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Promoting Positive ESG Management Practices and Customer Intention to Adopt Mobile Payment Systems in Post-COVID-19 Nigeria

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Abstract

This study examines the influence of Environmental, Social, and Governance (ESG) management practices on customers' intention to adopt banking services, focusing on the mediating roles of perceived ease of use, perceived risk, and perceived usefulness within the Technology Acceptance Model (TAM). Data were collected from a purposive sample of 1,552 respondents (52% male, 48% female; age range 18–55; majority with tertiary education) across urban and semi-urban areas of South West Nigeria. Structural equation modeling using SmartPLS was applied to test the relationships. Results reveal that ESG practices significantly enhance perceived ease of use (β = 0.701, p < .001), perceived risk (β = 0.558, p < .001), and perceived usefulness (β = 0.514, p < .001). While perceived usefulness (β = 0.430, p = .002) and perceived risk (β = 0.476, p < .001) significantly predict intention to adopt, perceived ease of use shows no direct effect (β = 0.025, p = .739). Mediation analysis indicates that perceived usefulness (β = 0.221, p = .026) and perceived risk (β = 0.265, p = .002) significantly mediate the ESG–intention relationship, whereas perceived ease of use does not. These findings underscore the importance of ESG-driven value and risk communication in promoting customer adoption of sustainable banking services in post-pandemic Nigeria. The study provides both theoretical and practical implications for banks seeking to integrate ESG considerations into service design and customer engagement strategies.

Keywords: ESG Management Practices, Technology Acceptance Model (TAM), Perceived Usefulness, Perceived Risk, Mobile Banking Adoption, Customer Intention.

Introduction

The COVID-19 pandemic has profoundly impacted financial transactions worldwide, accelerating the adoption of mobile payment systems as a safe, contactless alternative. In Africa, adoption rates vary significantly: Kenya reports 68.7%, Uganda 53.8%, and Zambia 41.6%, yet Nigeria lags with only 8.7% uptake of mobile banking services. This contrast highlights a unique contextual challenge for Nigeria, where a dynamic and diverse economy has not translated into widespread digital finance adoption.

Environmental, Social, and Governance (ESG) management practices are increasingly recognized as crucial to sustainable business models (El Ghoul et al., 2011; Flammer, 2013). For financial institutions, embedding ESG principles may not only strengthen reputation but also improve customer trust and engagement (Eccles & Serafeim, 2013). However, the

role of ESG in shaping customer behavioral intention to adopt mobile payment systems, particularly in emerging economies, remains underexplored.

Research Gap & Contribution:

While prior studies on mobile payment adoption have largely focused on technology-related factors (e.g., perceived usefulness, ease of use, and risk) within the Technology Acceptance Model (TAM), little attention has been given to the moderating and mediating influence of ESG practices in this framework. Moreover, existing research on digital finance adoption in Nigeria seldom integrates ESG with behavioral intention models. This study addresses this gap by extending TAM to include ESG management as a determinant of intention, testing its effects through perceived usefulness, perceived ease of use, and perceived risk. The theoretical novelty lies in integrating sustainability-oriented practices with established technology adoption theory, while the empirical contribution provides evidence from a large Nigerian sample during the post-pandemic context.

Problem Statement/Justification:

Despite the global rise of mobile payment systems during COVID-19, Nigeria continues to record low adoption levels, raising concerns about financial inclusion and economic resilience. While ESG factors are increasingly emphasized in global finance, their role in influencing Nigerian consumers' adoption of mobile payments remains unclear. Existing studies highlight TAM variables but rarely connect them with ESG, leaving a critical gap in understanding how sustainability practices shape behavioral intentions in digital finance. Addressing this gap is crucial for businesses and policymakers seeking strategies that foster sustainable recovery, build trust, and enhance customer adoption of mobile payment systems in Nigeria.

Objectives of the study

Drawing from this problem, the study aims to:

1. Assess the level of customer awareness and understanding of ESG principles in the Nigerian mobile payment context.
2. Examine how ESG management practices influence customer perceptions (usefulness, ease of use, and risk) and adoption intentions.
3. Identify which ESG dimensions (environmental, social, governance) most strongly shape behavioral intention.
4. Test the moderating effects of demographic variables (age, gender, education, income) on the ESG–intention relationship.
5. Provide strategic recommendations for mobile payment providers and policymakers on embedding ESG into digital finance adoption strategies.

Literature Review

ESG Management Practices and Technology Adoption

management has emerged as a strategic driver of organizational sustainability and stakeholder trust (El Ghoul et al., 2011; Flammer, 2013). Financial institutions integrating ESG principles demonstrate stronger reputations, customer loyalty, and resilience in times of crisis (Eccles & Serafeim, 2013). However, research linking ESG management directly to consumer technology adoption remains limited, particularly in developing economies. This study positions ESG as an external determinant in the Technology Acceptance Model (TAM), influencing key perceptual constructs—perceived usefulness (PU), perceived ease of use (PEOU), and perceived risk (PR)—that shape customer intention.

ESG and Perceived Usefulness (PU)

Perceived usefulness (PU) reflects users' belief that a technology enhances performance (Davis, 1989). Prior studies show that technologies aligned with user needs and values are more likely to be perceived as useful (Nguyen & Huynh, 2018). In digital finance, ESG integration may enhance PU by signaling corporate responsibility, transparency, and long-term value creation. When customers see mobile payment providers addressing social and environmental concerns, they may view the technology as not only functional but also socially beneficial, thereby strengthening perceived usefulness.

