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Research Article

Keywords: mobile banking, financial inclusion, user trust, digital finance, fragile state, Somalia, Premier Wallet

Posted Date: September 23rd, 2026

DOI: <https://doi.org/10.21203/rs.3.rs-10826165/v1>

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Additional Declarations: No competing interests reported.

Mobile Banking Features User Trust and Financial Inclusion among Premier Wallet Users in Somalia

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Abstract

Digital financial services can expand access to payments, savings, credit, and remittances in contexts where conventional banking infrastructure is limited. This study examines the relationships among mobile banking features, user trust, and financial inclusion among 272 active Premier Wallet users in Mogadishu, Somalia. It also tests whether user trust statistically mediates the association between mobile banking features and financial inclusion and whether age, gender, employment status, and income level condition selected pathways. Data were collected through a cross-sectional questionnaire and analyzed using exploratory scale assessment, reliability analysis, bivariate correlations, regression-based mediation with bootstrapped confidence intervals, and moderation analysis. Mobile banking features were positively associated with financial inclusion ($\beta = .72, p < .001$) and user trust ($\beta = .86, p < .001$). The mediation analysis indicated a significant indirect association through user trust ($B = 0.53, 95\% \text{ CI } [0.31, 0.73]$), while the direct association remained significant. The feature–inclusion association was stronger among respondents aged 35–44 than among younger users and was stronger for men than for women. Employment status also moderated the association, with a non-significant conditional association among self-employed respondents. Income strengthened the association between user trust and financial inclusion but weakened the association between mobile banking features and user trust. The findings highlight the importance of reliable, affordable, secure, and context-sensitive digital financial services in fragile-state settings.

Keywords: mobile banking; financial inclusion; user trust; digital finance; fragile state; Somalia; Premier Wallet

1. Introduction

Financial inclusion refers to the effective access to and use of affordable, appropriate, and safe financial services [1]. Across Sub-Saharan Africa, mobile money and other digital financial services have become central mechanisms for expanding financial access, particularly where branch-based banking remains geographically or institutionally constrained [2-5]. Recent research further indicates that mobile money can complement rather than merely replace formal banking by lowering transaction costs, supporting deposits and credit access, and connecting previously excluded users to broader financial ecosystems [6-8].

Somalia provides an important setting in which to examine these relationships. Decades of political fragmentation and recurrent insecurity constrained the development of conventional financial infrastructure, while mobile money became embedded in daily transactions, remittances,

and small-business activity. Recent research characterizes Somalia's digital economy as both highly innovative and institutionally contested, with mobile money contributing to economic participation while also raising concerns about governance, consumer protection, power asymmetries, and user vulnerability [9]. The Somali setting therefore offers a theoretically relevant case for studying whether the quality of digital financial features is translated into meaningful inclusion through user trust.

Trust is especially important in digital finance because users must rely on an electronic system to protect funds, personal information, and transaction integrity. Contemporary literature shows that trust can shape both the adoption and continued use of digital financial services and can mediate the conversion of technological access into actual financial participation [10-12]. Research also indicates that security perceptions, perceived risk, and institutional confidence interact with technology-related beliefs such as usefulness and ease of use [13-15].

The effects of digital finance are unlikely to be uniform across population groups. Age, gender, employment, income, education, digital capability, and social position can influence access, trust, financial need, and the ability to convert digital services into concrete welfare gains [16, 17]. Recent studies therefore call for more context-sensitive models that integrate technology quality, trust, and sociodemographic heterogeneity rather than treating adoption as a homogeneous behavioral outcome [18-20].

Against this background, the present study examines Premier Wallet users in Mogadishu. It makes three contributions. First, it investigates financial inclusion at the user level in a fragile-state digital-finance environment. Second, it tests user trust as a mediating mechanism between mobile banking features and financial inclusion. Third, it evaluates whether age, gender, employment status, and income level moderate selected relationships. The study therefore links technology-adoption research with the broader literature on digital financial inclusion and vulnerable groups.

2. Literature Review and Hypothesis Development

2.1 Theoretical Foundations

This study is theoretically grounded in three complementary perspectives: the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and an institution-based trust perspective. Together, these frameworks help explain how users

evaluate mobile banking features, why technology-related associations may differ across user groups, and why trust may serve as an intervening mechanism linking service features with financial inclusion. Because the present study is cross-sectional, these theories are used to organize expected associations rather than to establish causal processes.

Technology Acceptance Model (TAM). TAM proposes that perceived usefulness and perceived ease of use are central beliefs associated with users' acceptance of information systems [21]. In the present study, accessibility, reliability, functional fit, affordability, and transaction simplicity represent service attributes closely related to usefulness and ease of interaction. When users perceive Premier Wallet as accessible, dependable, and simple, they may be more willing to rely on it for payments, savings, remittances, and other financial activities. TAM therefore provides a theoretical basis for expecting favorable mobile banking features to be positively associated with financial inclusion, while recognizing that financial inclusion is a broader outcome than technology acceptance alone. This interpretation is also consistent with mobile-banking adoption research that emphasizes usefulness, ease of use, compatibility, and cost [22].

Unified Theory of Acceptance and Use of Technology (UTAUT). UTAUT integrates several technology-adoption perspectives and identifies performance expectancy, effort expectancy, social influence, and facilitating conditions as central determinants of technology acceptance and use; it also explicitly recognizes that user characteristics such as age and gender can condition technology-related relationships [23]. This perspective is relevant to the moderation model because the practical value associated with Premier Wallet may differ across demographic and socioeconomic groups. Age and gender are consistent with the original UTAUT logic, whereas employment status and income are treated here as context-specific extensions reflecting differences in financial needs, resources, and transaction patterns. Mobile-payment research has also extended UTAUT-related models by incorporating trust as an important technology-use consideration [24], while recent mobile-banking evidence highlights demographic heterogeneity in trust and adoption [15].

Trust Theory and the Institution-Based Trust Perspective. Trust theory emphasizes willingness to accept vulnerability under conditions of uncertainty and the importance of perceived trustworthiness in supporting reliance [25]. In digital settings, McKnight, Choudhury [26] extend this logic through institution-based trust, trusting beliefs, and trusting intentions, emphasizing structural assurances and perceived reliability in online transactions. This perspective closely

corresponds to the present measure of user trust, which captures confidence in information security, privacy, system reliability, personal confidence, and fraud protection. Reliable and secure mobile banking features may therefore be associated with stronger user trust, while higher trust may correspond with deeper financial participation. This logic supports examining user trust as an intervening variable between mobile banking features and financial inclusion and is consistent with recent evidence positioning trust as central to digital financial participation [7, 10].

