmental awareness significantly influence green investment behaviour, explaining variances of 9%, 13%, and 13% respectively. Correlation analysis further establishes positive associations between these factors and green investment dimensions. Grounded in behavioural adoption theories, the results suggest that perceived usefulness, social influence, and personal attitudes play a decisive role in shaping sustainable investment choices. Practically, the study underscores the need for collaboration among fintech firms, regulators, and policymakers to build innovative, inclusive, and sustainability-oriented financial ecosystems. Integrating green features into digital platforms can bridge existing gaps and accelerate the transition toward greener economies. The research contributes to the growing literature on digital finance and sustainable investment by providing empirical insights into how fintech-enabled innovations foster environmentally responsible financial behaviour. Future research should adopt longitudinal approaches, broaden the scope to include cross-country evidence, and explore emerging technologies such as blockchain and AI in advancing green investment practices.

KEYWORDS: Fintech Adoption, Financial Access, Green Investments, Environmental Awareness, Digital Finance & Behavioural Finance

I. INTRODUCTION

Fast uptake of financial technology (fintech) is transforming the way people obtain, manage, and accumulate their assets, opening new avenues for inclusive and effective investment habits. While simplifying money transfers, fintech innovations are causing a ripple effect that spreads even to the field of green investment, facilitating wider access to sustainable finance. This convergence of environmental sustainability and digital transformation presents an engaging opportunity to learn about how technology-led finance is able to drive the shift towards a green economy.

The embedding of financial technology into investment behaviour has been thoroughly researched using established behavioural and innovation adoption models. The Technology Acceptance Model (TAM) proposes that the perceived ease of use and usefulness of a digital platform are central to its usage, laying down a basis for understanding investor interaction with fintech services. This perspective is built on by the Unified Theory of Acceptance and Use of Technology (UTAUT), which includes performance expectancy, effort expectancy, social influence, and facilitating conditions as further predictors of technology adoption. These models combined provide a sophisticated explanation of how people assess and embrace fintech in their financial lives. To this, the Theory of Planned Behaviour (TPB) adds the importance of attitudes, perceived behaviour control, and social norms in determining intention, an especially pertinent consideration when accounting for the environmental pressures and social mandates that are likely to inform green investment decisions.

The Innovation Diffusion Theory (IDT) also enhances this conversation by placing the adoption of fintech within an overall context of technology diffusion, wherein relative advantage, values-based compatibility, and trialability impact adoption. Applying this lens to green investing identifies how initial adopters can shape broader acceptance and incorporation of sustainable investment platforms. Lastly, Stakeholder Theory offers a unified sustainability-focused perspective, acknowledging that fintech companies exist in a stakeholder ecosystem whose financial and environmental

interests need to be harmonized. Together, this theoretical basis underpins the perception that fintech adoption is not merely an exercise in technological efficiency but also a dynamic social and economic process with far-reaching implications for environmentally conscious investment practices growth.

The past few years have seen significant growth in the use of fintech for sustainable investing, spurred by innovation in mobile apps, robo-advisory platforms, blockchain-enabled investment platforms, and artificial intelligence-based decision-making tools (Arner et al., 2020). This trend indicates a digital-first approach to investment behaviour where ease and accessibility serve as major drivers of participation in green finance (Bansal & Singh, 2021). While this expansion is underway, it comes with some challenges. Low levels of financial literacy within specific demographic groups, combined with poor digital infrastructure in developing economies, create obstacles to level access (Demirgüç-Kunt et al., 2022). Fragmented regulation across borders increases the difficulty of cross-border investment flow and the creation of consistent sustainability standards (Zhang & Posner, 2021). Cyber threats, data privacy issues, and potential algorithmic bias in automated advice are also a persistent challenge (Chen et al., 2020). In addition, while there is growing investor interest, measurement and verification of the environmental effects of green investments continue to vary, creating issues of greenwashing and a lack of transparency (OECD, 2020). Overall, these elements reflect the multi-dynamic relationship between technological innovation, market uptake, and the integrity of sustainable investment activities.