ESG and Perceived Ease of Use (PEOU)

Ease of use relates to how effortlessly users can adopt a system (Venkatesh & Davis, 2000). Evidence suggests that ESG-oriented firms often design systems with accessible, ethical, and user-friendly interfaces (Rouibah et al., 2021). Transparent governance practices can reduce confusion, while socially responsible initiatives such as inclusive design make technology more approachable. Hence, ESG management is expected to positively influence PEOU by fostering trust and reducing the cognitive burden of adoption.

ESG and Perceived Risk (PR)

Perceived risk is a user's uncertainty about potential negative outcomes from using a system (Li & Hu, 2018). In digital finance, risk concerns often revolve around privacy, security, and transaction failures. While ESG could be expected to reduce perceived risk by signaling trustworthiness, this study posits a paradox: ESG may actually heighten risk awareness. As firms communicate ESG-related initiatives—such as transparency in data use, anti-fraud measures, and compliance with governance standards—users may become more conscious of risks they had not previously considered. Thus, ESG may positively influence risk perception by raising awareness, which in turn can drive deliberate, cautious, but ultimately stronger adoption intentions (Gupta et al., 2017).

Perceived Usefulness, Ease of Use, Risk, and Behavioral Intention

Extensive TAM literature confirms that PU and PEOU significantly predict technology adoption intentions (Davis, 1989; Xia et al., 2019). However, findings on perceived risk are mixed: while some studies find it deters adoption (Endah & Hendra, 2018), others suggest that heightened risk awareness may lead to more deliberate decision-making (Dimin et al., 2023). In the Nigerian context, where trust in financial institutions is often low, ESG-driven perceptions of usefulness and risk may play stronger roles in shaping behavioral intention than ease of use.

Theoretical Review

Technology Acceptance Model (TAM):

The study extends the Technology Acceptance Model (TAM) by incorporating ESG management as a key external determinant of adoption intention.

ESG → PU: ESG-aligned practices signal value creation and social responsibility, increasing the perceived usefulness of mobile payment systems.

ESG → PEOU: Transparent governance and inclusive system design foster perceptions of user-friendliness, thereby enhancing ease of use.

ESG → PR: Unlike conventional TAM extensions, this study argues that ESG raises users' awareness of risks. For example, by openly disclosing data protection and ethical concerns, ESG initiatives heighten sensitivity to potential risks. This heightened awareness does not deter adoption but encourages cautious, informed decision-making—ultimately strengthening behavioral intention.

By integrating ESG into TAM, this framework contributes theoretical novelty: it reframes risk not merely as a barrier but as a mediated pathway through which ESG practices shape technology adoption.

Empirical Review

Perceived usefulness and Behavior Intention

Ghani, Ali, Musa, & Omonov (2022) explored the effect of perceived usefulness, banking system reliability, and COVID-19 pandemic on the digital banking effectiveness of a bank in Malaysia based on the technology acceptance model (TAM). The findings indicated that two of the chosen factors, namely, perceived usefulness and reliability of the banking system, significantly influenced digital banking effectiveness. On the other hand, the findings also showed that the COVID-19 pandemic did not influence digital banking effectiveness, per the bank clients' perspective.

Perceived Ease of Use and Behavior Intention

Jasin (2022) analyze the effect of perceived ease of use on behavior intention through perceived enjoyment as an intervening variable in digital payment. The findings indicate that perceived ease of use has a positive influence on behavior intention, perceived ease of

use also has a positive influence on perceived enjoyment, Likewise, perceived enjoyment has a positive influence on behavior intention.