Taken together, the three perspectives provide an integrated theoretical explanation for the conceptual model. TAM explains users' evaluations of core service features; UTAUT explains why feature-related associations may vary across user groups; and trust theory, operationalized through an institution-based trust perspective, explains the proposed indirect pathway through user trust. Their integration is particularly relevant in Somalia, where mobile financial services operate alongside limited conventional banking infrastructure and where accessibility, reliability, security, and institutional confidence may jointly correspond with financial participation.

2.2.Mobile Banking Features and Financial Inclusion

Mobile banking features in this study refer to affordability, accessibility, reliability, functional fit, and transactional simplicity. These characteristics are consistent with the broader technology-adoption literature, which identifies perceived usefulness, ease of use, compatibility, security, and cost as central drivers of digital-payment and mobile-banking behavior [21-24, 27]. In low-resource settings, however, these features are not only adoption antecedents; they may also be associated with users' capacity to transact, save, receive remittances, and participate in economic activity.

Evidence from Africa generally supports a positive association between mobile financial services and financial inclusion. Multi-country studies show that mobile money can extend services to users located far from bank branches and can facilitate transactions in areas with limited formal banking infrastructure [3, 6]. Long-run evidence from Kenya further shows that mobile money access can reduce poverty and improve women's economic outcomes [28]. Reviews of the African literature similarly conclude that mobile money has expanded access, although outcomes depend on affordability, regulation, infrastructure, digital literacy, consumer protection, and service reliability [2, 4, 5]. Country-level evidence from Kenya and Nigeria also indicates that mobile financial services can support inclusion when users perceive them as useful, accessible,

and reliable [29, 30]. Accordingly, this study expects mobile banking features to be positively related to financial inclusion.

2.3. User Trust as a Mediating Mechanism

Trust reduces uncertainty in digital transactions and enables users to rely on services that are not supported by face-to-face interaction. It includes confidence that the platform is reliable, safeguards personal information, respects privacy, and provides protection against fraud. Recent scholarship treats trust as a central element of digital financial inclusion rather than a peripheral adoption variable [10, 12].

Trust may mediate the relationship between mobile banking features and financial inclusion. When services are consistently available, affordable, and easy to use, users may infer that the platform is dependable and safe. This confidence can encourage deeper engagement, including storing value, making larger transactions, using additional services, and relying on the platform for everyday economic participation. Evidence from developing-country payment settings shows that trust-building mechanisms reduce perceived risk and support continued use [11], while studies of fintech adoption similarly connect perceived security and trust with acceptance and behavioral intention [14, 31].

Digital consumer protection is closely related to this pathway. Okello Candiya Bongomin and Ntayi [32] found that consumer protection mediated the relationship between mobile money usage and financial inclusion among Ugandan micro and small enterprises. Likewise, Koomson, Koomson [33] demonstrated that trust in financial institutions can shape inclusion through borrower discouragement. These findings support the expectation that user trust may partly account for the association between platform features and financial inclusion.

2.4. Sociodemographic Moderation

Digital financial inclusion is influenced by more than technology quality. Age can shape financial responsibilities, digital experience, perceived risk, and the kinds of services users require. Younger users may adopt digital services quickly, whereas older users may derive greater economic value when the service addresses more complex household or business needs. Gender can also affect access to devices, control over income, confidence in formal services, and exposure to security risks. Longitudinal evidence from South Africa confirms that trust and sociodemographic characteristics jointly influence mobile banking adoption [15].

Employment status may alter the utility of platform features. Salaried employees, students, unemployed users, and self-employed individuals can differ in transaction frequency, income stability, informal credit relationships, and business-network dependence. Income may also condition the two trust-related pathways. Higher-income users may require greater trust before engaging in higher-value or more complex financial activities, while lower-income users may place greater weight on immediate affordability and accessibility. Reviews of inclusive fintech emphasize that vulnerable groups experience different combinations of access, literacy, trust, and affordability barriers [16, 20, 34].

Recent research on mobile-payment sustainability further suggests that adoption and continued use reflect an interaction among technological, behavioral, and social conditions [35]. The present study therefore tests age, gender, employment status, and income as moderators rather than treating them only as control variables.

2.5. Contextual Gap and Study Contribution

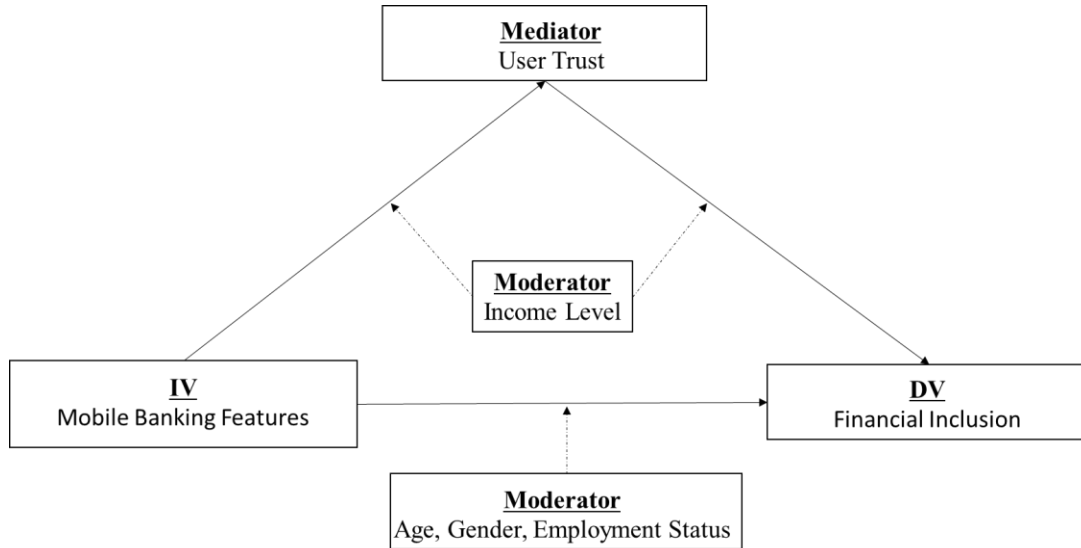
The literature has established that mobile money can improve financial access, but several gaps remain. First, recent reviews continue to call for user-level evidence from fragile and institutionally weak contexts [5, 18]. Second, research often examines trust as an antecedent of adoption rather than as a mechanism linking service features to financial inclusion outcomes [7]. Third, moderation by age, gender, employment, and income is frequently studied separately, making it difficult to understand how heterogeneity operates within one integrated model. By addressing these gaps in Mogadishu, the study contributes context-specific evidence to the rapidly expanding literature on digital financial inclusion.

