



Digital Savings Nudges for First-Time Formal Banking Users

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Abstract

Expanding formal bank-account ownership is an important component of financial inclusion, but account opening does not necessarily translate into consistent saving behavior. This distinction is especially important for first-time formal banking users who must learn unfamiliar interfaces, develop transaction routines, interpret account information, and integrate formal saving into household cash-flow decisions. Behavioral frictions such as limited attention, present bias, procrastination, low salience of future goals, transaction complexity, and uncertainty about digital banking may weaken the transition from account ownership to regular account use. This study examines how carefully designed digital savings nudges could support that transition without restricting user choice or creating coercive financial commitments.

Drawing on behavioral economics, financial inclusion, commitment-saving, reminder, default, and formal-savings literature, the paper develops a four-level digital nudge architecture comprising a standard banking interface, simple savings reminders, goal-framed reminders, and an integrated combination of goal framing, reminders, and user-authorized easy-transfer functionality. Because no primary dataset was supplied, the analytical component is explicitly simulation-based. A hypothetical twelve-week observation period is modeled for four groups representing 160 first-time formal banking users, with forty simulated users allocated to each intervention condition.

The simulated results indicate mean planned-saving adherence of 43.3% under the standard interface, 51.8% under simple reminders, 57.0% under goal-framed reminders, and 62.5% under the integrated nudge condition. These values are methodological demonstrations and are not presented as observed causal effects. The study argues that digital savings nudges are most defensible when they are transparent, easy to decline, proportionate to user needs, supportive rather than manipulative, and accompanied by safeguards concerning privacy, affordability, financial literacy, and consumer autonomy. The resulting framework offers a testable basis for future randomized field experiments involving newly banked populations.

Keywords: digital savings nudges; financial inclusion; formal banking; first-time banking users; behavioral economics; savings behavior; financial technology; choice architecture

1. Introduction

Formal financial inclusion has expanded considerably across many economies, supported by simplified accounts, digital identification, mobile banking, agent networks, electronic payments, and policy



initiatives intended to connect previously underserved populations with regulated financial institutions. The Global Findex 2017 reported that 69% of adults worldwide had an account at a financial institution or mobile-money provider, illustrating substantial expansion in formal financial access by that period. Yet account ownership is only the first stage of meaningful financial inclusion. A newly opened account may remain inactive or be used exclusively for receiving transfers and immediately withdrawing funds. For first-time formal banking users, therefore, the central policy and managerial challenge is increasingly concerned with converting access into confident, voluntary, sustained, and welfare-enhancing financial use.

Evidence from financial-inclusion experiments demonstrates why this distinction matters. Dupas, Karlan, Robinson, and Ubfal experimentally expanded access to basic bank accounts in Uganda, Malawi, and Chile and found that repeated deposit use was limited for many participants. Their results caution against assuming that account provision alone will automatically generate substantial improvements in saving or downstream welfare outcomes. Other field evidence nevertheless demonstrates that formal saving technologies can be valuable when they address specific constraints. Dupas and Robinson found that access to noninterest-bearing accounts among some self-employed individuals in rural Kenya increased saving and productive investment, while Prina's field experiment showed that access to savings accounts could affect the financial behavior of low-income households. Taken together, these findings suggest that the effectiveness of formal banking depends not simply on providing an account but on understanding the behavioral, transactional, institutional, and household circumstances surrounding its use.

Behavioral economics provides a useful framework for examining the post-adoption stage. Saving requires the individual to prioritize future benefits over immediate consumption while repeatedly remembering, initiating, and completing a financial action. Small behavioral barriers can consequently accumulate. Madrian and Shea demonstrated the powerful influence of default arrangements on retirement-plan participation, while Thaler and Benartzi's Save More Tomorrow approach showed how commitment architecture could help individuals translate intentions into higher future saving. In lower-income and emerging-market settings, the mechanisms need not be identical to workplace retirement saving, but the underlying lesson remains important: the structure and timing of financial choices can materially affect whether intended saving behavior is actually performed.

