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Perceived Trust, Benefit and Risk as Determinants of Attitude toward Agency Banking among Existing Users in Kaduna State, Nigeria

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Abstract
Purpose: This study examines how perceived trust, perceived benefit and perceived risk are associated with attitude toward agency banking among existing agency banking customers of Deposit Money Banks in Kaduna State, Nigeria.
Methodology: A descriptive cross-sectional survey was used. A structured questionnaire was administered to 384 existing agency banking users selected by convenience sampling (a target size from Krejcie & Morgan, 1970, which does not make the sample representative); 361 usable responses (about 94%) were analysed with Partial Least Squares Structural Equation Modelling (PLS-SEM) in SmartPLS.
Results and Conclusion: Perceived trust and perceived risk were significantly associated with attitude toward agency banking, positively and negatively respectively; perceived benefit was insignificant. Trust correlated slightly negatively with the outcome and positively with risk, a suppression pattern requiring cautious interpretation. The model explained 47.2% of the variance in the measured attitude construct.
Implication of findings: Among current users, attitudes are more strongly associated with perceived risk and trust than with perceived benefit. Transaction security, agent supervision and visible consumer-protection safeguards, already required by the October 2025 CBN guidelines, are priority hypotheses for testing in studies that include non-users and use longitudinal or intervention designs.

Keywords: Attitude toward Agency Banking, Existing Users, Perceived Trust, Perceived Benefit, Perceived Risk, Technology Acceptance Model, PLS-SEM

1. Introduction

Financial inclusion policy rests on an assumption that is rarely tested directly at the point of use: that once a delivery channel is made physically available to excluded populations, adoption will follow more or less automatically. Nigeria's agency banking programme puts that assumption under real strain. According to the CBN's National Financial Inclusion Strategy document for 2019, the number of banking agents rose by 517% between December 2018 and December 2019, from 38,416 to 236,940, under the Shared Agent Network Expansion Facility (SANEF) drive (CBN, 2019). The expansion has continued: NIBSS data reported in the press put the value of transactions over point-of-sale terminals, which agents widely use, at a record ₦18 trillion in 2024 (Nairametrics, 2025), and in October 2025 the CBN issued consolidated Guidelines for the Operations of Agent Banking in Nigeria that supersede its earlier agent-banking guidelines (CBN, 2025). Physical access, in other words, has expanded explosively. Yet expansion of supply is not the same as adoption by customers, and the persistence of financial exclusion alongside this agent boom suggests that factors other than proximity may shape how customers regard the channel.

This gap between availability and use motivates this study, which addresses a narrower question than the gap itself. The Central Bank of Nigeria introduced agent banking as part of its financial inclusion strategy, and in October 2025 it consolidated the earlier rules into the Guidelines for the Operations of Agent Banking in Nigeria, under which licensed principals, including Deposit Money Banks, contract agents to provide permitted services such as cash deposits and withdrawals, bill payments and naira

funds transfers on their behalf (CBN, 2017, 2018, 2025). The policy logic is straightforward: agents are cheaper to deploy than branches, and they bring services physically closer to underserved customers. What the policy logic does not resolve is why, given comparable physical access, customers differ in how favourably they regard agency banking. Because this study sampled only existing users, it does not compare adopters with non-adopters. It asks instead which beliefs are associated with a more or less favourable attitude toward agency banking among customers who already use it. The outcome is therefore measured as attitude toward agency banking adoption (ABA), not as adoption status, adoption intention, usage frequency or continued use.

Three candidate explanations recur in the technology-adoption literature, and each carries different policy implications if it turns out to be the dominant one. The first is that customers respond to the technology in essentially utilitarian terms: they adopt agency banking because it is useful, in the sense captured by Davis's (1989) construct of perceived usefulness, here operationalised as perceived benefit. If this explanation dominates, the policy lever is convenience: more agents, shorter queues, lower fees. The second is that adoption tracks confidence in the intermediary rather than in the service's functional value. Because agents are not direct bank employees, customers transacting through them face a structurally different trust problem than customers walking into a branch; recent studies on mobile banking users point to institution-based trust and perceived risk as important predictors of use intention and use behaviour (Osadolor & Akhigbe, 2025; Gita & Oriavwote, 2025; Usman et al., 2025; Kumar et al., 2023; Thusi & Maduku, 2020). These studies concern mobile banking rather than agent-mediated transactions, so their relevance here is by analogy. If this explanation dominates, the policy lever is agent accountability and visible regulatory backing rather than convenience messaging. The third is that adoption is governed defensively, by the anticipation of loss rather than the anticipation of gain: customers withhold adoption not because they doubt the benefit but because they fear fraud, transaction failure, or unrecoverable error. Nigeria's cashless banking ecosystem gives this explanation particular weight, since recurring electronic-fraud incidents have been shown to erode trust governance and discourage migration to technology-mediated channels regardless of their convenience (Tade & Adeniyi, 2020).

These three explanations are not mutually exclusive in principle, but they compete for practical priority, and Nigerian policy debate has tended to default to the first, expanding agent networks on the assumption that access and convenience are the binding constraint. The simultaneous-estimation approach is not itself new in Nigeria: Bello, Ladan and Ibrahim (2024) estimated an extended TAM with usefulness, ease of use, risk and trust together, using SmartPLS on 384 convenience-sampled respondents in Bauchi State. What remains open is narrower. It is whether a comparable pattern appears in a different state (Kaduna), when ease of use is set aside and the outcome is existing users' attitude toward agency banking, and in particular whether the unexpected positive risk coefficient reported by Bello et al. (2024) replicates or reverses.