Hypotheses

- H1.** Mobile banking features are positively associated with financial inclusion.
- H2.** User trust is positively associated with financial inclusion.
- H3.** Mobile banking features are positively associated with user trust.
- H4.** There is a positive indirect association between mobile banking features and financial inclusion through user trust.
- H5.** Age moderates the association between mobile banking features and financial inclusion.
- H6.** Gender moderates the association between mobile banking features and financial inclusion.

- H7.** Employment status moderates the association between mobile banking features and financial inclusion.
- H8.** Income level moderates the association between user trust and financial inclusion.
- H9.** Income level moderates the association between mobile banking features and user trust.

Figure 1. Conceptual Model



3. Methodology

3.1 Research Design and Participants

The study used a quantitative cross-sectional survey design. Data collection for this study was conducted from January 2026 to June 2026. Data were collected from active Premier Wallet users in Mogadishu, Somalia. An active user was defined as a respondent who had completed at least one Premier Wallet transaction during the 30 days preceding data collection. Purposive sampling was used because the research questions required respondents with recent experience of the platform.

The final dataset comprised 272 respondents. Before full data collection, the questionnaire was pilot tested with 30 users to assess wording, translation clarity, completion time, and item comprehensibility. Minor wording adjustments were made following the pilot. Model-specific degrees of freedom indicate that the effective analytical sample varied slightly across analyses (approximately 271–272 complete cases). Because the design is cross-sectional and non-probabilistic, the estimates should be interpreted as associations within the sampled user population rather than as population-level causal effects.

3.2 Measures

The questionnaire measured three constructs with five items each on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Mobile Banking Features captured affordability, accessibility, reliability, functional fit, and transaction simplicity. User Trust captured confidence in information security, privacy, system reliability, personal confidence, and protection from fraud. Financial Inclusion captured access to previously unavailable services, secure saving, credit access, financial independence, and participation in economic activities. The item domains are consistent with contemporary mobile-payment, fintech-adoption, trust, and financial-inclusion research [4, 10, 13, 27].

Age, gender, employment status, and monthly income were recorded as categorical variables. Age and employment status were dummy coded for moderation analysis. Gender was coded with male as the reference group. Income was treated as an ordered four-category variable coded from 1 to 4. The interaction models used this coded income variable, and conditional associations were reported at the sample mean and approximately one standard deviation below and above the mean.

3.3 Analytical Strategy

Data were analyzed in IBM SPSS Statistics Version 28. The analysis proceeded in four stages. First, data suitability and exploratory scale structure were assessed using the Kaiser–Meyer–Olkin measure, Bartlett's test of sphericity, principal component analysis (PCA), component loadings, communalities, and Cronbach's alpha. Because each five-item scale produced one dominant component, the PCA results were interpreted as exploratory evidence of unidimensionality rather than as a confirmatory measurement model.

Second, construct means, standard deviations, and Pearson correlations were calculated. Third, the mediation hypothesis was tested using regression-based path analysis and a bootstrapped confidence interval for the indirect effect. Contemporary mediation guidance emphasizes the indirect effect and its bootstrapped confidence interval rather than requiring every step of the traditional causal-steps procedure [36]. Fourth, moderation was examined with product terms between the focal predictor and each moderator, followed by conditional effect estimates for interpretable moderator values or categories. Statistical significance was evaluated at $p < .05$, with $p < .01$ and $p < .001$ reported where applicable. Unstandardized coefficients (B), standard errors

(SE), t values, standardized coefficients (β) where available, 95% confidence intervals, R^2 , and changes in R^2 are reported.

3.4 Research Ethics and Transparency

3.4.1. Ethical Approval Statement

This study received ethical approval from the Salaam University Research Ethics Committee (SU-REC), Institute of Climate and Environment, under approval number 2026/SU-REC/AMSHS/P0402 on 27 January 2026. Before participation, all respondents were provided with clear and comprehensive information about the study and gave written informed consent. Written informed consent was obtained to formally document voluntary participation and to confirm that respondents understood the study purpose, procedures, confidentiality protections, and their right to withdraw at any time without penalty. Participant confidentiality and anonymity were maintained throughout the research process, and appropriate measures were implemented to ensure the secure collection, handling, and storage of the data.

Table 1
Demographic Characteristics of Participants (N = 272)

Variable	Category	<i>n</i>	%
Age	18-24 years	72	26.5
	25-34 years	160	58.8
	35-44 years	40	14.7
Gender	Male	176	64.7
	Female	96	35.3
Income Level	Less than \$100	3	1.1
	\$100–\$500	76	27.9
	\$500–\$1,000	137	50.4
	Above \$1,000	56	20.6
Employment Status	Unemployed	56	20.6
	Employed	104	38.2
	Self-employed	16	5.9
	Student	96	35.3
Education Level	No formal education	4	1.5
	University	188	69.1
	Postgraduate	80	29.4

The demographic characteristics of the 272 participants in Table 1 demonstrate that the sample consists predominantly of young to middle-aged adults, with 58.8% being between the ages of 25-34 years and 26.5% being between 18-24 years, and only 14.7% being in the 35-44 age group. The

gender distribution indicates that most of the respondents are males (64.7%), in contrast to female participants (35.3%). With regards to income level, the majority of participants (50.4%) reported earning between \$500-\$1,000 monthly, 27.9% earned \$100-\$500, 20.6% earned above \$1,000, and only 1.1% earned less than \$100. In terms of employment status, 38.2% of the respondents were employed, 35.3% were students, 20.6% were unemployed, and 5.9% were self-employed. Most of the participants (69.1%) were university graduates, with 29.4% having postgraduate degrees, and only 1.5% had no formal education.