Digital banking creates a particularly important environment for applying these insights. A banking application can make a future objective salient, remind users at appropriate moments, simplify a deposit pathway, display progress, or allow an individual to preselect a transfer plan. Karlan, McConnell, Mullainathan, and Zinman showed experimentally that reminders can increase saving, supporting the proposition that limited attention is one mechanism contributing to an intention-behavior gap. However, digital choice architecture also raises ethical questions. A poorly designed nudge may become intrusive, exploit cognitive biases, encourage saving amounts that are inappropriate for volatile household cash flows, or obscure the distinction between a recommendation and an automatic financial action. For newly banked users with limited experience, these concerns are particularly important because trust, comprehension, digital security, and perceived control may influence future engagement with the entire formal financial system.



Against this background, the present paper develops a structured framework for Digital Savings Nudges for First-Time Formal Banking Users. The study conceptualizes digital nudging not as a substitute for adequate income, financial education, affordable banking, consumer protection, or accessible financial infrastructure, but as a complementary behavioral layer intended to reduce avoidable friction after account opening. The paper integrates evidence on reminders, commitment mechanisms, defaults, formal saving access, transaction costs, and financial-service adoption. Because verified primary observations were not provided, the analytical section uses transparent simulated data rather than representing invented respondents or results as empirical evidence. The resulting framework is intended to support subsequent field testing by banks, financial-inclusion programs, researchers, and responsible fintech providers.

2. Objectives of the Study

2.1 To Develop a Behavioral Framework for Digital Savings Nudges

The first objective is to develop a theoretically grounded framework explaining how digital savings nudges may influence the saving behavior of individuals who have recently entered formal banking. The framework distinguishes between lack of financial resources and behavioral frictions. A reminder cannot create disposable income where none exists, and a more attractive digital interface cannot remove structural barriers such as unemployment, excessive banking charges, unstable earnings, household emergencies, or inadequate consumer protection. The proposed framework is therefore deliberately limited to circumstances in which a user has both an intention and at least occasional capacity to save but does not consistently translate that intention into formal deposits.

Within this boundary, the study examines several mechanisms. A reminder can restore saving to attention; goal framing can make the future purpose of a deposit more concrete; progress feedback can increase the visibility of accumulated achievement; and an easy-transfer pathway can reduce the effort needed to complete a previously chosen transaction. These mechanisms operate differently and should not be treated as interchangeable. Their design must also preserve user agency, particularly for new account holders whose liquidity needs may change rapidly. The study therefore conceptualizes effective nudging as behavioral assistance with retained choice, rather than as automated extraction of funds from users.

2.2 To Compare Alternative Digital Nudge Architectures

The second objective is to construct and analytically compare four increasingly supportive digital environments. The baseline environment represents an ordinary banking interface in which users can save but receive no additional behavioral prompt. The second condition introduces a simple reminder. The third adds goal-specific framing so that the saving action is associated with a purpose chosen by the user. The fourth combines goal framing and reminders with a simplified, explicitly authorized transfer mechanism that reduces procedural effort without eliminating the user's ability to modify, postpone, or cancel the action.

The comparison is intended to investigate a progression from availability to salience and then from salience to facilitated action. This distinction is important because a digital platform may provide technically complete functionality while remaining behaviorally difficult to use. The simulated



comparison consequently focuses on planned-saving adherence rather than only account ownership. It illustrates how a future experimental study could evaluate whether the design of post-onboarding digital interactions contributes to more consistent use of a newly opened formal savings account.

3. Review of Literature

3.1 Financial Access, Account Use, and Savings Constraints

Financial-inclusion research demonstrates that access and use are distinct analytical outcomes. Cole, Sampson, and Zia examined whether price or financial knowledge influenced demand for financial services in emerging markets and highlighted the complexity of translating financial-service availability into adoption. Dupas and Robinson later showed that savings constraints could inhibit microenterprise development and that even accounts carrying meaningful transaction costs were actively used by some market vendors when those accounts helped address existing saving constraints. Such findings challenge overly simple assumptions that low formal saving necessarily reflects a lack of demand for financial management.