This study therefore replicates and extends Bello et al. (2024) in a different setting. It jointly estimates the associations of perceived trust, perceived benefit and perceived risk with attitude toward agency banking among existing Deposit Money Bank customers in Kaduna State, a setting that combines dense agent coverage with the urban-rural and literacy variation characteristic of northern Nigeria. The estimates are conditional associations, each holding the other two constructs constant, and are not treated as a formal test of which explanation dominates. The main objective of the study is to examine the relationship

between perceived trust, perceived benefit, perceived risk and attitude toward agency banking among existing Deposit Money Bank customers in Kaduna State, Nigeria.

2. Literature review

2.1 Conceptual Review

2.1.1 Concept and Adoption of Agency Banking

The CBN (2025) defines agent banking as the provision of financial services to customers by a third party (the agent) on behalf of a licensed deposit-taking financial institution (the principal). Under the October 2025 Guidelines, which supersede earlier CBN agent-banking guidelines, principals include commercial banks, non-interest banks, payment service banks, microfinance banks and mobile money operators; agents may be individuals or incorporated entities, appointed directly or through licensed super agents; and permitted services include cash deposits and withdrawals within prescribed limits, bill payments, naira funds transfers, balance enquiries and mini-statements (CBN, 2025). Agents, typically retail shop owners or mobile vendors equipped with point-of-sale terminals, perform deposits, withdrawals, transfers and bill payments on behalf of the principal bank. Under the 2025 Guidelines they may provide and help customers submit account-opening forms but may not themselves open accounts, each agent must be exclusive to one principal, and the principal is responsible for the actions or omissions of its agents (CBN, 2025). The model's appeal to banks is primarily cost-driven: agents are markedly cheaper to deploy than branches, which is precisely why network expansion has outpaced conventional wisdom about how quickly financial access typically grows (CBN, 2018). Adoption, however, is a customer-side behavioural outcome distinct from the supply-side fact of agent availability; it denotes the process by which a customer accepts and integrates agent-based banking into routine financial activity, which depends on perceived usefulness, ease of use, safety, and reliability rather than on physical proximity alone (Davis, 1989). Treating availability and adoption as though they were the same variable, an implicit habit of much financial-inclusion policy discourse, is precisely what obscures the puzzle this study investigates. In this study, adoption is operationalised as existing users' attitude toward agency banking adoption, measured by five Likert items (ABA1 to ABA5), rather than as adoption status, usage frequency or continued use.

2.1.2 Perceived Trust

Trust is the belief that a service provider will act reliably, honestly, and predictably. In agency banking, this belief must be extended twice, once to the individual agent and once to the technological system recording the transaction, which is a structurally heavier trust burden than conventional branch banking imposes, since a branch employee is directly accountable to the bank in a way a contracted retail agent is not, although the 2025 Guidelines make the principal responsible for its agents' actions (CBN, 2025). Recent evidence from South African millennials using an integrated UTAUT2 and institutional-trust model found that institution-based trust, rather than performance or effort expectancy, had the strongest effect on both use intention and actual use behaviour of mobile banking apps, and that higher trust directly suppressed perceived risk (Thusi & Maduku, 2020). A parallel Indian study similarly found that trust and risk jointly moderate how behavioural intention converts into actual mobile banking use, implying that trust does not merely add to adoption but conditions whether intention translates into behaviour at all (Kumar et al., 2023). Applied to Nigeria, where agents are not bank employees and where regulatory oversight is the main external guarantee of agent conduct (CBN, 2025), trust is less a soft attitudinal variable than a structural precondition for adoption. The possible targets of trust (the agent, the principal bank and the transaction technology) are conceptually distinct, but PT1 to PT5 form a single construct in this study.

2.1.3 Perceived Benefit

Perceived benefit is the customer's assessment of the advantages a service offers relative to available alternatives, corresponding to Davis's (1989) construct of perceived usefulness. For agency banking, the textbook benefits are proximity, cost savings, and time savings, and the standard argument treats these benefits as the primary reason customers would switch from branch banking to agent banking (Bello et al., 2024). This argument, however, implicitly assumes that benefit varies across customers. One possibility is that, where agent outlets are widespread, perceived benefit varies little among existing users and so discriminates poorly between more and less favourable attitudes.

2.1.4 Perceived Risk

Perceived risk is the customer's assessment of uncertainty and potential negative consequences from using a service, including financial loss, fraud, and transaction failure. Because agency banking transactions are mediated by both a human intermediary and a digital device, they carry a compounded risk profile relative to either purely human (branch) or purely automated (ATM) channels. This is not a hypothetical concern in Nigeria: Tade and Adeniyi (2020) documented, through in-depth interviews with bank customers across three Nigerian states, that recurring internal, external, and collaborative dimensions of electronic fraud actively undermine trust governance and discourage migration to technology-mediated banking, even where banks maintain that no breach has occurred. Risk perception in this environment is also socially amplified: reported fraud incidents circulate quickly within customer networks and shape the risk assessment of people who have never personally experienced a failed transaction. Whether this amplification operates among agency banking users in Kaduna State is not tested in this study.