Exploratory Scale Assessment

Table 2

Kaiser-Meyer-Olkin Measures and Bartlett's Test Results for All Constructs

Construct	KMO	Bartlett's χ^2	df	p
Mobile Banking Features	.849	550.512	10	< .001
User Trust	.860	972.357	10	< .001
Financial Inclusion	.830	929.301	10	< .001

Table 2 shows that the data were suitable for component analysis. The Kaiser–Meyer–Olkin (KMO) values ranged from .830 to .860, exceeding the commonly used .80 benchmark for good sampling adequacy. Bartlett's test of sphericity was statistically significant for all three constructs ($p < .001$), indicating that the corresponding correlation matrices differed significantly from identity matrices. These results support the use of principal component analysis for the exploratory assessment of the three scales.

Table 3

Variance Explained and Eigenvalues for Each Construct

Construct	Eigenvalue	% of Variance	Cumulative %
Mobile Banking Features	3.129	62.578	62.578
User Trust	3.778	75.569	75.569
Financial Inclusion	3.690	73.807	73.807

Note. All constructs extracted one component with eigenvalue > 1.

Table 3 shows that PCA yielded one dominant component with an eigenvalue greater than 1 for each construct. Mobile Banking Features had an eigenvalue of 3.129 and accounted for 62.58% of the variance; User Trust had an eigenvalue of 3.778 and accounted for 75.57%; and Financial Inclusion had an eigenvalue of 3.690 and accounted for 73.81%. The scree plots in Figures 2–4

also show a clear decline after the first component. Taken together, these findings provide exploratory support for a predominantly one-component structure for each five-item scale.