Prina's field experiment also reinforces the importance of studying actual account use rather than account opening alone. Her research on low-income households found meaningful consequences from access to formal savings accounts, demonstrating that secure saving technologies can matter when they fit the institutional and behavioral circumstances of users. At the same time, the broader experimental evidence is heterogeneous. Dupas, Karlan, Robinson, and Ubfal found relatively limited repeated use following the expansion of basic bank-account access across three countries, emphasizing that broad access policies should not be evaluated only by the number of accounts created.

For first-time formal banking users, these studies imply that onboarding is only the beginning of an adoption process. Initial account opening may be driven by a transfer requirement, promotional campaign, employer arrangement, government program, or temporary incentive. Continued voluntary saving requires a second transition in which the individual learns to treat the formal account as an everyday financial-management tool.

3.2 Behavioral Economics, Reminders, and Commitment Mechanisms

Behavioral saving research has repeatedly shown that intended financial behavior can be disrupted by inertia, procrastination, present-focused decision making, and limited attention. Madrian and Shea's analysis of automatic enrollment in workplace retirement saving demonstrated that default rules strongly influenced participation and contribution behavior. Thaler and Benartzi subsequently developed Save More Tomorrow, allowing employees to commit in advance to allocating portions of future salary increases to saving. Their work illustrates how choice architecture can be designed around predictable self-control difficulties without requiring individuals to sacrifice an immediate portion of current take-home income at the moment of commitment.

Commitment devices have also been evaluated outside conventional retirement settings. Ashraf, Karlan, and Yin studied a commitment savings product in the Philippines designed for individuals who voluntarily wanted restrictions on access to their own savings. The randomized study provided influential evidence regarding the demand for self-control mechanisms in household finance. These results are particularly relevant to digital banking because contemporary platforms can implement lighter

and more adjustable forms of precommitment, including user-selected goals, planned deposit dates, progress displays, and voluntary recurring transfers.

Karlan, McConnell, Mullainathan, and Zinman's reminder experiments add limited attention to this literature. Their study showed that savings reminders could increase saving, supporting the argument that financial intentions sometimes fail because competing demands displace the future goal from immediate attention. For first-time formal banking users, salience may be especially important because saving through a bank has not yet become habitual. However, reminder effects should not be interpreted as evidence that more messages are always better.

3.3 Digital Choice Architecture, Trust, and Responsible Nudging

Digital banking differs from branch-based saving because the interface itself becomes part of the choice environment. The order of menu options, visibility of goals, wording of notifications, number of steps required to transfer money, feedback after a transaction, and presentation of balances can alter the cognitive effort involved in saving. De Mel, McIntosh, and Woodruff's work on deposit collection illustrates that frequency, salience, and habit formation are separable mechanisms in savings behavior. A digital environment can potentially reproduce some of these mechanisms at low marginal delivery cost, although technological convenience does not guarantee behavioral effectiveness.

The design challenge becomes more sensitive when the target group consists of first-time formal banking users. These users may face uncertainty about fees, password security, withdrawal procedures, balance visibility, transaction finality, or the consequences of committing funds. Financial knowledge may affect demand for financial products, but Cole, Sampson, and Zia's evidence also cautions against treating financial education as the only determinant of formal financial-service adoption. Digital nudges should therefore be combined with intelligible product information and transparent cost disclosure rather than used to compensate for unnecessarily complex financial products.

Responsible nudging additionally requires a clear distinction between helping users implement their own preferences and steering users toward outcomes preferred by the provider. A bank may have a commercial interest in deposit retention, whereas a household may rationally need liquidity for food, health care, debt repayment, or an emergency.

4. Research Methodology

4.1 Research Design and Simulation Structure

The study uses a conceptual-methodological design with a reproducible simulation. It is not presented as a completed randomized controlled trial. The hypothetical target population consists of adults who have recently opened their first regulated formal bank account and have access to a digital banking interface capable of receiving notifications and facilitating deposits or internal transfers. A future field implementation could define "first-time formal banking user" as an individual without previous ownership of a regulated transaction or savings account during a specified look-back period.