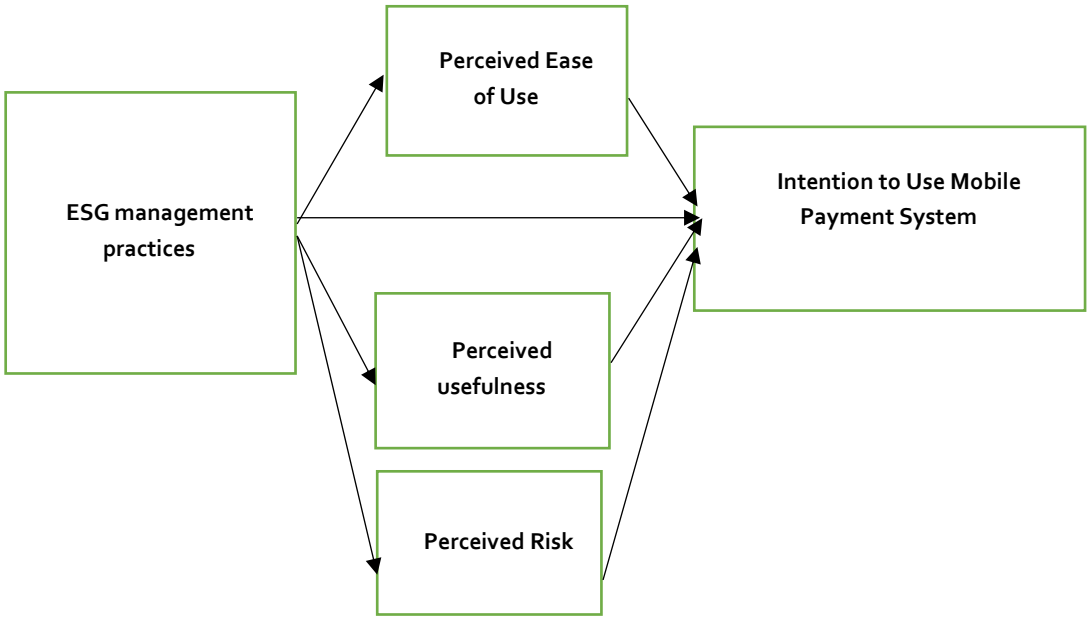
Perceived Risk and Behavior Intention

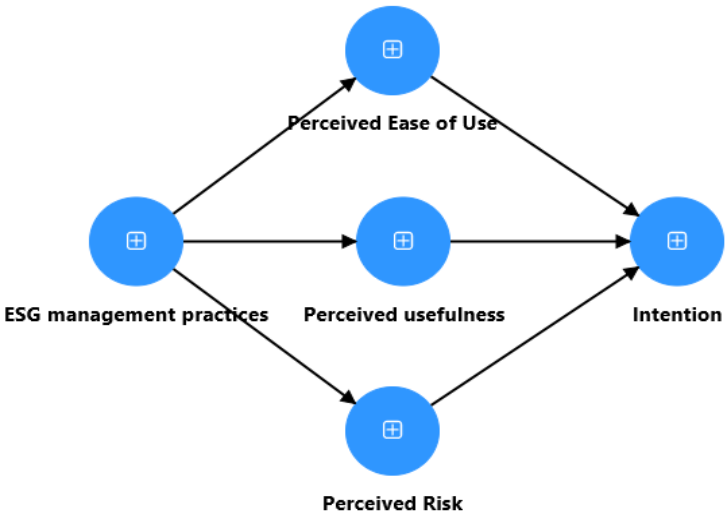
Endah and Hendra (2018) determine the effect of perceived risk on consumer online shopping behavior of fashion product. The result of this research is negative influence of perception of product risk to customer satisfaction and re-purchased intention. The perceived cost risk has no negative effect on satisfaction and re-purchased intention. Perception of individual risk do not have a negative effect on customer satisfaction and re-purchased intention.

Dimin, Jovanie and Yuan (2023) explore the inter-relationships among destination image, perceived risk perceptions, and behavioral intention of Chinese international students visiting San Francisco. findings highlighted that perceived risk did not affect destination image in general; however, the levels of student traveller's perceived risk influence the destination image's relationship to behavioral intentions.

Perceived behavioral control and Behavior Intention

Hagger et al (2022) investigates Perceived behavioral control moderating effects in the theory of planned behavior: Findings indicated that PBC moderated the intention-behavior relation but not the attitude-intention and subjective norm-intention relations. All moderation effects exhibited significant heterogeneity. Analysis of moderators indicated that the PBC moderation effects on intention varied according to scale score coverage but not by the other moderator variables tested.





Methodology

Study Area/Site/Subjects

The study was conducted in Nigeria, focusing on urban and semi-urban areas in the South West geopolitical zone (Lagos, Oyo, Ogun, Ondo, Osun, and Ekiti States) where mobile payment system usage is prevalent. The subjects of the study included individuals aged 18 and above who have experience with, or are potential users of, mobile payment systems in the post-COVID-19 context.

Questionnaire Development

The questionnaire consisted of two sections. The first collected demographic data (age, gender, education, income, mobile payment experience), while the second captured constructs related to ESG management practices, perceived ease of use, perceived usefulness, perceived risk, and behavioral intention. Measurement items were adapted from established scales:

Perceived Usefulness and Ease of Use – adapted from Davis (1989) and Venkatesh & Davis (2000).

Perceived Risk – adapted from Li and Hu (2018) and Aji et al. (2020).

ESG practices – adapted from El Ghoul et al. (2011) and Eccles & Serafeim (2013).

Behavioral Intention – adapted from Koufaris (2002).

To ensure clarity and reliability, the instrument was pre-tested with 50 respondents from Lagos State, representing the target population. Feedback led to minor wording revisions for simplicity and cultural appropriateness. Reliability analysis on the pre-test yielded Cronbach's alpha values above 0.70 for all constructs, confirming internal consistency.

Data Collection and Response Rate

An online survey was distributed through social media platforms, email lists, and professional networks targeting residents of South West Nigeria. A total of 1,552 valid responses were obtained out of 1,920 questionnaires distributed, yielding a response rate of 80.8%, which is acceptable for large-scale behavioral studies. The high response rate was facilitated by reminders sent two weeks after the initial distribution.