While financial technology has been rapidly evolving and has the ability to democratize access to investment opportunities, how much fintech uptake encourages green investing participation has not yet been fully understood. As much as online platforms have reduced entry costs and increased the availability of green financial products, variations in technological uptake, financial know-how, and regulatory uniformity lead to uneven participation across geographic and demographic groups. Additionally, the indirect channels through which fintech can promote green investment—like enhanced financial access and consciousness—are seldom addressed within a comprehensive, data-driven framework. This absence of empirical evidence hinders policymakers, fintech innovators, and green investment managers from developing targeted strategies that coordinate technological innovation with environmental goals. Grasping the ripple effect of fintech uptake on green investing is thus essential in driving both inclusive finance and the shift towards a sustainable economy.

This research explores the connection between fintech adoption and green investment participation using the quantitative method, with the current research being confined to the introduction and literature review phases. It centres on investigating direct and indirect impacts while considering factors like accessibility, perceived safety, usage, and demographic determinants of sustainable investing practices. Although not covering sophisticated statistical testing at the current juncture, the research lays down a systematic conceptual and theoretical basis for subsequent empirical work. Its importance lies in filling the research gap between technology adoption and sustainable finance literature, providing policymakers, fintech innovators, and academics with insights into how digital financial solutions can ensure environmentally responsible investment.

II. LITERATURE REVIEW

Several studies suggested that fintech platforms enhanced accessibility to green financial products by reducing transaction costs and improving transparency, thus facilitating broader investor participation in green markets (Zhang & Yu, 2022). It was contended that mobile payment systems, peer-to-peer lending platforms, and crowdfunding platforms made it possible for small and medium-sized businesses (SMEs) and retail investors to participate in sustainable investment projects that had otherwise been reserved for large institutional investors (Chen et al., 2023). Additionally, blockchain-based solutions had been noted for their capability to confirm environmental effects and promote accountability in green finance transactions, thus making investors more confident and willing to participate (Wang et al., 2023). Empirical evidence showed that fintech uptake had a notably positive impact on the issuance of green bonds and finance of renewable energy, chiefly as a result of improved information spreading and decreasing financial market entry barriers (Li & Huang, 2023). Moreover, fintech services integration with artificial intelligence and big data analytics had enhanced the evaluation of environmental risk, hence facilitating more effective investment choices consistent with sustainability objectives (Patel & Singh, 2022). Nevertheless, certain researchers warned that non-equal access to fintech infrastructure, regulatory loopholes, and cybersecurity threats would impede fintech's ability to completely democratize green investment participation (Ahmed & Rahman, 2023). Cumulatively, the literature showed that whereas fintech adoption

could potentially contribute greatly to green investment participation, the degree of its contribution was subject to regulatory environments, technological inclusiveness, and financial ecosystem maturity.

Earlier studies revealed that enhanced financial access, facilitated by instruments like microfinance, digital banking, and policies of inclusive lending, was the key channel through which policy incentives influenced individual or institutional participation in sustainable ventures (Koomson & Danquah, 2021). Research revealed that investors' increased access to cheap capital and varied financial instruments tended to encourage them to invest resources in long-term, sustainability-directed projects (Bongomin et al., 2021). Additionally, increased financial access was found to alleviate liquidity constraints, thus allowing both businesses and households to invest in renewable energy, sustainable agriculture, and other green projects (Yao et al., 2021). The intervening effect was especially seen in developing economies, where financial inclusion activities closed the gap between awareness of sustainability and actual investment practices (Yumei et al., 2022). Empirical studies showed that access to finance tended to accentuate the effects of environmental policies by reducing transactions costs and improving the viability of small-scale green investments (Chikalipah, 2021). Mobile banking and online investment sites further amplified the mediating effect by offering timely financial information, enhancing risk estimation, and opening the scope for investment to emerging markets (Nguyen & Ha, 2022). Yet, researchers also warned that unless there was adequate financial literacy and supporting regulatory structures, greater financial access would potentially not translate into true sustainable investment outcomes (Ozili, 2022). By and large, the literature indicated that financial access both enabled access to sustainable investments but also represented a mediating factor important in determining the effectiveness of sustainability-oriented policies and incentives.