For analytical demonstration, the simulated design contains 160 hypothetical participants divided equally among four conditions of forty users each. The observation horizon is twelve weeks following onboarding. The four conditions are Standard Banking Interface, Savings Reminder, Goal-Framed Reminder, and Goal + Reminder + Easy Transfer. Randomized allocation would be preferable in an

actual field experiment because it would help isolate intervention effects from observable and unobservable differences among users. In the present simulation, however, group allocation and outcome patterns are constructed exclusively to illustrate the measurement and analytical framework.

4.2 Measurement Instrument and Proposed Questionnaire

The primary behavioral outcome is planned-saving adherence, defined as the proportion of users in a study condition who complete a saving deposit during a week in which they had previously expressed an intention or plan to save. This outcome is preferable to raw deposit value for the conceptual demonstration because income levels and saving capacities may vary substantially. A future study should additionally examine deposit amount, number of saving transactions, withdrawals, net balance accumulation, persistence after nudges stop, user satisfaction, complaint rates, opt-out rates, and indicators of financial stress.

To supplement transaction data, exactly five questionnaire items are proposed. They are not presented as administered survey questions. Their purpose is to capture perceived control, salience, goal clarity, digital confidence, and perceived pressure. Responses could be recorded using a five-point agreement scale. The final item is deliberately reverse-oriented toward possible coercion so that behavioral effectiveness is not evaluated independently of user experience.

Table 1: Proposed Measurement Framework and Five Questionnaire Items

No.	Construct	Proposed Questionnaire Item	Analytical Purpose
1	Savings Salience	“The digital banking prompts help me remember the saving plan I selected.”	Measures whether the nudge keeps the intended saving action cognitively accessible
2	Goal Clarity	“Linking my savings to a specific goal makes the purpose of saving clearer to me.”	Evaluates whether goal framing strengthens perceived purpose
3	Digital Confidence	“I feel confident completing a saving transaction through the digital banking interface.”	Captures perceived ability to perform the formal saving action
4	User Control	“I can easily change, postpone, or stop the saving option when my financial situation changes.”	Tests whether autonomy and reversibility are preserved
5	Perceived Pressure	“The savings prompts sometimes make me feel pressured to save when I need the money for other purposes.”	Detects possible coercive or welfare-reducing effects

Note: These five items are proposed for future empirical validation and were not administered to actual participants.



The instrument should be subjected to expert review, cognitive interviewing, pilot testing, and psychometric validation before being used for inferential research. Translation and back-translation would be necessary in multilingual environments. Researchers should also avoid treating higher saving as an unqualified welfare outcome. A household that appropriately skips a planned deposit because of an essential medical or consumption need should not automatically be classified as behaviorally deficient.

4.3 Intervention Design and Analytical Procedure

The Standard Banking Interface condition assumes that users have normal access to their balance and deposit functions but receive no additional savings prompt. The Savings Reminder condition introduces a short digital message close to the user's chosen saving date. The Goal-Framed Reminder condition links the reminder to a goal voluntarily selected during onboarding, such as emergency reserves, education expenditure, household equipment, business working capital, or another user-defined purpose. The integrated condition adds an easy-transfer function through which a user can approve a planned saving amount with reduced procedural steps while retaining the ability to alter or decline the transaction.

The simulation uses a fixed random seed to support reproducibility and creates twelve weekly adherence observations for each study condition. The resulting figures are synthetic. No significance tests or causal estimates are presented because doing so could falsely imply evidential strength that a simulation cannot supply. Instead, the analysis reports average weekly adherence, the first-week and final-week values, and descriptive differences between conditions. An actual randomized field trial could subsequently estimate intention-to-treat effects, heterogeneous treatment effects, time trends, persistence after intervention removal, and adverse outcomes using preregistered statistical procedures.

Ethically, a real implementation should require informed participation, appropriate institutional or ethics review where applicable, secure treatment of financial data, data minimization, protection against unauthorized disclosure, and clear separation between research participation and entitlement to essential banking services.