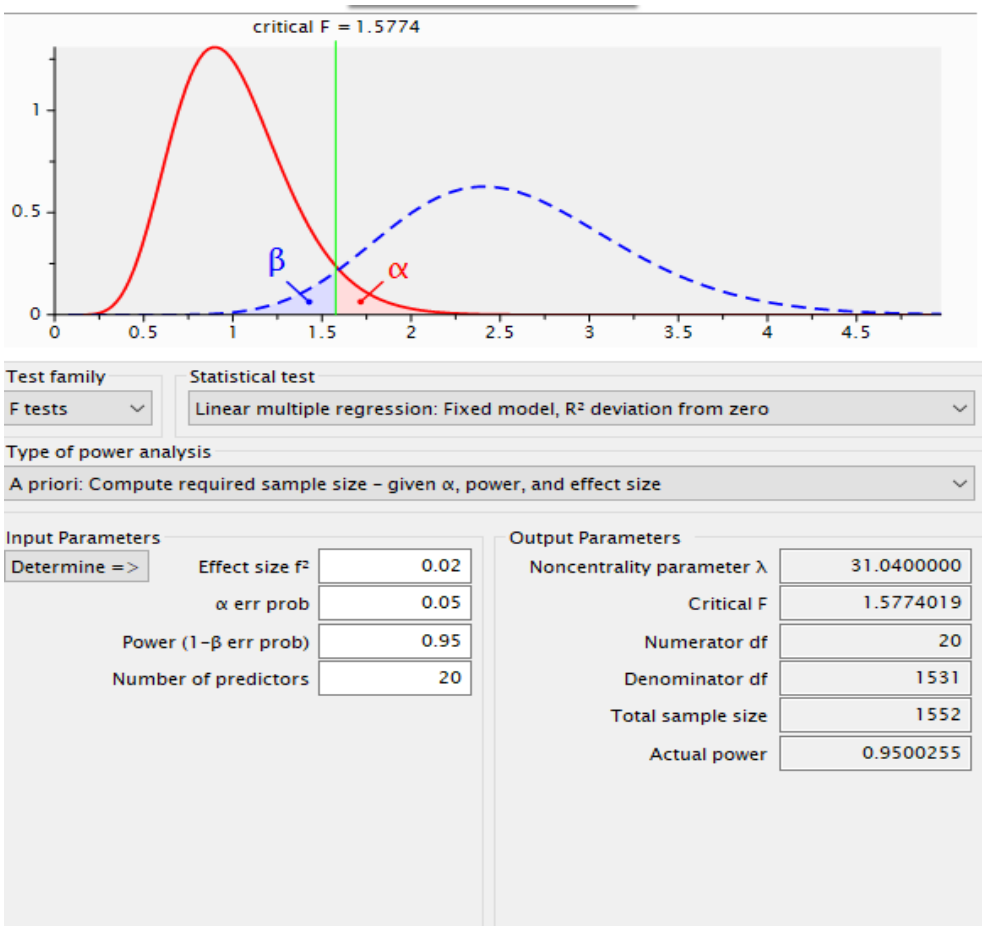


Figure 1: Sample Size using G*Power Software

Ethical Considerations

Ethical approval for the study was obtained from the Plateau State Polytechnic Institutional Review Board (IRB) before data collection commenced (Approval No: PSP/IRB/2024/021). Informed consent was obtained electronically from all participants, who were assured of confidentiality, anonymity, and the voluntary nature of their participation. No personally identifiable data were collected, and all responses were stored securely in password-protected files accessible only to the research team.

Control Variables

In the future, several factors were anticipated to shape consumer demand for digital payment systems. Firstly, the per capita GDP of each state served as a measure of regional

economic development, directly influencing consumer demand. Additionally, the proportion of the financial industry in GDP gauged the level of financial industry development in each state, thereby impacting digital payment adoption. Higher urbanization rates were expected to lead to greater usage of digital payments due to increased network infrastructure and digital payment scenarios in urban areas, further promoting consumer demand. Moreover, the degree of education played a pivotal role, as more educated individuals were anticipated to be more receptive to digital payment, thus driving consumer demand. Overall, these factors collectively influenced the adoption and utilization of digital payment systems in the study's context.

Data Analysis

Demographic data and survey responses were analyzed using descriptive statistics to summarize sample characteristics and key variables. SPSS software was utilized for this analysis. Descriptive statistics such as frequencies, percentages, means, and standard deviations were computed for categorical and continuous variables. This analysis provided insights into the distribution, central tendency, and variability of the data, aiding in the interpretation of study findings and identification of patterns within the sample. Inferential analysis involved the application of statistical techniques such as correlation analysis and regression analysis to explore the relationships between ESG management, customer perceptions, and behavioral intention towards mobile payment adoption. SmartPLS software was utilized for this purpose. These analyses allowed for the examination of the strength and direction of associations among variables, providing valuable insights into the factors influencing mobile payment adoption post-COVID-19 pandemic in Nigeria. Moderation analysis was conducted to assess the moderating effects of demographic variables on the relationship between ESG management and customer behavioral intention. Finally, open-ended responses from the survey were analyzed thematically to gain deeper insights into participants' perspectives on ESG management and mobile payment adoption.

Table 1. Descriptive

	Mean	Median	SD	Excess kurtosis	Skewness
ESG management practices	5.437	5.922	1.277	1.114	-1.394
Intention	3.92	4	0.895	1.88	-1.566
Perceived Ease of Use	4.756	5	0.985	0.854	-1.149
Perceived Risk	4.002	4.316	0.768	2.552	-1.737
Perceived usefulness	3.942	4	0.824	1.945	-1.501

Table 1 presents the descriptive statistics for the key variables in the study, including means, medians, standard deviations, excess kurtosis, and skewness.

The mean score for ESG management practices was 5.44 (SD = 1.28), with a median of 5.92. The distribution exhibited moderate negative skewness (−1.39) and slight leptokurtosis (excess kurtosis = 1.11), indicating a left-tailed distribution with heavier tails than the normal distribution.

For Intention, the mean was 3.92 (SD = 0.90), with a median of 4.00. The distribution was also negatively skewed (−1.57) and moderately leptokurtic (excess kurtosis = 1.88).