2.2 Theoretical Framework

This study is anchored on the Technology Acceptance Model (TAM), developed by Davis (1989), which explains technology acceptance through two core beliefs, perceived usefulness and perceived ease of use, that shape attitude toward a technology and, through it, behavioural intention and actual usage. TAM is adopted here as a starting point, because its logic maps onto the study's constructs: perceived benefit maps directly onto perceived usefulness, while the trust- and risk-augmented applications of TAM in recent financial-technology research (Kumar et al., 2023; Thusi & Maduku, 2020) extend the model's acceptance path to include the security-oriented beliefs that matter most where money and personal data pass through an intermediary. The model estimated here is nevertheless a reduced, trust- and risk-augmented TAM-based model. It omits perceived ease of use, the attitude and intention pathways, and an observed usage outcome. These omissions may be defensible for a focused study, but the model cannot show whether TAM itself fails: it tests only whether three beliefs are associated with a measured attitude.

Two alternative frameworks were not adopted, for reasons of focus. The Diffusion of Innovation perspective explains adoption through innovation-level attributes, such as compatibility and observability, that describe the technology rather than the customer's psychological state; it is well suited to explaining why an innovation spreads through a population over time, but it is not built to adjudicate between competing customer-level beliefs, which is this study's actual question. The Unified Theory of Acceptance and Use of Technology, meanwhile, would introduce social-influence and facilitating-conditions constructs that are conceptually adjacent to, but distinct from, benefit, trust, and risk; adding them would widen the model beyond the three beliefs of interest, at the price of a larger instrument. Excluding them is nevertheless a limitation, not a neutral simplification. Digital literacy, access to agents, fees, facilitating conditions and social influence may be related both to the beliefs measured here and to

attitude toward agency banking, so the estimated paths may be biased by omitted variables and may overstate or understate the associations of trust, benefit and risk. The paths are therefore read as conditional associations within a reduced model, in line with the single-theory TAM-based approach of Bello et al. (2024).

2.3 Conceptual Framework

Perceived trust, perceived benefit, and perceived risk are modelled as independent variables in relation to the dependent variable, attitude toward agency banking adoption (ABA) among existing users, as illustrated in Figure 1. Estimating the three constructs in one model, rather than as separately tested factors, allows the study to estimate the association of each belief with attitude while holding the other two constant. It does not allow conclusions about which belief matters most in an absolute sense (Section 4.7).

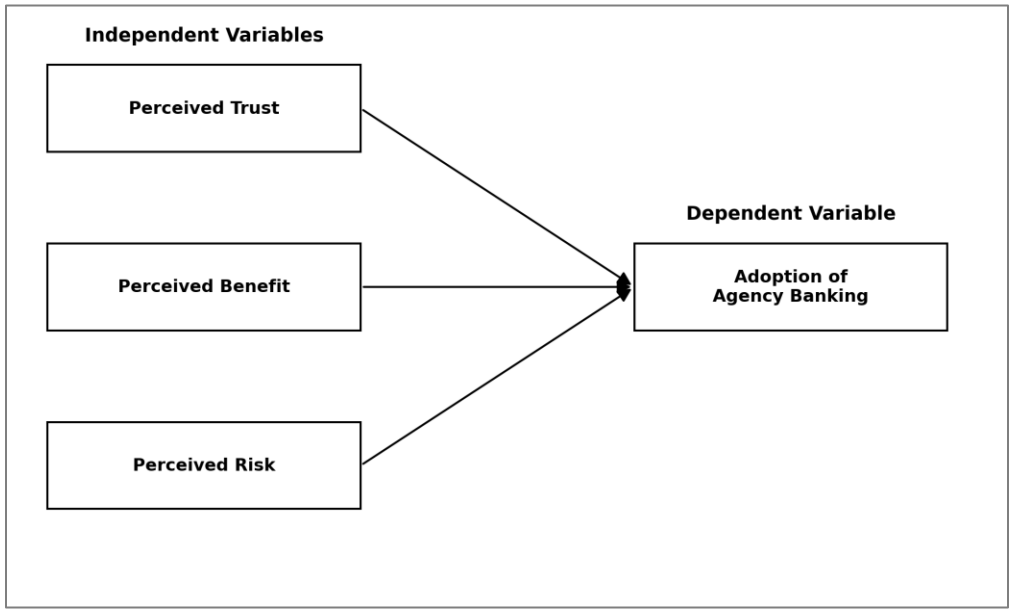


Figure 1: Conceptual Framework.
Source: Researchers' compilation (2026), based on Davis (1989).

2.4 Empirical Review and Hypothesis Development

2.4.1 Perceived Trust and Attitude toward Agency Banking

Thusi and Maduku (2020), studying South African millennials with an integrated UTAUT2 and institutional-trust model, found that institutional trust exerted the strongest effect on use intention among all constructs tested and simultaneously reduced perceived risk, evidence that trust does not act in isolation but actively reshapes how risk is perceived. Kumar et al. (2023), analysing 253 young Indian mobile banking users, found that trust moderates the link between behavioural intention and actual use, meaning that even customers who intend to adopt may not follow through without sufficient trust, a distinction that matters for interpreting adoption outcomes rather than intention outcomes. Outside Nigeria, Alalwan et al. (2017), extending UTAUT2 with trust among 343 Jordanian mobile banking customers, found trust to be a significant positive predictor of behavioural intention to adopt mobile banking, alongside performance and effort expectancy. Because these studies concern mobile banking in other countries and measure intention or use, they are indirect evidence for attitudes toward agency

banking in Nigeria. Taken together, these studies converge on trust as a structural rather than incidental determinant of technology-mediated banking adoption, which motivates the following hypothesis:

H1: *Perceived trust is significantly and positively associated with attitude toward agency banking among existing Deposit Money Bank customers in Kaduna State, Nigeria.*

2.4.2 Perceived Benefit and Attitude toward Agency Banking

Bello et al. (2024) is the closest Nigerian comparator. It applied an extended TAM combining perceived usefulness, perceived ease of use, perceived risk and perceived trust, estimated with SmartPLS on 384 convenience-sampled respondents in Bauchi State, and reported a significant positive effect of usefulness on adoption ($\beta = 0.123$, $p = .013$), the canonical TAM prediction, together with significant positive coefficients for trust ($\beta = 0.454$) and risk ($\beta = 0.245$) and a non-significant ease-of-use path. The present study differs from it in setting (Kaduna State), in omitting ease of use, and in measuring attitude among existing users, so differences in results cannot be attributed to any single factor. Yet the same broader literature contains a caution that is easy to overlook: Thusi and Maduku (2020) found that once institutional trust and risk were entered into the model, they, not usefulness, carried the strongest explanatory weight for use behaviour, suggesting that benefit's dominance in earlier TAM studies may partly reflect the absence of competing trust and risk constructs in those models rather than benefit's independent strength. Because this study also estimates benefit, trust and risk together, a weak benefit path would be compatible with such crowding-out, although it would not establish it. The directional hypothesis, consistent with the wider TAM literature, is nonetheless retained for formal testing:

H2: *Perceived benefit is significantly and positively associated with attitude toward agency banking among existing Deposit Money Bank customers in Kaduna State, Nigeria.*

2.4.3 Perceived Risk and Attitude toward Agency Banking

Tade and Adeniyi (2020) provided direct Nigerian evidence that recurring electronic fraud actively undermines customers' willingness to migrate to technology-mediated banking channels, independent of whatever convenience those channels offer. Thusi and Maduku (2020) found perceived risk to have a significant negative effect on mobile banking use behaviour among South African customers, while Kumar et al. (2023) found that risk perception moderates whether intention converts into actual use among Indian mobile banking users, a pattern that implies risk operates as a late-stage behavioral gate rather than merely an early-stage attitudinal input. Notably, Bello et al. (2024) reported a significant positive risk coefficient ($\beta = 0.245$) in Bauchi State and attributed it to users having little alternative to agent channels. On balance, the dominant pattern across the mobile banking studies reviewed here supports a negative risk-adoption relationship, and the study hypothesizes accordingly:

H3: *Perceived risk is significantly and negatively associated with attitude toward agency banking among existing Deposit Money Bank customers in Kaduna State, Nigeria.*

3. Methodology

The study adopted a descriptive, cross-sectional survey design, appropriate for capturing customers' existing users' perceptions and attitudes at a single point in time. The population comprised customers of Deposit Money Banks who use agency banking services across Kaduna State, Nigeria. Because no complete sampling frame of such customers exists and the population is large and widely dispersed, it was treated, consistent with standard survey practice for populations without an enumerable frame, as an effectively unbounded population. The Krejcie and Morgan (1970) table, reproduced as Table 1, was applied to determine an appropriate sample size; for populations at or beyond the upper bound of the

table, a minimum sample of 384 is recommended, and this figure was adopted as a target sample size. The figure rests on probability-sampling assumptions; it does not make a convenience sample representative and does not correct for selection bias, so the findings are not generalised beyond the sampled respondents. Only existing agency banking users were sampled. The study therefore cannot compare adopters with non-adopters or draw inferences about the decision to adopt. Its outcome, attitude toward agency banking adoption (ABA), is existing users' general attitude toward agency banking as measured by five Likert items, and is not adoption status, intention, usage frequency or continued use.

Table 1: Krejcie and Morgan (1970) Sample Size Determination Table

N	*S*	*N*	*S*	*N*	*S*	*N*	*S*	*N*	*S*	*N*	*S*
10	10	85	70	220	140	440	205	1200	291	4000	351
15	14	90	73	230	144	460	210	1300	297	4500	354
20	19	95	76	240	148	480	214	1400	302	5000	357
25	24	100	80	250	152	500	217	1500	306	6000	361
30	28	110	86	260	155	550	226	1600	310	7000	364
35	32	120	92	270	159	600	234	1700	313	8000	367
40	36	130	97	280	162	650	242	1800	317	9000	368
45	40	140	103	290	165	700	248	1900	320	10000	370
50	44	150	108	300	169	750	254	2000	322	15000	375
55	48	160	113	320	175	800	260	2200	327	20000	377
60	52	170	118	340	181	850	265	2400	331	30000	379
65	56	180	123	360	186	900	269	2600	335	40000	380
70	59	190	127	380	191	950	274	2800	338	50000	381
75	63	200	132	400	196	1000	278	3000	341	75000	382
80	66	210	136	420	201	1100	285	3500	346	1000000	384

Note: N is population size. *S* is sample size.
Source: Krejcie & Morgan (1970)

Consistent with this guideline, 384 structured questionnaires were administered to customers of agency banking outlets across Kaduna State using a convenience sampling technique, adopted because agency banking outlets are widely dispersed and no complete sampling frame of customers was available, an approach also used in the comparable Nigerian agency banking study of Bello et al. (2024). Of the questionnaires distributed, 361 were correctly completed and used for analysis, representing a response rate of approximately 94%.