5. Analysis

5.1 Comparative Simulated Savings Adherence

The simulated analysis indicates a progressive difference across the four digital environments. The Standard Banking Interface produces mean planned-saving adherence of 43.3% across the twelve-week period. Simple reminders raise the simulated average to 51.8%, while goal-framed reminders produce an average of 57.0%. The integrated Goal + Reminder + Easy Transfer condition has the highest simulated average, at 62.5%.

These results should be interpreted strictly as an illustration of the proposed analytical architecture. They were intentionally generated to represent theoretically plausible distinctions among conditions and do not demonstrate that the interventions would produce these exact effects in a real banking population. The purpose of the table is to show how future field evidence could be organized and compared.

Table 2: Simulated Twelve-Week Savings-Adherence Outcomes

Digital Banking Condition	Hypothetical Users	Week 1 Adherence	Week 12 Adherence	Mean Weekly Adherence	Descriptive Pattern
Standard Banking Interface	40	53.2%	34.2%	43.3%	Substantial decline without continued behavioral support
Savings Reminder	40	57.1%	46.2%	51.8%	Reminder partially offsets declining salience
Goal-Framed Reminder	40	58.2%	54.3%	57.0%	Greater persistence when saving is tied to a user-selected purpose
Goal + Reminder + Easy Transfer	40	62.8%	61.5%	62.5%	Highest and most stable simulated adherence
Total / Overall Framework	160	—	—	—	Progressive behavioral-support architecture

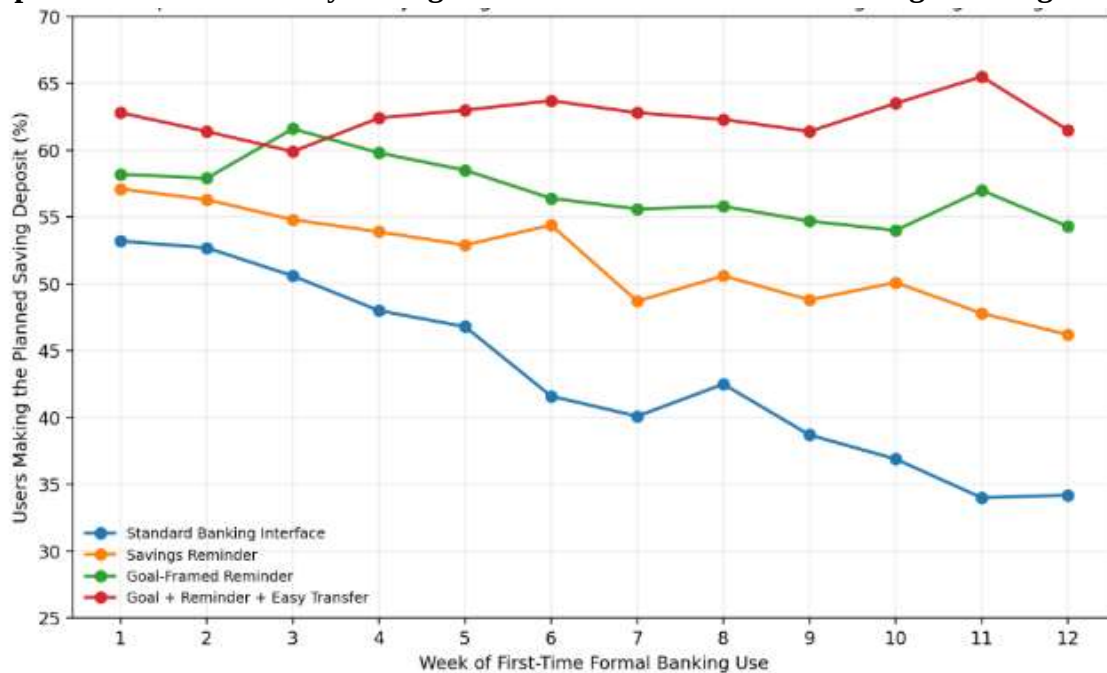
The decline in the baseline condition is analytically important because it represents a plausible post-onboarding pattern in which initial enthusiasm gradually loses salience. The simple reminder condition shows a smaller decline, while the goal-framed condition remains comparatively stable. The integrated condition does not merely remind the user; it also reduces the effort separating intention from action. This pattern aligns conceptually with behavioral research showing the importance of reminders, commitment structures, and choice architecture, although the magnitude shown here is not derived from those studies.