Figure 2. Scree Plot of Mobile Banking Features

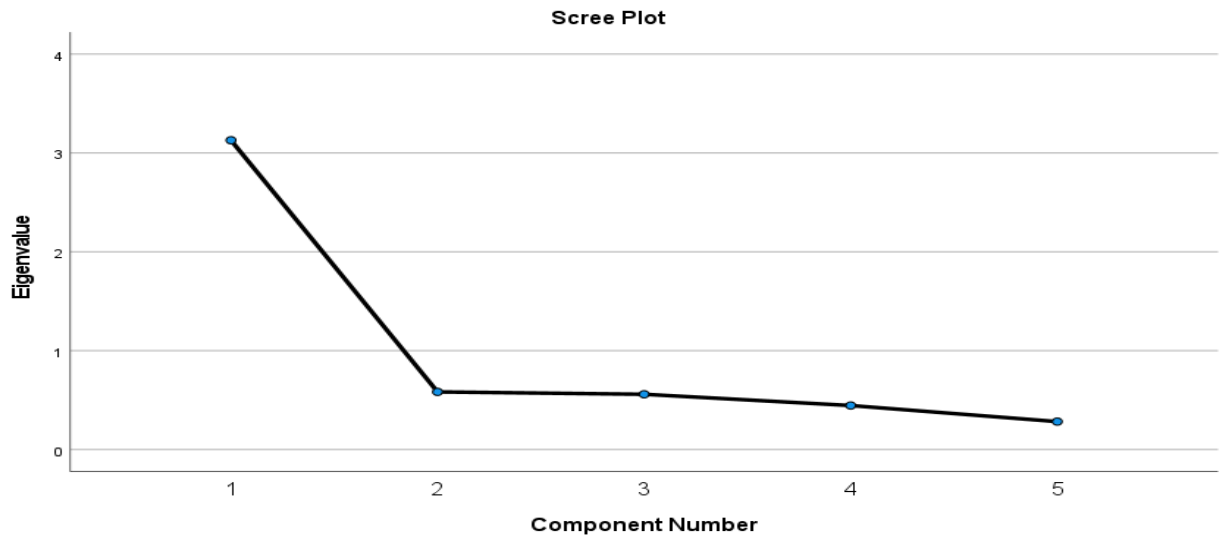


Figure 3. Scree Plot of User Trust

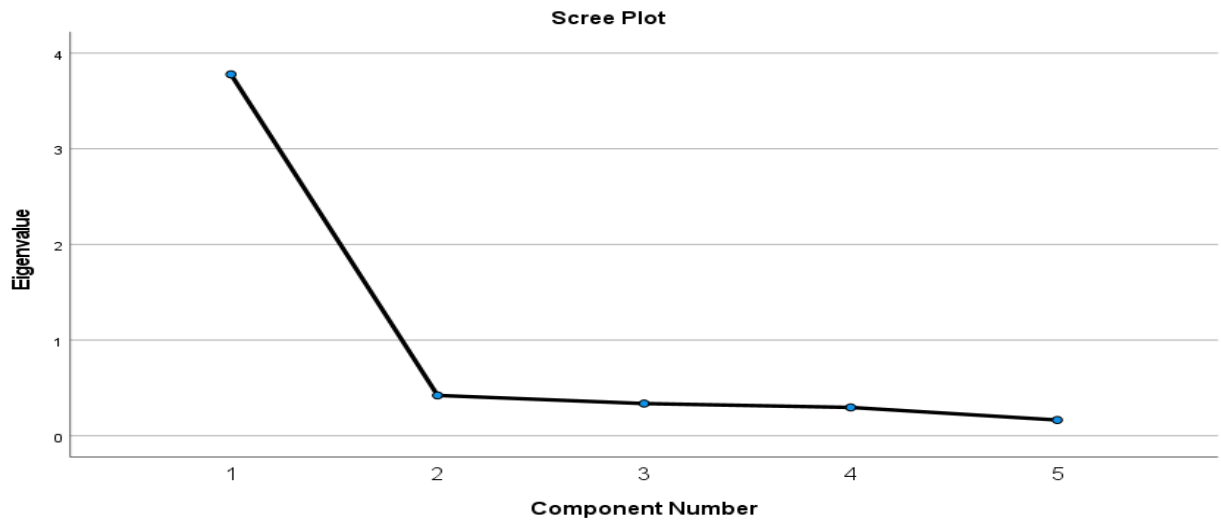


Figure 4. Scree Plot of Financial Inclusion

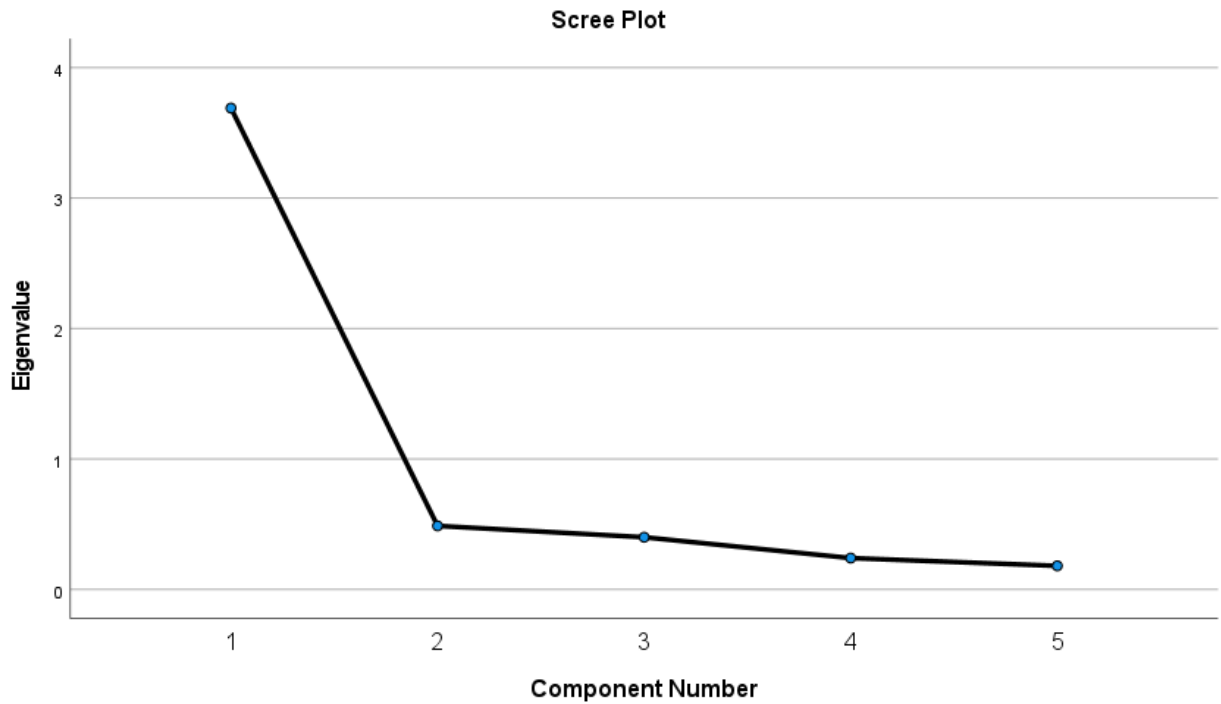


Table 4
Component Loadings for All Constructs

Item Code	Item	Loading
Mobile Banking Features		
MB1	Affordable for my financial transactions	.745
MB2	Accessible anytime I need it	.801
MB3	Services are reliable and consistent	.882
MB4	Features meet my financial needs	.796
MB5	Simplified my financial transactions	.722
User Trust		
UT1	Trust to secure my financial information	.856
UT2	Respects my privacy	.906
UT3	The system is reliable	.872
UT4	Feel confident using it	.829
UT5	Protects me from fraud	.881
Financial Inclusion		
FI1	Access to services I didn't have before	.851
FI2	Save money securely	.878
FI3	Access credit services easily	.845
FI4	Increased financial independence	.864
FI5	Helps me participate in economic activities	.858

Note. Extraction Method: Principal Component Analysis. All loadings > .72.

Table 4 shows strong item–component relationships. Mobile Banking Features loadings ranged from .722 to .882, User Trust loadings ranged from .829 to .906, and Financial Inclusion loadings ranged from .845 to .878. All items therefore loaded strongly on their respective first components. Because the analysis used PCA rather than confirmatory factor analysis, these loadings are best interpreted as exploratory evidence of scale coherence rather than as formal confirmation of convergent validity.

Table 5
Communalities Range for Each Construct

Construct	Minimum	Maximum
Mobile Banking Features	.521	.779
User Trust	.687	.821
Financial Inclusion	.713	.770

Note. All communalities > .52, indicating adequate extraction.

Table 5 shows that all communalities were above .52, indicating that the retained component represented a substantial proportion of variance in every item. Communalities ranged from .521 to .779 for Mobile Banking Features, from .687 to .821 for User Trust, and from .713 to .770 for Financial Inclusion. These values provide additional exploratory evidence that the items were adequately represented by their respective components.

Table 6
Reliability Statistics and Descriptive Statistics for All Constructs

Construct	Cronbach's α	<i>M</i>	<i>SD</i>	Number of Items
Mobile Banking Features	.842	3.63	0.94	5
User Trust	.912	3.69	1.00	5
Financial Inclusion	.911	3.56	1.03	5

Table 6 reports Cronbach's alpha coefficients ranging from .842 to .912, indicating good to excellent internal consistency across the three scales. Mobile Banking Features showed strong reliability ($\alpha = .842$), while User Trust ($\alpha = .912$) and Financial Inclusion ($\alpha = .911$) showed excellent reliability. Mean scores ranged from 3.56 to 3.69 on the five-point scale, suggesting generally favorable respondent perceptions. Standard deviations ranged from 0.94 to 1.03, indicating meaningful variation in responses. Overall, the results support the internal consistency of the three scales while also showing sufficient dispersion for subsequent analyses.

Table 7
Correlations Among Study Variables

Variable	1	2	3
1. Mobile Banking Features	—		
2. User Trust	.86**	—	
3. Financial Inclusion	.72**	.77**	—

Note. ** $p < .01$.

Table 7 shows statistically significant positive bivariate correlations among all three study variables ($p < .01$). Mobile Banking Features was very strongly correlated with User Trust ($r = .86$) and strongly correlated with Financial Inclusion ($r = .72$). User Trust was also strongly correlated with Financial Inclusion ($r = .77$). The particularly high correlation between Mobile Banking Features and User Trust indicates close empirical overlap and supports the need for multicollinearity and discriminant-validity checks in future confirmatory analyses.

Hypothesis Testing

Table 8

Mediation Analysis: User Trust Mediating Mobile Banking Features and Financial Inclusion

Effect/Model	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	β	95% CI	<i>R</i> ²	<i>F</i>	<i>df</i>	<i>p</i>
Path Coefficients										
Path a: MB → UT	0.91	0.03	27.44	.001**	.86	[0.85, 0.98]	.74	752.90	1, 269	.001**
Path b: UT → FI	0.58	0.08	7.41	.001**	.56	[0.42, 0.73]				
Path c': MB → FI (direct)	0.27	0.08	3.22	.001**	.24	[0.10, 0.43]				
Path c: MB → FI (total)	0.79	0.05	17.05	.001**	.72	[0.70, 0.88]	.52	290.66	1, 269	.001**
Indirect Effect										
MB → UT → FI	0.53	0.11	—	—	.48	[0.31, 0.73] ^a				
Full Mediation Model							.60	201.95	2, 268	.001**

Note. MB = Mobile Banking Features; UT = User Trust; FI = Financial Inclusion.