Perceived Ease of Use had a mean of 4.76 (SD = 0.99), median of 5.00, skewness of −1.15, and excess kurtosis of 0.85, suggesting a slightly negatively skewed and marginally leptokurtic distribution.

The mean of Perceived Risk was 4.00 (SD = 0.77), median of 4.32, with a pronounced negative skewness (−1.74) and relatively high leptokurtosis (excess kurtosis = 2.55), suggesting a left-skewed distribution with heavy tails.

Finally, Perceived Usefulness had a mean of 3.94 (SD = 0.82), median of 4.00, skewness of −1.50, and excess kurtosis of 1.95, also indicating a negatively skewed and leptokurtic distribution.

Overall, all variables showed negative skewness and some degree of leptokurtosis, suggesting non-normal distributions with data concentrated toward the higher end of the scale.

Measurement Model

The research employed Smart-PLS 4.1.1, a Structural Equation Modelling (SEM) tool based on Partial Least Squares (PLS), utilizing the extended two-step technique recommended by Hair, Hult, Ringle, and Sarstedt (2017). The methodology involved an initial step of confirmatory factor analysis to assess the measuring model, followed by the estimation of the structural model. It is essential to clarify the rationale for choosing this approach in the current study, as outlined by Chin (2010). PLS-SEM was selected due to its straightforward distributional assumptions, especially considering that the Kohnogorok-Smirnov and Shapiro-Wilks tests were significant, indicating non-normally distributed scores.

The data denote that the instruments are robust in terms of their internal consistency reliability as indexed by rho_A, Cronbach's alpha, and composite reliability. All the Cronbach's alphas, rho_A, and the composite reliabilities of the various instruments scale from .932 to .961, which surpasses the recommended minimum value of .708 (Hair et al., 2017). Similarly, consistent with the procedures of Fornell and Larcker (1981), the average variance extracted (AVE) for each instrument exceeds .566, which is a signal of the convergent validity of the instruments correlation matrix between latent variables, composite reliability (CR), Cronbach's alpha, and the rho_A (see Table 1)

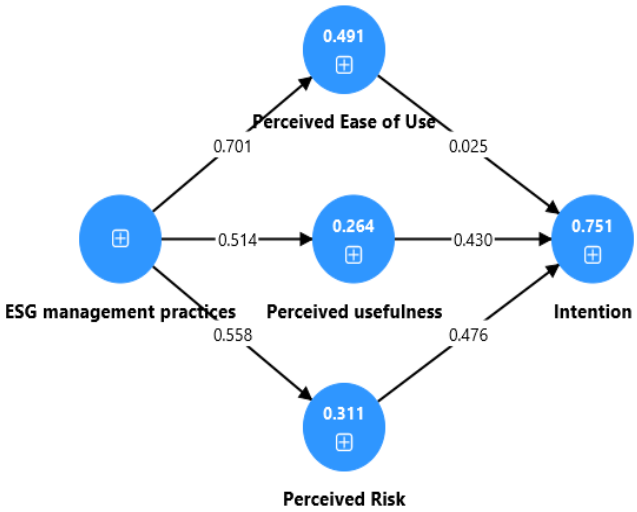


Figure 2: Measurement Model

Note. Figure 2 illustrates the structural path coefficients (arrows) and R^2 values (in circles) for each endogenous construct.

Table 2. Factor Loadings.

Construct	ITEMS	VIF	Loadings	Cronbach's alpha	CR	(AVE)		
ESG management practices				0.776	0.871	0.693		
	ESG1	1.95	0.899					
	ESG2	1.192	0.836					
	ESG3	2.246	0.756					
Perceived Ease of Use				0.701	0.835	0.629		
	PEU1	2.634	0.703					
	PEU2	2.467	0.821					
	PEU3	2.476	0.848					
Perceived Risk				0.711	0.838	0.633		
	PR1	1.847	0.807					
	PR2	1.725	0.81					
	PR3	2.343	0.768					
Perceived usefulness				0.852	0.91	0.771		
	PU1	2.261	0.883					
	PU2	2.155	0.893					
	PU3		0.858					
Intention				0.782	0.902	0.821		
	INT1		0.905					
	INT2		0.908					

Note: ESG MP= ESG management practices, PEU= Perceived Ease of Use, PR= Perceived Risk, PU= Perceived usefulness

Table 2 presents the factor loadings, variance inflation factors (VIFs), Cronbach's alpha, composite reliability (CR), and average variance extracted (AVE) for all constructs used in the model. All factor loadings exceed the recommended threshold of 0.70, indicating acceptable item reliability (Hair et al., 2019). VIF values for all indicators are below 5, suggesting no multicollinearity concerns.

For ESG management practices, factor loadings ranged from 0.756 to 0.899 with VIFs between 1.192 and 2.246. The construct showed good internal consistency with a Cronbach's alpha of 0.776, CR of 0.871, and AVE of 0.693.

Perceived Ease of Use had loadings from 0.703 to 0.848, VIFs from 2.467 to 2.634, Cronbach's alpha of 0.701, CR of 0.835, and AVE of 0.629.

Perceived Risk demonstrated loadings between 0.768 and 0.81, VIFs ranging from 1.725 to 2.343, Cronbach's alpha of 0.711, CR of 0.838, and AVE of 0.633.