5.2 Weekly Persistence of Digital Savings Behavior

A twelve-week perspective is more informative than a single post-intervention measurement because first-time users may initially respond to novelty. An effective savings nudge should ideally support the gradual formation of a manageable saving routine rather than generate a brief increase that disappears after the first few interactions. The simulation therefore tracks adherence over time and deliberately allows the four conditions to develop different persistence profiles.

The actual graph generated from the synthetic dataset is presented below. It should be retained with the paper because it provides direct visual evidence of the simulated design rather than functioning as a placeholder.

Graph 1: Simulated Weekly Savings Adherence Under Alternative Digital Nudge Designs



The pattern also illustrates an important methodological warning. If researchers measured outcomes only during the first week, differences among the interventions would appear relatively small. By Week 12, the separation is much larger. Future research should therefore examine behavioral persistence and post-intervention decay rather than reporting only immediate response rates.

5.3 Behavioral Interpretation and User-Heterogeneity Considerations

The simulated results suggest three distinct mechanisms worth testing empirically. First, a reminder may reduce forgetfulness or competing-attention effects. This interpretation is consistent with Karlan and colleagues' evidence that reminders can affect saving behavior. Second, goal framing may make a future outcome more concrete, thereby giving the transaction psychological meaning beyond a generic instruction to "save more." Third, reducing transaction steps may address friction between the decision to save and completion of the financial action.

These mechanisms are unlikely to operate uniformly across first-time users. An individual receiving regular wages may benefit from a predictable reminder immediately after payment, while a self-employed user with irregular income may need a flexible trigger rather than a fixed calendar date. A user who already has a strong emergency-saving objective may respond to goal salience, whereas another user may primarily need confidence in the digital transaction process. A household facing repeated financial shocks may rationally opt out of saving prompts more frequently.



Heterogeneity therefore should not be treated as statistical noise. It is central to responsible personalization. A bank should not interpret repeated postponement as permission to intensify pressure indefinitely. In some cases, nonresponse may indicate that the nudge is poorly timed, that the user lacks available funds, or that the original saving plan no longer reflects current priorities.

6. Discussion

6.1 Moving From Financial Access to Active and Meaningful Use

The principal contribution of the study is the distinction between formal access and behaviorally sustained use. Financial inclusion initiatives have historically devoted significant attention to account ownership because an account provides the infrastructure through which formal saving, transfers, payments, credit relationships, and other services can occur. This remains important. However, evidence from Dupas and colleagues across Uganda, Malawi, and Chile demonstrates that simply expanding basic account access may produce limited frequent usage among many recipients. A dormant or minimally used account represents access without complete financial integration.

Digital savings nudges address a narrower but potentially important part of this problem. They do not replace adequate product design or solve income scarcity, but they can reduce the behavioral distance between intention and action. The present simulation illustrates that an ordinary digital interface may be sufficient for technically sophisticated or highly motivated users but less effective for individuals whose saving intention competes with daily demands. Adding reminders, meaningful goal framing, and simplified execution creates a progression in behavioral support.

This interpretation also helps reconcile apparently differing findings in the savings literature. Dupas and Robinson's Kenyan evidence shows that formal accounts can be valuable for groups facing particular saving constraints, while Prina demonstrates meaningful effects of account access in another low-income setting. Dupas, Karlan, Robinson, and Ubfal nevertheless show that access alone does not guarantee widespread active use. Rather than viewing these findings as contradictory, the present framework treats them as evidence of heterogeneity in constraints and emphasizes the need to understand what prevents a specific newly banked individual from using an account as intended.