The research instrument was a structured, five-point Likert-scale questionnaire measuring perceived trust, perceived benefit, perceived risk, and attitude toward agency banking adoption, each with five indicator items (PT1–PT5, PB1–PB5, PR1–PR5, and ABA1–ABA5 respectively). Item wording followed the perceived-usefulness logic of Davis (1989) for the benefit construct and drew on the operationalisation of institutional trust and risk used in recent mobile and agency banking studies (Bello et al., 2024; Kumar et al., 2023; Thusi & Maduku, 2020), adapted to the specific context of agent-mediated transactions in Nigeria.

Data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS, following a two-stage approach: the measurement model was first assessed for indicator

reliability, internal consistency, and convergent and discriminant validity, after which the structural model was evaluated for collinearity, path significance, effect sizes, model fit, and explained variance (Hair et al., 2019). PLS-SEM was chosen because the study estimates the variance explained in an attitude outcome from multi-item constructs, and the data characteristics that justify PLS-SEM, e.g., non-normal Likert data and sample size (Hair et al., 2019).

4. Results and discussion

4.1 Measurement Model Indicator Loadings, Reliability and AVE

Figure 2 presents the estimated PLS-SEM measurement and structural model, showing outer loadings for all indicators together with their bootstrapped significance (p-values in parentheses) and the path coefficients leading to attitude toward agency banking adoption (ABA). A standard bootstrapping approach with 10,000 bootstrap samples and 361 cases was employed to examine the significance of path coefficients in the structural model.

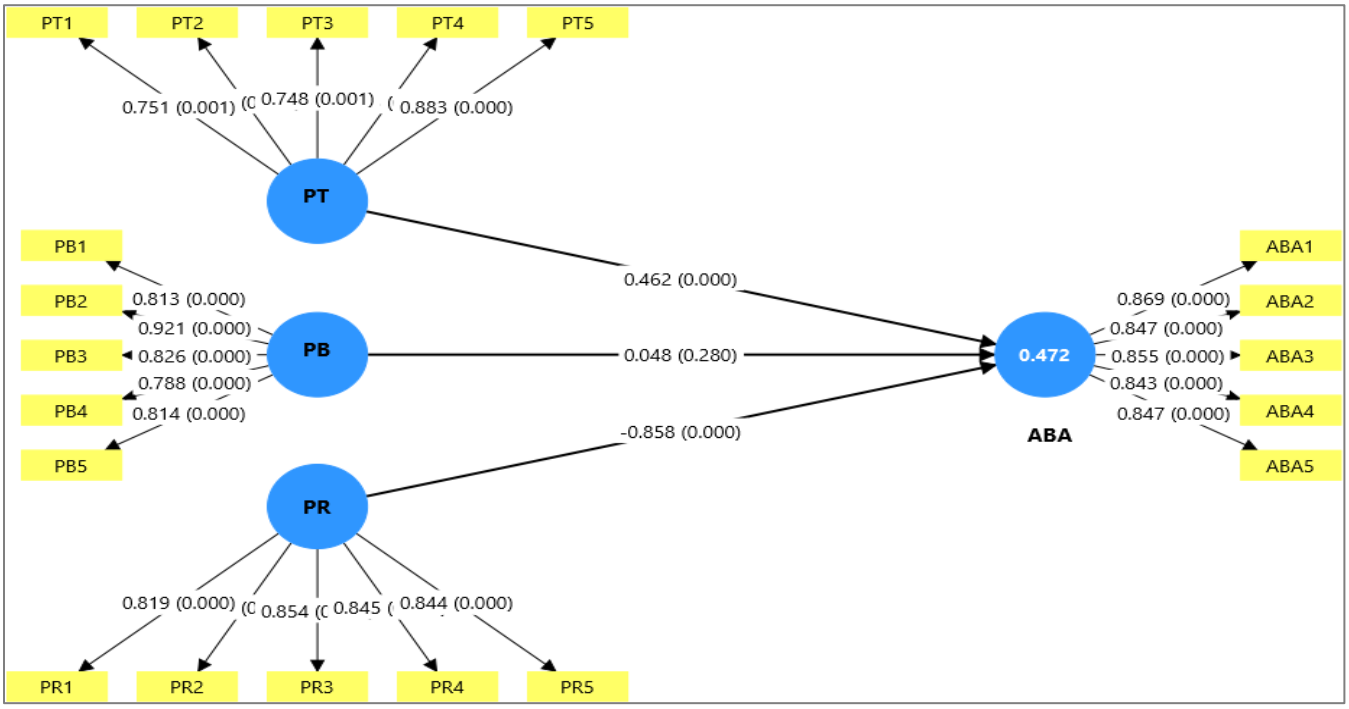


Figure 2: PLS-SEM Measurement and Structural Model (2026).

All outer loadings ranged from 0.748 to 0.921, exceeding the minimum recommended threshold of 0.70 (Hair et al., 2019), confirming adequate indicator reliability across the four constructs (Table 2).