For Perceived Usefulness, all items had strong loadings (0.858 to 0.893), VIFs from 2.155 to 2.261, with high internal consistency ($\alpha = 0.852$, CR = 0.910, AVE = 0.771).

Intention was measured with two indicators, showing loadings of 0.905 and 0.908, with excellent reliability metrics ($\alpha = 0.782$, CR = 0.902, AVE = 0.821).

These results confirm the constructs' convergent validity and reliability for further structural analysis.

Table 3. HTMT

	ESG MP	Intention	PEU	PR	PU
ESG management practices					
Intention	0.763				
Perceived Ease of Use	0.756	0.823			
Perceived Risk	0.749	0.796	0.814		
Perceived usefulness	0.621	0.783	0.806	0.831	

Note: ESG MP= ESG management practices, PEU= Perceived Ease of Use, PR= Perceived Risk, PU= Perceived usefulness

Discriminant validity was assessed using the heterotrait-monotrait ratio of correlations (HTMT). As shown in Table 3, all HTMT values are below the conservative threshold of 0.85 (Henseler et al., 2015), indicating satisfactory discriminant validity among the constructs. Specifically, the HTMT values between ESG management practices and other constructs ranged from 0.621 (with Perceived Usefulness) to 0.763 (with Intention). The highest HTMT value observed was 0.831 between Perceived Risk and Perceived Usefulness, which still remains below the threshold.

These results provide evidence that all constructs in the model exhibit adequate discriminant validity.

Table 4. Fornell-Larcker criterion

	ESG MP	Intention	PEU	PR	PU
ESG management practices	0.832				
Intention	0.701	0.906			
Perceived Ease of Use	0.601	0.818	0.793		
Perceived Risk	0.558	0.806	0.663	0.795	
Perceived usefulness	0.514	0.606	0.617	0.756	0.878

Note: ESG MP= ESG management practices, PEU= Perceived Ease of Use, PR= Perceived Risk, PU= Perceived usefulness

Discriminant validity was further evaluated using the Fornell-Larcker criterion. According to this method, the square root of the average variance extracted (AVE) for each construct should be greater than its highest correlation with any other construct (Fornell & Larcker, 1981). As shown in Table 4, the diagonal elements (square roots of AVEs) are all higher than the corresponding off-diagonal correlations.

For example, the square root of AVE for Intention (0.906) is greater than its correlations with ESG management practices (0.701), Perceived Ease of Use (0.818), Perceived Risk (0.806), and Perceived Usefulness (0.606). Similar patterns are observed for all other constructs, thereby confirming that the model meets the Fornell-Larcker criterion for discriminant validity.

Structural Model

Hypotheses Testing Results

The hypotheses testing results reveal significant relationships between the constructs within the model. The following table (Table 5) presents the standardized coefficients (β), standard errors, t-values, and the decisions for each hypothesis.

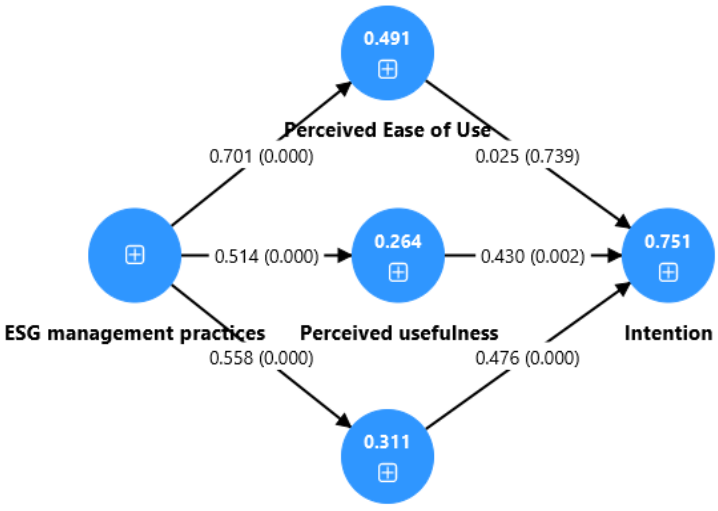


Table 5. Hypotheses testing (Direct Relationship)

Direct Relationship	β	Std. Error	t-Value	P. value	R^2	F^2
ESG management practices -> Perceived Ease of Use	0.701	0.062	11.251	0.000	0.49	0.51
ESG management practices -> Perceived Risk	0.558	0.097	5.736	0.000	0.31	0.23
ESG management practices -> Perceived usefulness	0.514	0.1	5.133	0.000	0.26	.0.19
Perceived Ease of Use -> Intention	0.025	0.076	0.333	0.739	0.67	0.20
Perceived Risk -> Intention	0.476	0.119	4.014	0.000		0.22
Perceived usefulness -> Intention	0.43	0.142	3.037	0.002		0.01

The structural model showed satisfactory predictive power**.** The R^2 values were 0.49 for Perceived Ease of Use (PEOU), 0.31 for Perceived Risk (PR), 0.26 for Perceived Usefulness (PU), and 0.67 for Intention. These indicate that ESG practices and the mediating variables explained a substantial proportion of variance in customer intention to adopt mobile payment systems.

Effect sizes (f^2) further confirmed the importance of specific paths. ESG management practices had a large effect on PEOU ($f^2 = 0.51$), a moderate effect on PR ($f^2 = 0.23$), and a moderate effect on PU ($f^2 = 0.19$). Among the mediators, PU and PR exerted moderate effects on Intention ($f^2 = 0.20$ and $f^2 = 0.22$ respectively), while PEOU's effect on Intention was negligible ($f^2 = 0.01$).