6.2 Why Layered Nudges May Outperform Isolated Reminders

A simple reminder works primarily through salience. Karlan and colleagues' savings-reminder experiments support the relevance of this mechanism. Yet remembering an intention is not the same as completing it. After receiving a notification, a user may still need to open the banking application, authenticate, identify the relevant function, decide an amount, confirm that the balance is sufficient, complete the transfer, and verify the result. Every additional step creates an opportunity for interruption or postponement.

Goal framing adds motivational context. A message that merely states "remember to save" competes with immediate expenditure without specifying why postponing consumption matters. A user-selected goal can make the future benefit more concrete. The crucial qualification is user-selected. A provider-generated message claiming that a person "should" save for a particular purpose may reflect paternalistic assumptions about household priorities. Goal framing becomes more defensible when the bank merely reminds the user of an objective that the user previously chose.



The easy-transfer component addresses procedural friction. Its ethical design differs from a hidden or difficult-to-cancel default. Madrian and Shea demonstrate that defaults can have powerful behavioral effects, which is precisely why they must be used carefully. In first-time formal banking contexts, the safest architecture may be a preauthorized but highly visible transfer preference with simple cancellation, clear balance information, and no penalty for opting out. The objective is not to exploit inertia but to reduce unnecessary friction while preserving deliberate control.

6.3 Consumer Autonomy, Trust, and Ethical Digital Banking

The greatest risk in applying behavioral science to digital banking is that a technically effective nudge may not be welfare enhancing. A higher deposit balance benefits a bank's funding position, but the same deposit could harm a low-income household if it leaves insufficient liquidity for essential expenditure. Savings behavior must therefore be evaluated from the user's perspective. A responsible program should never define every declined deposit as a failure.

Trust is particularly important among first-time formal banking users. A newly banked customer who experiences an unexpected transfer, unclear fee, inaccessible balance, or confusing cancellation process may become reluctant to use digital financial services in the future. Behavioral interventions should consequently be designed with stronger transparency standards than ordinary promotional messaging. The user should know why a prompt is appearing, which goal it relates to, whether any transaction will occur automatically, how to change the amount, and how to stop future prompts.

Data governance also matters. Personalized nudges can become more effective when they use information about income timing, balances, transaction patterns, or previous saving behavior, but the same data can create privacy and manipulation risks. The principle of proportionality is therefore essential: personalization should use only the information reasonably necessary for the user-authorized purpose. Data gathered to support saving should not automatically become a mechanism for unrelated cross-selling, discriminatory profiling, or opaque credit decisions. Ethical savings nudging must integrate behavioral effectiveness with autonomy, transparency, security, privacy, accessibility, and financial-well-being safeguards.

7. Conclusion

This study develops a behavioral framework for understanding how digital savings nudges could support first-time formal banking users after account opening. Its central proposition is that financial access is necessary but not sufficient for meaningful financial inclusion. Newly banked individuals may possess a formal account while continuing to face attention constraints, procrastination, uncertainty, transaction friction, irregular income, low digital confidence, or weak salience of future financial goals. Digital choice architecture can address some of these barriers when it is designed to help users implement intentions that they have genuinely chosen.

The study also emphasizes that behavioral effectiveness cannot be separated from ethics. Savings nudges should not pressure households to sacrifice essential consumption, conceal transfers behind defaults, create penalties for opting out, or exploit unfamiliarity with banking technology. The most defensible intervention is transparent, user-initiated or user-authorized, reversible, affordable, minimally intrusive, and responsive to changes in financial circumstances. User autonomy should therefore be



treated as a substantive outcome alongside savings adherence rather than as an administrative condition surrounding the intervention.

Future research should test the framework with real first-time formal banking users using preregistered randomized designs and transaction-level outcomes. Such studies should investigate variation by income regularity, gender, age, digital literacy, occupation, household structure, prior informal saving practices, and trust in financial institutions. Longer follow-up periods are also necessary to determine whether nudges support genuine habit formation or merely produce temporary responses while notifications remain active. Combining behavioral outcomes with consumer-protection indicators would allow researchers to identify not only which nudge produces more saving, but which design produces appropriate, voluntary, persistent, and user-valued formal saving behavior.

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