4.2 Internal Consistency Reliability

Cronbach's alpha and composite reliability values for all constructs exceed the 0.70 threshold recommended for confirmatory research (Hair et al., 2019), indicating strong internal consistency. The rho_a value for perceived benefit (1.128) exceeds 1.0 and is therefore not an admissible reliability estimate. It is not set aside on the grounds that Cronbach's alpha (0.897) and composite reliability (0.919) are acceptable. Until this is resolved, the reliability of the perceived benefit scale is treated as only provisionally supported, and the benefit results are interpreted with caution.

Table 2: Indicator Loadings, Composite Reliability and AVE of Latent Constructs

Latent Construct	Item	Item Loading	Composite Reliability (rho_c)	AVE
Attitude toward Agency Banking Adoption (ABA)	ABA1	0.869	0.930	0.726
	ABA2	0.847		
	ABA3	0.855		
	ABA4	0.843		
	ABA5	0.847		
Perceived Trust (PT)	PT1	0.751	0.912	0.676
	PT2	0.857		
	PT3	0.748		
	PT4	0.863		
	PT5	0.883		
Perceived Benefit (PB)	PB1	0.813	0.919	0.695
	PB2	0.921		
	PB3	0.826		
	PB4	0.788		
	PB5	0.814		
Perceived Risk (PR)	PR1	0.819	0.926	0.716
	PR2	0.866		
	PR3	0.854		
	PR4	0.845		
	PR5	0.844		

Source: Researchers' compilation with SmartPLS (2026).

Table 3: Construct Reliability and Validity.

Construct	Cronbach's Alpha	rho_a	Composite Reliability (rho_c)	AVE
Attitude toward Agency Banking Adoption (ABA)	0.906	0.907	0.930	0.726
Perceived Benefit (PB)	0.897	1.128	0.919	0.695
Perceived Risk (PR)	0.901	0.904	0.926	0.716
Perceived Trust (PT)	0.895	0.928	0.912	0.676

Source: Researchers' compilation with SmartPLS (2026).

4.3 Convergent Validity

Convergent validity is assessed using the Average Variance Extracted (AVE), with a recommended minimum of 0.50 (Hair et al., 2019). As shown in Table 3, AVE values range from 0.676 to 0.726, all comfortably above this threshold, confirming that each construct's indicators share sufficient common variance with their respective latent construct.

4.4 Discriminant Validity

The square root of each construct's AVE (diagonal in Table 4) exceeds its correlations with every other construct, satisfying the Fornell-Larcker criterion. All HTMT values in Table 5 fall below the conservative 0.85 threshold (the highest are PR-PT at 0.685 and ABA-PR at 0.636), so there are no exceptions to that threshold (Hair et al., 2019). Discriminant validity of the measurement model is therefore supported. Table 4 also shows that perceived trust is weakly and negatively correlated with ABA (r = -0.065) but positively correlated with perceived risk (r = 0.613), while perceived risk is negatively correlated with

ABA (r = -0.579). A positive trust-risk correlation is conceptually unexpected, since trust and perceived risk are usually negatively related (Thusi & Maduku, 2020). Together with the sign reversal of the trust path in Table 9, this pattern indicates statistical suppression, which is discussed in Section 4.8.

Table 4: Fornell-Larcker Criterion. Diagonal values are the square roots of AVE

	ABA	PB	PR	PT
ABA	0.852			
PB	0.111	0.834		
PR	-0.579	-0.086	0.846	
PT	-0.065	-0.022	0.613	0.822

Source: Researchers' compilation with SmartPLS (2026).

Table 5: Heterotrait-Monotrait Ratio (HTMT) Matrix

	ABA	PB	PR	PT
ABA				
PB	0.102			
PR	0.636	0.075		
PT	0.061	0.065	0.685	

Source: Researchers' compilation with SmartPLS (2026).

4.5 Collinearity Assessment

All VIF values (1.009 to 1.615) fall well below the conservative threshold of 3.3 (Hair et al., 2019), indicating that severe linear collinearity among the predictor constructs is not present. Low VIFs do not address common-method bias, selection bias or statistical suppression. All constructs and the outcome were measured with the same questionnaire at one sitting, so common-method variance is a possible threat, and the convenience sample of existing users introduces selection effects (Section 5.3). Suppression is discussed in Section 4.8.

Table 6: Inner Model Variance Inflation Factor (VIF).

Structural Path	VIF
PB → ABA	1.009
PR → ABA	1.615
PT → ABA	1.604

Source: Researchers' compilation with SmartPLS (2026).

4.6 Model Fit

Table 7: Model Fit Summary

Fit Index	Saturated Model	Estimated Model
SRMR	0.046	0.046
d_ULS	0.440	0.440
d_G	0.196	0.196
Chi-square	416.273	416.273
NFI	0.911	0.911

Source: Researchers' compilation with SmartPLS (2026).

The Standardised Root Mean Square Residual (SRMR) of 0.046 is below the 0.08 cut-off recommended for PLS path models, and the Normed Fit Index (NFI) of 0.911 is also reported (Table 7). These indices

suggest acceptable approximate fit, but they do not establish predictive ability, construct validity or the absence of model misspecification, and the model is not described as validated on these thresholds alone. The estimated and saturated models give identical values, consistent with a saturated structural model, so the indices add little information here.

4.7 Effect Sizes (f^2)

Table 8 shows that the f^2 for perceived risk (0.862) is about 3.4 times that for perceived trust (0.252) and over two hundred times that for perceived benefit (0.004). The f^2 describes the change in R^2 when a predictor is omitted, and it is conditional on the other predictors and on this sample. Given the suppression pattern discussed in Section 4.8 (trust and risk are positively correlated, and trust correlates negatively with ABA) and the possibility of omitted variables (Section 2.2), these ratios are not interpreted as absolute behavioural importance or as a formal test that the paths differ in magnitude.