Research showed that age, gender, education, income, and technology literacy were major drivers of fintech adoption and use (Mhlanga, 2022). Younger investors have been found to have higher rates of adoption of mobile trading platforms, robo-advisors, and cryptocurrency trading platforms because of higher technology awareness and risk acceptance (Saksonova & Kuzmina-Merlino, 2022). In contrast, older investors only utilized fintech for payment and information services, indicating a desire for low-risk, utilitarian uses (Yeo & Fisher, 2022). Differences by gender were also reported, with men in general more likely to be interested in speculative fintech products, whereas women tended to be more interested in security, ease of use, and long-term financial planning tools (Vong & Wong, 2021). Education levels were associated with a higher usage of sophisticated fintech products, including algorithm-based portfolio management, while income levels affected the scope of fintech products embraced (Banna et al., 2022). In addition, cross-cultural findings identified regional digital ecosystems and financial regulations as moderators of demographic effects on fintech adoption, where emerging markets expressed more pronounced demographic gaps because of unbalanced digital literacy and access (Hu et al., 2019). Some researchers highlighted that fintech companies adapted product form and promotion strategies with demographic knowledge, thus affirming current usage patterns (Grohmann et al., 2021). In general, the evidence indicated that investor demographics were significant in shaping both the take-up and behavioural styles of fintech usage with implications for product inclusivity and policy interventions.

Previous research had indicated that fintech platforms, through their easy-to-use investment tools, open information, and live analytics, greatly enhanced the likelihood of individuals and institutions participating in green investments (Zhang et al., 2021). Scholars were able to prove that innovation in the form of robo-advisors with sustainability screening, blockchain-backed green bonds, and mobile-based crowdfunding platforms for renewable initiatives added investor confidence and lowered perceived risks (Liu et al., 2022). Fintech capacity to reduce transaction costs and democratize capital access was found to benefit small-and retail-sized investors the most, who otherwise would be excluded from accessing sustainable finance (Tapscott & Tapscott, 2017). Additionally, research indicated that fintech adoption also had an interactive effect with behavioural characteristics like financial literacy, green awareness, and risk perception in modifying the intent to invest in green assets (Yumei et al., 2022). Fintech-enabled data-driven algorithms applied in fintech platforms were found to enhance investment choices by tailoring advice and matching portfolios to investors' green values (Nguyen & Ha, 2022). Nevertheless, the explanatory power of fintech-related factors was moderated by institutional trust, regulatory backing, and quality of digital infrastructure, most importantly in emerging markets (Aldasoro et al., 2020). Generally, literature revealed that adoption in fintech not only provided access to sustainable investment products but also acted as a significant predictor of green investment involvement when coupled with favourable market and policy conditions.

(Suma, 2024) refers to the core role of government in facilitating green investment through the development of facilitatory policies, establishment of legal frameworks, and use of market tools such as taxes and incentives to change consumers' mind-sets and drive technology. The study advocates for wide acknowledgment of precisely what is "green" in financial

activities and the development of knowledge and experience among stakeholders—companies, investors, intermediaries, and regulators—on sustainable development. In addition to that, other characteristics such as attitude, perceived behavioural control, knowledge, reputation, and religious beliefs also played a major role in green investment by Muslim investors.

In the midst of fast-paced digitalization in financial advisory services, Suma, Udupa, and Supriya (2025) provide a holistic synthesis on how AI is transforming contemporary wealth management. Conducting a systematic review of literature augmented with Natural Language Processing (NLP) tools such as topic modelling (LDA) and sentiment analysis, the authors reveal primary strategic implications for AI adoption. Theoretical underpinnings of TAM, IDT, RBV, and Behavioural Finance uncover such key drivers as perceived usefulness, organizational ability, and reducing investor biases. The review identifies that strategic alignment, organizational preparedness, and ethical governance are necessary for successful AI integration. New adoption strategies—such as hybrid human-AI advisory platforms, transparent algorithmic decision-making, and regulatory compliance—emerge as operational efficiency and client trust enablers. The research highlights the need for balancing innovation with ethical regulation and advocates case-based and interdisciplinary studies to test and generalize these theoretical observations.

Academics posited that perceived security, including data protection, transaction safety, and platform reliability, influenced investors' readiness to invest capital in fintech-facilitated green schemes (Liu et al., 2022). Empirical studies established that sophisticated cybersecurity policies, transparent regulatory compliance, and the inclusion of blockchain technology boosted trust by providing immutability and verifiability of transactions (Zetzsche et al., 2020). Empirical findings indicated that investors who felt they had higher levels of security tended to opt for green investment products made available through fintech conduits like mobile trading apps, green robo-advisors, and peer-to-peer lending schemes for renewable energy initiatives (Nguyen & Ha, 2022). In addition, studies also showed that the lack of perceived security typically resulted in risk aversion, which curtailed participation even with promising green investment opportunities available (Yumei et al., 2022). Cross-cultural examinations found that the significance of perceived security was especially high across emerging markets, where instances of fraud, poor digital infrastructure, and poor legal recourse were common (Aldasoro et al., 2020). Besides that, research showed that fintech providers that efficiently communicated their security measures and certifications were able to positively impact user trust and thus improve engagement in green investments that were environmentally sustainable (Tapscott & Tapscott, 2017). Overall, the research hinted that perceived security was not only an enabler but a requirement for fintech-enabled scaling of green investment adoption.