** $p < .01$.

Table 8 evaluates the proposed indirect association through user trust. Mobile banking features were positively associated with user trust ($B = 0.91$, $\beta = .86$, $p < .001$), and this model explained approximately 74% of the variance in user trust ($R^2 = .74$). Controlling for mobile banking features, user trust was positively associated with financial inclusion ($B = 0.58$, $\beta = .56$, $p < .001$). The direct association between mobile banking features and financial inclusion remained statistically significant ($B = 0.27$, $\beta = .24$, $p = .001$), while the total association was $B = 0.79$ ($\beta = .72$). The bootstrapped indirect association was $B = 0.53$ ($\beta = .48$), with a 95% confidence interval of [0.31,

0.73], which excludes zero. The full model explained approximately 60% of the variance in financial inclusion ($R^2 = .60$). Because both the direct and indirect associations were statistically significant, the pattern is consistent with partial statistical mediation and supports H1–H4. Given the cross-sectional design, however, the indirect association should not be interpreted as establishing temporal or causal mediation.

Table 9

Moderation Analysis: Mobile Banking Features $\times$ Age on Financial Inclusion

Effect	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
Main Effects					
(Constant)	3.85	1.74	2.20	.03*	[0.41, 7.28]
Mobile Banking Features (X)	0.78	0.09	8.53	.001**	[0.60, 0.96]
Age: 25-34 vs. 18-24 (W1)	-0.06	2.03	-0.03	.98	[-4.06, 3.94]
Age: 35-44 vs. 18-24 (W2)	-12.93	3.83	-3.38	.001**	[-20.47, -5.39]
Interactions					
MB $\times$ W1	0.01	0.11	0.11	.91	[-0.20, 0.23]
MB $\times$ W2	0.53	0.18	2.90	.004**	[0.17, 0.90]
Model Fit					
R^2	.55				
F (df)	65.93 (5, 266)			.001**	
ΔR^2 (Interaction)	.02		$F = 4.93$ (2, 266)	.01*	

Conditional Associations of Mobile Banking Features by Age Group

Age Group	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
18-24 years	0.78	0.09	8.53	.001**	[0.60, 0.96]
25-34 years	0.79	0.06	13.60	.001**	[0.68, 0.91]
35-44 years	1.31	0.16	8.20	.001**	[1.00, 1.63]

Note. * $p < .05$. ** $p < .01$.

Table 9 shows that the age moderation model was statistically significant, $F(5, 266) = 65.93$, $p < .001$, and explained 55% of the variance in financial inclusion ($R^2 = .55$). Adding the interaction terms accounted for an additional 2% of variance ($\Delta R^2 = .02$, $p = .01$). The interaction for respondents aged 35–44 was positive and statistically significant ($B = 0.53$, $p = .004$), whereas the interaction for those aged 25–34 was not significant. The conditional association between mobile banking features and financial inclusion was $B = 0.78$ for ages 18–24, $B = 0.79$ for ages 25–34, and $B = 1.31$ for ages 35–44, with all three conditional associations statistically significant. Thus, the feature–inclusion association was stronger among respondents aged 35–44, supporting H5. The

age-category main-effect coefficients are not emphasized because, in an interaction model with an uncentered focal predictor, they represent group differences when the focal predictor equals zero.

Table 10

Moderation Analysis: Mobile Banking Features × Gender on Financial Inclusion

Effect	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
(Constant)	-6.99	2.62	-2.67	.01*	[-12.15, -1.84]
Mobile Banking Features (X)	0.95	0.06	16.18	.001**	[0.84, 1.07]
Gender (Female vs. Male)	7.27	1.73	4.21	.001**	[3.87, 10.67]
MB × Gender	-0.38	0.09	-4.02	.001**	[-0.57, -0.19]
Model Fit					
<i>R</i> ²	.55				
<i>F</i> (<i>df</i>)	108.73 (3, 268)			.001**	
Δ <i>R</i> ² (Interaction)	.03		<i>F</i> = 16.18 (1, 268)	.001**	

Conditional Associations of Mobile Banking Features by Gender

Gender	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
Male	0.95	0.06	16.18	.001**	[0.84, 1.07]
Female	0.57	0.07	7.73	.001**	[0.43, 0.72]

Note. **p* < .05. ***p* < .01.

Table 10 shows that the gender moderation model was statistically significant, $F(3, 268) = 108.73$, $p < .001$, and explained 55% of the variance in financial inclusion ($R^2 = .55$). The interaction accounted for an additional 3% of variance ($\Delta R^2 = .03$, $p < .001$). The Mobile Banking Features × Gender interaction was negative and statistically significant ($B = -0.38$, $p < .001$), indicating that the positive feature–inclusion association was weaker for women than for men. The conditional association was $B = 0.95$ for men and $B = 0.57$ for women, with both $p < .001$. This pattern supports H6. The gender main-effect coefficient is not given substantive emphasis because it represents an intercept difference when the focal predictor equals zero.

Table 11

Moderation Analysis: Mobile Banking Features × Employment on Financial Inclusion

Effect	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
Main Effects					
(Constant)	2.44	1.53	1.60	.11	[-0.57, 5.44]
Mobile Banking Features (X)	0.86	0.08	10.23	.001**	[0.70, 1.03]

Employment: Employed vs. Unemployed (W1)	-5.85	2.55	-2.29	.02*	[-10.87, -0.82]
Employment: Self-employed vs. Unemployed (W2)	22.58	5.19	4.35	.001**	[12.36, 32.79]
Employment: Student vs. Unemployed (W3)	1.55	1.93	0.81	.42	[-2.24, 5.35]
Interactions					
MB × W1	0.22	0.13	1.71	.09	[-0.03, 0.48]
MB × W2	-1.10	0.28	-3.87	.001**	[-1.66, -0.54]
MB × W3	-0.09	0.11	-0.79	.43	[-0.30, 0.13]
Model Fit					
R^2	.59				
$F(df)$	54.23 (7, 264)			.001**	
ΔR^2 (Interaction)	.04		$F = 7.59$ (3, 264)	.001**	

Conditional Associations of Mobile Banking Features by Employment Status

Employment Status	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
Unemployed	0.86	0.08	10.23	< .001	[0.70, 1.03]
Employed	1.09	0.10	10.87	< .001	[0.89, 1.29]
Self-employed	-0.24	0.27	-0.87	.38	[-0.77, 0.30]
Student	0.78	0.07	11.39	< .001	[0.64, 0.91]

Note. * $p < .05$. ** $p < .01$.