Table 8: f^2 Effect Sizes

Structural Path	f^2	Effect Size
PB → ABA	0.004	Negligible
PR → ABA	0.862	Large
PT → ABA	0.252	Medium

f^2 Effect Sizes, benchmarked at 0.02 (small), 0.15 (medium), and 0.35 (large).
Source: Researchers' compilation with SmartPLS (2026).

4.8 Evaluation of Path Coefficients and Hypothesis Testing

Table 9: Structural Path Estimates and Hypothesis Testing

Hyp.	Relationship	β (O)	Sample Mean (M)	STDEV	T-Statistics	P-Values	Decision
H1	PT → ABA	0.462	0.388	0.127	3.626	<.001	Supported
H2	PB → ABA	0.048	0.064	0.044	1.081	0.280	Not Supported
H3	PR → ABA	-0.858	-0.800	0.106	8.085	<.001	Supported

Source: Researchers' compilation with SmartPLS (2026).

Table 9 shows that perceived trust has a significant positive path to attitude toward agency banking once the other constructs are held constant ($\beta = 0.462$, $t = 3.626$, $p < .001$); H1 is supported in this conditional sense only. It is not an overall positive association: the bivariate correlation between trust and ABA is slightly negative ($r = -0.065$, Table 4), and trust is positively correlated with perceived risk ($r = 0.613$). This sign reversal is a suppression pattern, in which the trust path becomes positive only after perceived risk is controlled. Perceived benefit has a positive but statistically insignificant path ($\beta = 0.048$, $t = 1.081$, $p = .280$); H2 is not supported. Perceived risk has a significant negative path of considerably larger magnitude than either other path ($\beta = -0.858$, $t = 8.085$, $p < .001$); H3 is supported. The magnitude of this path also exceeds the bivariate correlation between risk and ABA ($r = -0.579$), a further sign of suppression, so the coefficient is interpreted conditionally and should be verified against the coding of the risk and trust items. The data are cross-sectional and do not show that higher perceived risk causes less favourable attitudes, and Table 9 does not test whether the path magnitudes differ from one another.

4.9 Coefficient of Determination (R^2)

As shown in Figure 2, the R^2 value for attitude toward agency banking adoption (ABA) is 0.472, a moderate-to-substantial level of explanatory power (Hair et al., 2019). Perceived trust, perceived benefit, and perceived risk jointly account for 47.2% of the variance in the measured attitude construct (ABA)

among the 361 sampled existing users in Kaduna State. This is not evidence that 47.2% of actual agency banking adoption among Nigerian customers has been explained. The remaining 52.8% lies outside the model, plausibly including facilitating conditions, digital literacy, and agent-level service quality, none of which this study measured directly. Whether further variables, including benefit-side variables, would improve explanation was not tested and is left to future research (Section 5.3).

4.10 Discussion of Findings

4.10.1 Perceived Trust and Attitude toward Agency Banking

The significant positive relationship between perceived trust and attitude toward agency banking (H1 supported, conditional on perceived risk) is consistent with Thusi and Maduku (2020), Kumar et al. (2023), and Alalwan et al. (2017), all of whom found trust to be an important predictor of intention or use in mobile banking, and aligns with Bello et al.'s (2024) Nigerian agency banking findings. In this model, trust has the second-largest effect size ($f^2 = 0.252$), behind risk, but its positive path appears only after perceived risk is controlled (Section 4.8), so the finding is read as a conditional association. It is consistent with, but does not show, the relevance of customers' confidence in agents, reinforced by the CBN's regulatory oversight of agent relationships (CBN, 2025), to their attitude toward agency banking.

4.10.2 Perceived Benefit and Attitude toward Agency Banking

Perceived benefit did not have a significant association with attitude toward agency banking (H2 not supported), diverging from the Technology Acceptance Model's core prediction (Davis, 1989) and from Bello et al.'s (2024) Nigerian finding that perceived usefulness significantly predicts adoption. A non-significant path in a model that also contains trust and risk does not by itself explain why benefit failed to predict attitude. One conjecture is that, among existing users, perceived benefit is uniformly high and so varies little (restricted variance); another is that benefit is crowded out by the correlated trust and risk constructs. Neither can be established here. The study did not sample non-users, so no adopter and non-adopter contrast exists, and the descriptive distribution of the benefit items has not been examined. A non-significant path cannot establish that benefit is saturated. The negligible f^2 (0.004) shows only that, conditional on trust and risk, benefit explains almost no additional variance in ABA in this sample. The claim of a universal convenience baseline is therefore withdrawn unless these descriptive data support it.