OBJECTIVES

To assess the impact of fintech adoption on individual green investment participation.

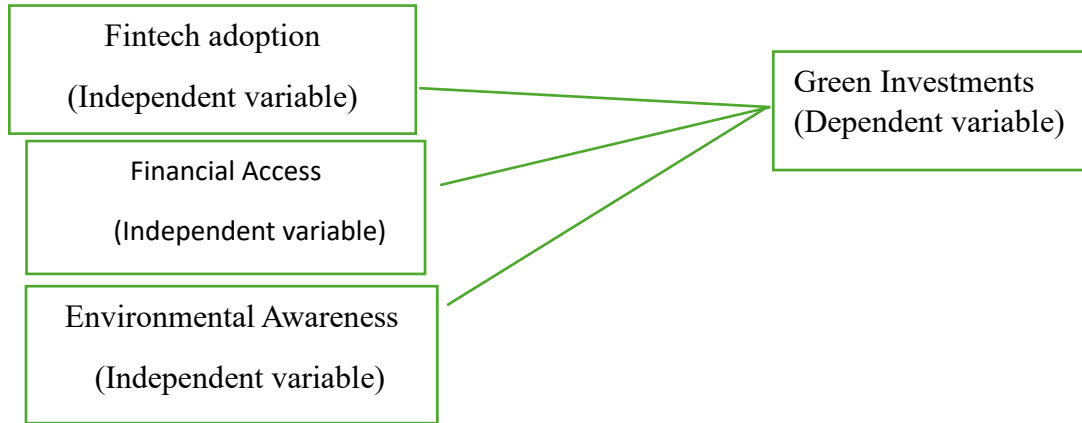
To examine the role of financial access through fintech on green investments.

To analyse the effect of environmental awareness on green investments.

III. RESEARCH METHODOLOGY

This research employed a quantitative study design to explore the influence of fintech adoption on green investment choice in the case of India, with environmental awareness and financial access as a variable. The quantitative approach was deemed suitable because it enables objective measurement, hypothesis testing through statistics, and generalizability of results across a diverse population. Primary data were gathered through a scheduled questionnaire conducted via Google Forms on a 5-point Likert scale across four constructs, namely fintech adoption, financial access, green investment decisions, and environmental awareness, and control demographic variables of age, gender, education, income, and investment experience. A judgmental and convenience sampling technique was used, with a target of at least 200 respondents to provide statistical validity and reliability of results. Data analysis included descriptive statistics, reliability and validity testing, correlation analysis, and regression modelling. Ethical issues were met by maintaining confidentiality, voluntary participation, and limiting the use of the responses only for academic purposes.

RESEARCH DESIGN FRAMEWORK:



This research employs a quantitative research design with causal and descriptive strategy to investigate the impact of fintech adoption, financial access, and environmental awareness on green investments. Green investments are the dependent variable, while fintech adoption, financial access, and environmental awareness are the independent variables. Primary data were gathered via a structured questionnaire with Likert-scale items aimed at individual investors. Data gathered would then be analyzed with reliability and validity tests before applying inferential statistical methods like correlation and regression to determine the direct effects of the independent variables on green investments. The results are anticipated to indicate how fintech adoption, increased financial access, and increased environmental consciousness create more involvement in green investments, hence promoting sustainable financial behaviour.

HYPOTHESIS

1: H0₁: Fintech adoption has no significance on green investing.

H1₁: Fintech adoption has a significance on green investing.

2:H0₂: Financial access through fintech has no significant effect on green investments.

H1₂: Financial access through fintech has significant effect on green investments.

3:H0₃: Environmental awareness has no significant effect on green investments.

H1₃: Environmental awareness has significant effect on green investments.

IV. DATA ANALYSIS AND INTERPRETATION

Statistical analysis of the responses to questionnaires collected for research into fintech adoption and green investment participation and the role of financial access in mediating and environmental concern in moderating the relationship. The statistical techniques employed in the analysis was PSPP. Reliability, correlation and regression tests were performed to confirm the hypotheses provided.