Table 11 shows that the employment-status moderation model was statistically significant, $F(7, 264) = 54.23$, $p < .001$, and explained 59% of the variance in financial inclusion ($R^2 = .59$). The interaction terms accounted for an additional 4% of variance ($\Delta R^2 = .04$, $p < .001$). Only the interaction for self-employed respondents was statistically significant ($B = -1.10$, $p < .001$); the employed and student interaction terms were not significant. Conditional associations were positive and statistically significant for unemployed respondents ($B = 0.86$), employed respondents ($B = 1.09$), and students ($B = 0.78$), but not for self-employed respondents ($B = -0.24$, $p = .38$). This pattern supports H7, although the self-employed subgroup was small ($n = 16$), so the estimate should be interpreted cautiously.

Table 12

Moderation Analysis: User Trust × Income Level on Financial Inclusion

Effect	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
(Constant)	14.69	3.58	4.11	.001**	[7.65, 21.73]
User Trust (X)	0.20	0.18	1.10	.27	[-0.15, 0.55]
Income Level (W)	-4.04	1.23	-3.29	.001**	[-6.45, -1.62]
UT × Income	0.21	0.06	3.43	.001**	[0.09, 0.33]

Model Fit					
R^2	.60				
$F(df)$	135.31 (3, 267)			.001**	
ΔR^2 (Interaction)	.02		$F =$ 11.76 (1, 267)	.001**	

Conditional Associations of User Trust by Income Level

Income Level	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
Low (-1 <i>SD</i> : 2.19)	0.65	0.06	11.54	.001**	[0.54, 0.77]
Mean (2.91)	0.80	0.04	20.09	.001**	[0.73, 0.88]
High (+1 <i>SD</i> : 3.63)	0.96	0.06	15.33	.001**	[0.83, 1.08]

Note. Income level coded as: 1 = < \$100, 2 = \$100–\$500, 3 = \$500–\$1,000, 4 = > \$1,000.

* $p < .05$. ** $p < .01$.

Table 12 shows that the User Trust $\times$ Income Level moderation model was statistically significant, $F(3, 267) = 135.31$, $p < .001$, and explained 60% of the variance in financial inclusion ($R^2 = .60$). The interaction accounted for an additional 2% of variance ($\Delta R^2 = .02$, $p < .001$). The interaction coefficient was positive and statistically significant ($B = 0.21$, $p < .001$), indicating that the trust–inclusion association became stronger as the coded income level increased. The conditional association was $B = 0.65$ at the lower income value, $B = 0.80$ at the mean, and $B = 0.96$ at the higher income value; all were statistically significant. This pattern supports H8. Because income was coded from 1 to 4 rather than centered, the separate main-effect coefficients correspond to values outside or conditional on the coding scale and are not the primary basis for interpreting the interaction.

Table 13

Moderation Analysis: Mobile Banking Features $\times$ Income Level on User Trust

Effect	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
(Constant)	-6.43	3.00	-2.14	.03*	[-12.33, -0.53]
Mobile Banking Features (X)	1.38	0.15	9.08	.001**	[1.08, 1.68]
Income Level (W)	2.88	1.02	2.83	.005**	[0.87, 4.89]
MB $\times$ Income	-0.16	0.05	-3.14	.002**	[-0.26, -0.06]
Model Fit					
R^2	.75				
$F(df)$	263.25 (3, 267)			.001**	

ΔR^2 (Interaction)	.01		$F = 9.84$ (1, 267)	.002**	
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Conditional Associations of Mobile Banking Features by Income Level

Income Level	<i>B</i>	<i>SE</i>	<i>t</i>	p	95% CI
Low (-1 <i>SD</i> : 2.19)	1.03	0.05	21.09	.001**	[0.93, 1.12]
Mean (2.91)	0.91	0.03	27.82	.001**	[0.85, 0.98]
High (+1 <i>SD</i> : 3.63)	0.80	0.05	15.84	.001**	[0.70, 0.89]

Note. Income level coded as: 1 = < \$100, 2 = \$100–\$500, 3 = \$500–\$1,000, 4 = > \$1,000.

* $p < .05$. ** $p < .01$.

Table 13 shows that the Mobile Banking Features $\times$ Income Level moderation model was statistically significant, $F(3, 267) = 263.25$, $p < .001$, and explained 75% of the variance in user trust ($R^2 = .75$). The interaction accounted for an additional 1% of variance ($\Delta R^2 = .01$, $p = .002$). The interaction coefficient was negative and statistically significant ($B = -0.16$, $p = .002$), indicating that the positive association between mobile banking features and user trust became weaker as the coded income level increased. The conditional association declined from $B = 1.03$ at the lower income value to $B = 0.91$ at the mean and $B = 0.80$ at the higher income value; all were statistically significant. This pattern supports H9. As with Table 12, the interaction and conditional associations are the primary quantities for interpretation.

5. Discussion

The results indicate that users who evaluated Premier Wallet's affordability, accessibility, reliability, usefulness, and transaction simplicity more positively also reported higher financial inclusion. This finding is consistent with recent African evidence showing that mobile financial services can expand access where conventional banking networks remain limited [3, 6, 30]. The strength of the association in this sample may reflect the centrality of mobile financial services in Somalia, where digital platforms frequently perform functions that are handled by branch-based institutions in more developed banking systems. Nonetheless, the cross-sectional design means that the coefficient should be interpreted as a strong association rather than proof of causal impact.

User trust showed partial statistical mediation of the association between mobile banking features and financial inclusion. This result is consistent with the argument that favorable technology characteristics may coincide with deeper financial participation partly through confidence in security, privacy, reliability, and fraud protection. The finding aligns with contemporary reviews that position trust as a core mechanism of digital financial inclusion [7].

and with evidence that trust-building mechanisms reduce perceived risk and support continued payment use [11]. It also complements research showing that trust can influence access to financial services by reducing hesitation and discouragement [33]. In the Somali context, repeated reliable performance may function as a form of platform-based assurance when users cannot rely fully on conventional institutional guarantees. Because the data are cross-sectional, this interpretation remains associative rather than causal.