4.10.3 Perceived Risk and Attitude toward Agency Banking

Perceived risk recorded a significant negative effect that is, by a wide margin, the strongest relationship in the model (H3 supported; $f^2 = 0.862$), indicating that, in this sample, perceived risk is the construct most strongly and negatively associated with attitude toward agency banking; the cross-sectional design does not show that perceived risk causes less favourable attitudes. This finding is consistent with Thusi and Maduku (2020) and with Tade and Adeniyi's (2020) direct Nigerian evidence that recurrent electronic fraud undermines trust governance and adoption within the country's cashless ecosystem. It contrasts sharply, however, with Bello et al. (2024), who reported a significant positive relationship between perceived risk and agency banking adoption in a different Nigerian sample. That contradiction is not a minor discrepancy to be footnoted; it suggests that perceived risk may not behave as a single, stable construct across Nigerian sub-populations, and that differences in how risk was operationalised, or in the fraud exposure and risk tolerance of respondents in Kaduna State relative to Bello et al.'s sample, could be driving materially different behavioural responses to the same underlying construct label. Until risk is decomposed into its component facets, financial, performance, and privacy risk, and tested across multiple Nigerian states, this contradiction should temper any confident, single-number policy claim about how risk operates nationally. What the present evidence supports is that, within this sample,

perceived risk is more strongly associated with attitude than perceived benefit is. Whether reducing perceived risk would improve attitudes or adoption, or would do so more than improving convenience, is a policy hypothesis that requires intervention or longitudinal evidence; it is not an effect established by this study.

4.11 Theoretical and Practical Implications

Theoretically, the findings are compatible with reduced, trust- and risk-augmented TAM-based models in which risk and trust carry more weight than usefulness, but they do not test TAM itself. TAM's core prediction, that perceived usefulness shapes adoption, was supported in Bello et al. (2024) but not here, even though both studies estimated trust and risk alongside usefulness. The difference may reflect setting, measurement (including the outcome construct), the sampling of existing users, or the omission of ease of use, and this study cannot say which. One possible reading, which it cannot test, is that the weight of usefulness depends on the fraud environment (Tade & Adeniyi, 2020; Kumar et al., 2023; Thusi & Maduku, 2020). Future studies could test whether treating risk and trust as co-equal constructs improves explanation in comparable settings.

Practically, the results suggest hypotheses for policy rather than established effects. The October 2025 CBN Guidelines already require, among other things, two-factor authentication for each customer transaction, automatic rejection of suspicious transactions, immediate reversal when technology fails, geo-fenced terminals, a dedicated customer-care line, resolution of complaints within seven working days, principal responsibility for agents' actions, and monthly returns on fraud incidents (CBN, 2025). Against that baseline, the findings do not show that further network expansion should be deprioritised. They suggest that evidence on how well these safeguards are implemented and communicated to customers is worth collecting. Banks and regulators may consider making existing safeguards visible to customers, and testing whether doing so improves attitudes, before concluding that risk reduction should take priority over convenience.

5. Conclusion

This study set out to examine how perceived trust, perceived benefit and perceived risk are associated with existing agency banking customers' attitude toward agency banking in Kaduna State, Nigeria. Within this sample of 361 existing users, perceived risk showed the strongest (negative) association with attitude, perceived trust showed a positive association that emerged only after controlling for risk (its bivariate correlation with attitude was slightly negative), and perceived benefit showed no significant association. Because only existing users were sampled and the design is cross-sectional, the study cannot say what distinguishes adopters from non-adopters, cannot identify causal effects, and cannot support claims about national policy. The results suggest, as a hypothesis for further testing, that attitudes among current users are shaped more by perceived safety than by perceived convenience, a hypothesis that should be tested with non-users and with longitudinal or intervention designs.

Recommendations

In line with the conclusion of this study, the following tentative recommendations are made:

i. Banks and regulators should continue to strengthen, and verify the implementation of, the transaction-security and fraud-prevention requirements in the CBN (2025) Guidelines, including two-factor authentication, real-time alerts and agent supervision, and should evaluate whether these measures reduce customers' perceived risk, given the strong negative association between perceived risk and attitude found in this sample.

ii. Deposit Money Banks should maintain supervision and periodic auditing of agents in line with the obligations in CBN (2025), to reduce fraud incidents and build system-level trust, since trust showed a positive conditional association with attitude in this sample (see the suppression caveat in Section 4.8).

iii. Banks may test whether communicating existing safeguards visibly (for example, the agent's name and location in transaction alerts and the dedicated complaint lines required by CBN, 2025) improves customers' attitudes, rather than reducing attention to convenience on the strength of this study alone.

iv. Banks and regulators should keep complaint-resolution channels for failed or disputed agent transactions accessible and responsive, consistent with the seven-working-day resolution standard in CBN (2025), and should monitor whether this reduces customers' perceived risk.

Suggestions for Future Studies

The most important limitation is that only existing agency banking users were sampled: the study contains no non-users, cannot compare adopters with non-adopters, and measures attitude rather than adoption status, intention, usage frequency or continued use. Future studies should include non-users and measure these outcomes explicitly. Common-method bias, the trust and risk suppression pattern, the inadmissible rho_a for perceived benefit and the cross-sectional design are further limitations. The study is also limited by its reliance on convenience sampling within a single state, which may constrain the generalisability of the findings. The contradictory risk-adoption finding relative to Bello et al. (2024) is itself evidence that Nigerian sub-populations may not behave identically; future studies should employ probability sampling across multiple states or geopolitical zones before drawing national conclusions. The cross-sectional design captures perceptions at a single point in time and cannot establish whether trust or risk perceptions shift as customers accumulate transaction experience; longitudinal designs are recommended. Future research should also decompose perceived risk into its financial, performance, and privacy facets, incorporate facilitating conditions and digital literacy, and test agent-level characteristics directly, none of which this study's reduced TAM-based model included, but which could help explain the 52.8% of variance in attitude that this model leaves unexplained.

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