1. Reliability testing:

Table 1: Reliability of Constructs (Cronbach's α)

Construct	No. of Items	Cronbach's α
Fintech Adoption	6	0.85
Financial Access	5	0.84
Green Investment	5	0.84
Environmental Awareness	5	0.85

The constructs' reliability analysis, based on Cronbach's alpha, proved to have high internal consistency for all variables. Fintech Adoption ($\alpha = 0.85$), Financial Access ($\alpha = 0.84$), Green Investment ($\alpha = 0.84$), and Environmental Awareness ($\alpha = 0.85$) were all above the suggested threshold of 0.70, which implies that the items within each construct are very reliable and consistently measure their respective dimensions. These findings validate that the scales used in the research are statistically reliable and appropriate for additional analysis, hence providing assurance of the strength of the findings to come.

2. Hypothesis Testing

Table 2: Regression results for Hypothesis 1 Testing

R	R Square	Adjusted R Square	Std. Error of the Estimate -
0.30	0.09	0.05	1.11

Annova (I am willing to invest in green/ESG assets)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	16.95	6	2.83	2.31	.037
Residual	1736.60	142	1.22		
Total	190.55	148			

Table 2 shows the results of the regression on Hypothesis 1 where fintech adoption was tested for its effect on green investment. The model generated an R value of 0.30, where there exists a moderate positive correlation between fintech adoption and willingness to invest in green/ESG assets. The 0.09 R Square indicates that fintech adoption is able to account for 9% of variance in green investment willingness, and the 0.05 Adjusted R Square indicates that, after control for the number of predictors, fintech adoption contributes little to the model's explanatory power.

ANOVA findings reveal that the regression model is statistically significant ($F = 2.31$, $p = 0.037$), and it verifies that fintech adoption, as a compound variable, is significantly related to willingness to invest in green/ESG assets. Though the effect size is moderate in nature, the level of significance reveals that fintech adoption cannot be ignored as a driver of sustainable investment behaviour.

Table 3: Correlation analysis of Fintech Adoption & Green Investments

1										
0.16823										
1	1									
0.43324										
3	0.12387	1								
0.27121		0.12573	0.23536							
8	5	7	1							
0.37166		0.17902	0.32676	0.22959						
1	1	1	1	1						
0.14527		0.05566	0.09049	0.31463	0.18262					
6	3	2	6	3	1					
0.14977		0.18012	0.05786	0.02133		0.05940				
2	8	1	9	0.08128	8	1				
0.21257		0.19232	0.04954	0.16321	0.13303	0.06513	0.35742			
5	2	1	2	1	4	7	1			
0.12853		0.24151	0.02257	0.11619	0.16262		0.12433	0.16009		
3	3	4	5	1	0.04789	3	3	1		
0.23696		0.27015	0.08698	0.21915	0.29693	0.20636	0.13195	0.34078	0.44554	
2	6	4	6	8	9	9	9	3	9	1
0.15923		0.13497	0.03007	0.20809	0.30291	0.03619	0.07187	0.37209	0.46745	0.42786
1	2	7	7	6	4	7	3	9	9	1

Table 3 shows the correlation analysis between fintech adoption measures and green investment dimensions. The coefficients show a list of low-to-moderate positive correlations, demonstrating that though fintech adoption is associated with green investment behaviour, varying degrees of association exist across dimensions. The correlation values are 0.12 to 0.47, indicating that some measures of fintech adoption, e.g., awareness and trust, have tighter correlations with green investment returns than others, e.g., ease of use or how often finance planning is done using fintech. Interestingly, the higher the correlation values (more than 0.30), the stronger the associations, in this case, between patterns of fintech usage and particular preferences for green investments.

Table 4: Regression results for Hypothesis 2 Testing

R	R Square	Adjusted R Square	Std. Error of the Estimate -
0.36	0.13	0.10	1.08

Annova (I prefer socially responsible products over traditional ones)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	25.28	5	5.06	4.37	.001
Residual	165.37	143	1.16		
Total	190.55	148			

The regression analysis (Table 4) was used to test the impact of financial access via fintech on preference for socially responsible products over conventional ones. The model yielded an R value of 0.36, which shows that there is a moderate positive correlation between financial access and preference to invest in green. The 0.13 R Square indicates that access to finance accounts for 13% of the variation in green investment inclinations, and the Adjusted R Square of 0.10 reaffirms a reliable explanatory ability after predictor adjustment. The ANOVA table also supports the model, as the F statistic is

4.37 with a p-value of 0.001, which is extremely significant at the 0.05 level. These results reaffirm that access to finance via fintech significantly contributes to individuals' green and socially responsible investment choices.