The age moderation result indicates that the association between favorable platform features and financial inclusion was stronger among respondents aged 35–44 than among younger respondents. A plausible explanation is that older users may have more complex household, business, and remittance responsibilities, making reliability and functional fit especially salient. This interpretation is compatible with research that calls for greater attention to heterogeneous user needs rather than assuming that younger, technologically confident users always receive the greatest inclusion benefits [15].

The weaker feature–inclusion association among women requires cautious interpretation. The result does not show that women value mobile banking less. Rather, it may reflect differences in device access, income control, digital confidence, safety concerns, or social constraints that limit the extent to which favorable platform perceptions coincide with wider financial participation. Reviews of fintech and vulnerable groups consistently identify gender, income, education, and digital capability as interacting barriers [16, 17]. Providers should therefore combine inclusive product design with targeted digital literacy, consumer protection, and access interventions.

Employment status also mattered. The non-significant conditional effect among self-employed respondents may reflect the importance of informal business relationships, supplier credit, cash circulation, and existing transaction networks. Alternatively, the very small self-employed subsample ($n = 16$) may have produced unstable estimates. This result should therefore be replicated with a larger business-user sample before strong conclusions are drawn. Fintech products for self-employed users may require business-oriented functions such as transaction records, invoice tools, merchant payments, working-capital links, and complaint-resolution mechanisms rather than only general consumer features.

The two income interactions reveal different mechanisms. Trust was more strongly associated with financial inclusion at higher income levels, possibly because higher-income users engage in higher-value or more complex financial activities that require stronger confidence in

platform integrity. Conversely, mobile banking features were more strongly associated with trust at lower income levels, suggesting that reliable, affordable, and easy-to-use services may be especially important for building confidence among economically vulnerable users. This pattern is consistent with recent research emphasizing affordability, perceived usefulness, risk, and facilitating conditions among bottom-of-the-pyramid and rural users [20, 34].

6. Implications

6.1 Theoretical Implications

The study extends technology-adoption research by positioning financial inclusion—not only intention or use as the principal outcome. It also shows that trust can operate as a statistical mechanism through which service features are associated with broader financial participation. In addition, the moderation results demonstrate that the feature–inclusion association varies across demographic and economic groups. These findings support recent calls for integrated, context-sensitive models of inclusive fintech [17-19].

6.2 Practical and Policy Implications

For mobile money providers, the results suggest prioritizing service reliability, affordability, simple interfaces, privacy protection, fraud prevention, and transparent complaint resolution. Trust should be treated as an operational objective supported by consistent performance and credible consumer safeguards. Providers should also conduct gender-responsive and age-sensitive user research, expand financial and digital literacy support, and design business-oriented services for self-employed users. Regulators and policymakers should strengthen consumer protection, interoperability, data governance, recourse mechanisms, and proportionate oversight so that rapid digitalization is associated with durable inclusion rather than merely high transaction volumes [5, 32, 37].

7. Limitations and Future Research

This study has several limitations. First, its cross-sectional design does not establish temporal precedence or causal effects. Second, purposive sampling of active Premier Wallet users limits generalization to non-users, rural populations, less-educated users, people without reliable device access, and customers of other platforms. Third, the sample was highly educated and included only 16 self-employed respondents, which limits subgroup inference. Fourth, all constructs were measured through self-report, creating potential common-method bias. Fifth, the

very high correlation between Mobile Banking Features and User Trust warrants a formal multicollinearity assessment and, in future studies, confirmatory factor analysis or structural equation modeling with discriminant-validity tests. Finally, the model-specific degrees of freedom indicate effective sample sizes of approximately 271–272; future reporting should state the exact complete-case N for each model directly from the original SPSS output. Future research should use probability-based or stratified sampling, longitudinal or experimental designs, transaction-level behavioral data, rural comparisons, multi-platform samples, and larger subgroup sizes.

8. Conclusion

The study provides user-level evidence that favorable mobile banking features are strongly associated with financial inclusion among Premier Wallet users in Mogadishu. User trust statistically accounts for part of this association, indicating that financial inclusion is related not only to access and convenience but also to confidence in security, privacy, reliability, and fraud protection. The results further show that age, gender, employment status, and income condition important associations. Reliable and affordable platform design is therefore important but not sufficient: mobile financial ecosystems must also address trust, consumer protection, demographic inequality, and diverse user needs. With these safeguards, mobile financial services may support broader financial participation in fragile-state contexts.

Acknowledgments

The authors express gratitude for the insightful remarks and constructive critiques offered by the anonymous reviewers, which enhanced the quality of this paper.

Author Contributions

Mahad Abdiwali Mohamed contributed to the conceptualization, research design, methodology, formal analysis, data curation, original drafting, supervision, project administration, and visualization. Ali Abdulkadir Ali Gutale contributed to the methodology, validation, investigation, and critical review and editing of the manuscript. Ahmed Nur Dirie contributed to the investigation, data collection, resource acquisition, data curation, and review and editing of the manuscript. Abdiaziz Bashir Mohamud contributed to software application, formal analysis, validation, visualization, and review and editing of the manuscript. Ali Ysin Sheikh Ali contributed to the literature review, investigation, interpretation of the findings, validation, and critical review and editing of the manuscript. Hussein Mohamud Mohammed contributed to the investigation, resource acquisition, data curation, interpretation of the findings, and critical review and editing of the manuscript. All authors read and approved the final manuscript and agreed to be accountable for all aspects of the work.

Declarations

Ethical Approval and accordance

This study was conducted in accordance with the ethical principles of the Declaration of Helsinki. Ethical approval was granted by the Salaam University Research Ethics Committee (SU-REC), Institute of Climate and Environment, under approval number 2026/SU-REC/AMSHS/P0402 on 27 January 2026. Written informed consent was obtained from all participants before their participation in the study. Participation was voluntary, and the confidentiality and anonymity of participants were maintained throughout the research process.

Consent to participate: Written informed consent was obtained from all participants before their participation in the study.

Consent to publish: Not applicable.

Fund: This research received no specific grant from any funding agency.

Data availability: The data supporting the findings of this study are publicly accessible through the following link:

<https://docs.google.com/spreadsheets/d/10SAJoqr7y9bitQxPhluCgkocKHhpMmG/edit?usp=sharing&ouid=105880001822848772557&rtpof=true&sd=true>

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