Direct Relationships

ESG significantly enhanced PEOU ($\beta = 0.701$, $p < .001$), PU ($\beta = 0.514$, $p < .001$), and PR ($\beta = 0.558$, $p < .001$).

PU significantly predicted Intention ($\beta = 0.430$, $p = .002$), as did PR ($\beta = 0.476$, $p < .001$).

However, PEOU did not significantly predict Intention ($\beta = 0.025$, $p = .739$).

Indirect (Mediating) Effects

PU partially mediated the ESG–Intention relationship ($\beta = 0.221$, $p = .026$).

PR also mediated this relationship ($\beta = 0.265$, $p = .002$).

PEOU did not mediate ESG's effect on Intention ($\beta = 0.018$, $p = .741$).

Unexpected Findings

Two results diverged from conventional TAM expectations. First, ESG management practices increased perceived risk ($\beta = 0.558$, $p < .001$), which is counterintuitive since strong ESG practices are generally expected to reduce user concerns. This suggests that transparency around ESG activities may have heightened respondents' awareness of risks they had not previously considered. Second, PEOU did not significantly influence Intention, contrasting with much of TAM literature. This implies that in the Nigerian mobile payment

context, adoption decisions were less about ease of use and more about perceived value (PU) and risk awareness (PR).

Hypothesis 1:
The relationship between ESG management practices and perceived ease of use was examined. The results showed a significant positive effect, indicating that higher ESG management practices were associated with greater perceived ease of use ($\beta = 0.701$, SE = 0.062, $t = 11.25$, $p < .001$). This suggests that when organizations effectively implement ESG management practices, users are more likely to find the system easy to use.

Hypothesis 2:
The effect of ESG management practices on perceived risk was also tested. Findings revealed a significant positive relationship ($\beta = 0.558$, SE = 0.097, $t = 5.74$, $p < .001$), indicating that stronger ESG management practices correspond to higher perceived risk among users. This may imply that while ESG initiatives are present, they might raise users' awareness of potential risks involved.

Hypothesis 3:
ESG management practices were found to significantly predict perceived usefulness ($\beta = 0.514$, SE = 0.10, $t = 5.13$, $p < .001$). This positive relationship suggests that effective ESG management increases users' perceptions of the usefulness of the system or service.

Hypothesis 4:
The direct effect of perceived ease of use on intention was not statistically significant ($\beta = 0.025$, SE = 0.076, $t = 0.33$, $p = .739$), indicating that perceived ease of use does not have a meaningful impact on users' intention to adopt or use the system in this context.

Hypothesis 5:
Perceived risk demonstrated a significant positive effect on intention ($\beta = 0.476$, SE = 0.119, $t = 4.01$, $p < .001$). This finding indicates that as users perceive greater risk, their intention to engage with the system increases, which might reflect a more cautious but deliberate approach to adoption.

Hypothesis 6:
Finally, perceived usefulness was significantly positively related to intention ($\beta = 0.430$, SE = 0.142, $t = 3.04$, $p = .002$). This implies that users who find the system more useful are more likely to intend to use it.

Table 6. Mediation Hypotheses testing (Indirect Relationship)

Specific Indirect Effects (Mediation)	β	Std. Error	t-Value	P. value
H7: ESG management practices -> Perceived usefulness -> Intention	0.221	0.099	2.229	0.026
H8: ESG management practices -> Perceived Risk -> Intention	0.265	0.087	3.042	0.002
H9: ESG management practices -> Perceived Ease of Use -> Intention	0.018	0.054	0.331	0.741

Hypothesis 7:

The indirect effect of ESG management practices on intention through perceived usefulness was examined. Results indicated a significant positive mediation effect (β = 0.221, SE = 0.099, t = 2.23, p = .026), suggesting that perceived usefulness partially mediates the relationship between ESG management practices and users' intention to use the system. This implies that ESG management practices enhance intention by increasing perceived usefulness.

Hypothesis 8:

The mediation effect of perceived risk on the relationship between ESG management practices and intention was also tested. The analysis revealed a significant positive indirect effect (β = 0.265, SE = 0.087, t = 3.04, p = .002), indicating that perceived risk mediates the relationship between ESG management practices and intention. Thus, ESG practices influence intention through users' perceptions of risk.

Hypothesis 9:

The indirect effect of ESG management practices on intention through perceived ease of use was not statistically significant (β = 0.018, SE = 0.054, t = 0.33, p = .741). This suggests that perceived ease of use does not mediate the relationship between ESG management practices and intention in this study.

Discussion

This study explored the influence of Environmental, Social, and Governance (ESG) management practices on users' behavioral intentions through the mediating effects of perceived ease of use, perceived usefulness, and perceived risk. The findings provide robust evidence that ESG practices significantly shape user perceptions and intention to use mobile payment systems in Nigeria's post-pandemic context.

A particularly noteworthy and unexpected finding was that ESG practices increased perceived risk (β = 0.558, p < .001), yet perceived risk itself positively influenced intention (β = 0.476, p < .001). This pattern diverges from conventional TAM assumptions, where higher risk typically reduces adoption. One possible explanation is that transparent ESG practices—such as disclosure of governance standards, environmental impact, and social

responsibility—make users more aware of underlying risks rather than masking them. Instead of discouraging adoption, this heightened awareness may foster trust-enhancing caution: customers who recognize that risks exist but see that they are openly acknowledged and managed may feel more secure and deliberate in their adoption decisions. In essence, ESG-driven transparency transforms risk perception into a constructive factor that strengthens intention through informed decision-making.