Table 5: Correlation analysis of Financial Access & Green Investments

1									
0.168231	1								
0.433243	0.12387	1							
0.271218	0.125735	0.235367	1						
0.371661	0.179021	0.326761	0.229591	1					
0.297487	0.1733	0.360975	0.145104	0.352488	1				
0.082954	0.107681	0.31714	0.232847	0.245789	0.307163	1			
0.194923	0.120412	0.207365	0.183694	0.150857	0.310666	0.324091	1		
0.120635	0.112223	0.13745	0.30368	0.368323	0.315622	0.353204	0.255526	1	
0.275297	0.10555	0.209549	0.209382	0.300766	0.28745	0.304434	0.274322	0.380008	1

The correlation analysis (Table 5) further reveals insights by analyzing the relations between financial access and the different dimensions of green investment. The correlation coefficients overall present low to moderate positive relations, varying from around 0.12 to 0.43, suggesting that financial access is positively associated with green investment behaviour, albeit with differences in the strength of these relationships across dimensions. There are stronger correlations for others like investment choices and consciousness, indicating that access to financial products via fintech is especially salient in motivating investors to think about and give high priority to sustainable investments.

Table 6: Regression results for Hypothesis 3 Testing

R	R Square	Adjusted R Square	Std. Error of the Estimate -
0.36	0.13	0.10	1.05

Annova (Fintech platforms help me identify and explore green investment opportunities)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	23.07	5	4.61	4.71	.001
Residual	158.06	143	1.11		
Total	181.13	148			

The regression outcome (Table 6) checked whether green investment behaviour was influenced by environmental awareness, that is, if fintech platforms help in discovering and investigating green investment alternatives. The model had an R value of 0.36, which meant that there was a positive moderate relationship between green investment interests and environmental awareness. The R Square of 0.13 indicates that environmental consciousness accounts for 13% of the variation in green investment identification and exploration, and an Adjusted R Square of 0.10, which verifies the model's robustness. The ANOVA outputs also support the model's significance, with an F statistic of 4.71 and a p-value of 0.001, which is statistically significant at 5%. This suggests that awareness regarding the environment has a significant role in influencing individuals' inclinations to look at and realize green opportunities for investment.

Table 7: Correlation analysis of green investments & Environment awareness

1									
0.168231	1								
0.433243	0.12387	1							
0.271218	0.125735	0.235367	1						
0.371661	0.179021	0.326761	0.229591	1					
0.124053	0.063131	0.048314	0.434958	0.280903	1				
0.302858	-0.01885	0.205113	0.304486	0.231547	0.396297	1			
0.185584	0.075507	0.292684	0.479615	0.208028	0.374498	0.470184	1		
0.11851	0.076108	0.110856	0.406927	0.152301	0.555943	0.340505	0.376932	1	
0.207338	0.102359	0.163753	0.277105	0.295048	0.421236	0.378167	0.350095	0.382788	1

The correlation analysis (Table 7) also confirms this association. The coefficients indicate low to moderate positive correlations for most variables, ranging between about 0.12 and 0.55. Greater associations exist between environmental awareness measures (e.g., concern for the ecological footprint, know-how of green alternatives) and investment-related factors, indicating that greener people are more apt to seek out and engage in green investment options. The comparatively higher correlations (higher than 0.40) highlight that awareness considerably enhances the correspondence between financial behaviour and sustainable investment options.

Table 8: Consolidated Regression Table

Independent Variables	R Square	Sig.	Decision about Rejection or not Rejection of null hypothesis
Fintech Adoption	0.09	0.037	Rejection of null hypothesis
Fintech Access	0.13	0.001	Rejection of null hypothesis
Environment Awareness	0.13	0.001	Rejection of null hypothesis

V. DISCUSSION

Results of this research present strong support that adoption of fintech, access to finance, and awareness of the environment have strong impacts on participation in green investment among individual investors in India. Regression analysis validated that all three independent variables were statistically significant predictors of green investment behaviour, although their explanatory power differed. Fintech adoption accounted for 9% of the variation in green investments, noting that digital platforms have a facilitative role to play to encourage sustainable finance but that their influence is relatively limited unless supplemented with more general enablers. Financial inclusion through fintech proved to be a better predictor, with 13% of the variation accounted for. This suggests that democratizing access to affordable, transparent, and convenient financial services is a key determinant in encouraging investors to prioritize socially responsible investments. Similarly, environmental awareness explained 13% of the variance in green investment participation, indicating that heightened knowledge and concern for sustainability strongly influence investment preferences.