This interpretation aligns with recent studies suggesting that risk does not always function as a deterrent. Gupta et al. (2017) found that heightened risk awareness can increase user vigilance, leading to stronger commitment in technology adoption contexts. Similarly, in digital banking research in Southeast Asia, Aji et al. (2020) observed that health-related risks during the pandemic heightened awareness but did not diminish mobile payment adoption; instead, it encouraged users to embrace contactless payments more cautiously.

Comparing across emerging markets, the Nigerian findings echo some, but not all, international evidence. In Kenya and Uganda, mobile payment adoption was driven primarily by perceived usefulness and convenience, with risk perceptions playing a limited or negative role (Karsen et al., 2019). By contrast, in India and Indonesia, studies have shown that risk perceptions, when coupled with strong institutional trust signals (e.g., regulatory oversight or corporate responsibility initiatives), can positively shape adoption (Sharma et al., 2022). Thus, the Nigerian case appears closer to South and Southeast Asian contexts, where ESG-aligned practices and governance transparency encourage cautious but deliberate adoption.

Another anomaly was that perceived ease of use (PEOU) did not significantly predict intention ($\beta = 0.025$, $p = .739$). In many TAM-based studies, PEOU is a strong determinant of adoption (Huang et al., 2022). However, in this context, the insignificance suggests that Nigerian consumers, especially in the post-COVID-19 environment, prioritize trust and value (PU, PR) over interface simplicity. This could be due to growing familiarity with digital platforms, reducing the relative importance of ease of use compared to risk management and usefulness.

Overall, these findings suggest that in Nigeria's digital finance ecosystem, value and risk awareness outweigh usability concerns, and ESG practices act as a double-edged driver—raising caution but simultaneously deepening trust.

Conclusion

This study provides empirical evidence that ESG management practices significantly influence users' perceptions and behavioral intentions. Specifically, ESG practices enhance perceived usefulness and ease of use, while also raising awareness of associated risks. Notably, both perceived usefulness and perceived risk mediate the relationship between ESG practices and intention, whereas perceived ease of use does not. These findings underscore the multifaceted role of ESG in shaping stakeholder engagement and decision-making processes.

Recommendations

Based on the findings, the following recommendations are proposed:

- **Integrate ESG into Regulatory Frameworks:** The Central Bank of Nigeria (CBN) should embed ESG criteria into fintech and digital banking regulations, requiring service providers to disclose sustainability, governance, and social responsibility practices as part of licensing and compliance.
- **Enhance Risk Communication:** Banks and fintechs should not merely minimize or conceal risks but instead adopt transparent ESG-driven communication strategies. Providing clear information on data security, fraud prevention, and consumer protection will transform risk awareness into trust-enhancing caution.
- **Promote ESG-Linked Consumer Education:** Targeted campaigns should be launched in collaboration with financial literacy programs to show customers how ESG practices (e.g., eco-friendly digital services, fair governance, inclusion initiatives) align with their values and daily financial decisions.
- **Design Value-Oriented Mobile Platforms:** Service providers should prioritize perceived usefulness by integrating ESG benefits into user experience—such as carbon footprint calculators for transactions, or transparent dashboards showing community investments.
- **Policy Incentives for ESG Compliance:** Government and regulators can create tax breaks, grants, or recognition schemes for fintech firms that demonstrate strong ESG compliance, thereby incentivizing broader industry adoption.
- **Strengthen Demographic Inclusivity:** Since education and income levels affect adoption, ESG strategies should be tailored to different demographic groups. For instance, simplified ESG reports can target low-income users, while advanced governance disclosures may be geared toward educated or high-income users.
- **Regional Collaboration:** Nigeria can learn from Kenya, Uganda, and India, where regulatory and industry partnerships have boosted digital adoption. Establishing regional ESG-fintech guidelines within ECOWAS could harmonize sustainability practices and accelerate cross-border trust

Contributions to the Study

This research contributes to the existing literature in several ways:

- It extends the Technology Acceptance Model (TAM) by incorporating ESG management practices as a determinant of behavioral intention.
- It identifies perceived risk as a constructive mediator, suggesting that risk awareness when framed within ESG contexts can enhance rather than deter engagement.
- It provides empirical validation of ESG influence in user perception models, offering a novel integration of sustainability and technology adoption research.

Implications

Theoretical implications include the need for future models of user adoption to account for ESG considerations as both direct and indirect predictors of user intention. This suggests an evolving conceptual framework where corporate responsibility interacts with user psychology.

Practical implications indicate that organizations prioritizing ESG management not only align with global sustainability standards but also influence user perceptions and engagement. For system designers, this means emphasizing the value and purpose of technology, not just functionality, to drive adoption.

Policy implications suggest that ESG compliance should be embedded in digital transformation strategies, not only as a regulatory requirement but as a driver of trust and user commitment.

Conflict of Interest Declaration

The authors declare that there are no conflicts of interest regarding the publication of this paper. All authors have contributed significantly to the research and preparation of the manuscript and are in agreement with its content. The authors further confirm that there are no personal, financial, or institutional relationships that could be perceived to influence the outcomes or interpretations presented in this study.

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