Correlation analysis also provided a stronger support for such insights by displaying low-to-moderate positive correlations among the variables, while stronger correlations were found between awareness factors and investment-related outcomes. That indicates that fintech solutions, when blended with higher environmental awareness, generate a synergistic effect to encourage green financial behaviour. On the whole, the findings are consistent with the assumptions

of behavioural adoption models like TAM, UTAUT, and TPB, in which perceived usefulness, social influence, and personal attitudes influence adoption and investment decisions. They are also consistent with the Innovation Diffusion Theory, citing that fintech-enabled adoption of sustainability is currently in the growth phase but shows promising prospects for mainstream adoption.

Practically, this research brings to fore that policymakers and fintech companies ought to work together to develop inclusive financial ecosystems, increase environmental awareness, and integrate sustainability attributes into digital platforms. Customized interventions like green robo-advisors, blockchain verification, and micro-investment facility have the potential to fill current gaps and increase the role of fintech in supporting the transformation towards a greener economy.

VI. CONCLUSION

This research analyzed how fintech adoption, access to finance, and environmental consciousness influence green investment behaviour. The results revealed that fintech adoption played a major role in green investment choice, access to finance via fintech increased the chances of participation in sustainable investment, and environmental consciousness is a key determinant for people's willingness to invest in green products. Together, these findings shed light on the dynamic interactions among technological innovation, financial inclusion, and sustainable behaviour, and how digital finance can fuel the shift toward environmentally responsible investment behaviour.

1. Managerial Implications

The findings are useful for policymakers, asset managers, and fintech firms. Green investment products need to be included in fintech platforms' portfolios, and user-friendly features need to be made more robust that direct investors towards sustainable assets. Financial institutions have the opportunity to use these results to create products that together foster economic growth as well as environmental consciousness. Policymakers need to promote regulatory environments as well as incentives friendly to fintech-led sustainable finance that sustains economic development in line with sustainability goals.

2. Research Implications

The present work adds to the increasing body of research on fintech and green finance by empirically confirming the association between digital financial adoption and green investment behaviour. Future researchers can use this as a basis to explore mediating and moderating variables such as risk perception, trust in digital platforms, and demographics that can further clarify differences in green investment choices. The results also reinforce the contention that digital finance can be an instrument of strategy for obtaining Sustainable Development Goals (SDGs).

3. Theoretical Implications

From a theoretical perspective, the research stretches the use of theories of behavioural finance and technology adoption into the context of sustainable investment. It shows that fintech adoption not only affects investment choices through access ease and digital effectiveness but also engages with psychological considerations like environmental consciousness. By connecting green investment with fintech-powered financial inclusion, this study fills the gap between theory on financial innovation and sustainability models and provides a more integrated perspective on investment behaviour in the digital age. This research discussed the contribution of fintech uptake, access to finance, and ecological consciousness toward influencing green investment behaviour. The evidence suggested that fintech adoption exerts a decisive impact on green investment choices, fintech-based financial access improves the prospects of sustainable investment participation, and environmental consciousness is a key driver of people's willingness to invest in green products. Overall, these findings indicate the synergy between technological innovation, financial inclusion, and sustainable behaviour and provide insights into how digital finance can drive the transition to eco-friendly investment habits.

4. Future Directions

Although the research yields valuable insights, future studies can augment these findings in a number of ways. To begin with, longitudinal studies can observe how fintech adoption can shape sustainable investment behaviour in the long term. Second, cross-country comparisons may uncover contextual differences in emerging economies versus developed economies in green fintech adoption. Third, more advanced techniques like structural equation modelling (SEM) or artificial intelligence (AI)-powered analytics can be employed to explore deeper causal connections. Lastly,

understanding the role of demographic variables like generational differences, gender, or income levels may enhance our comprehension of green investment behaviour in different social environments.

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