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Strategic Pathways from Financial Inclusion to Sustainable Banking: Integrating Financial Capability, Digital Transformation, and Organizational Resilience

SANJAY V S[a], Dr. R.V. SUGANYA[b]

[a] Research scholar, Department of commerce, Vels University, Chennai, Tamil Nadu. Email: sanjayvscpt@gmail.com

[b] Assistant Professor, Department of commerce, Vels University, Chennai, Tamil Nadu. Email: suganya.sms@velsuniv.ac.in

Abstract

Purpose – Financial inclusion has reached record levels globally, yet measures of financial health and stakeholder-oriented banking performance have not improved in step. This paper develops an integrative conceptual framework explaining the mechanism through which financial inclusion translates into sustainable banking outcomes, positioning financial capability and digital transformation as sequential transmission channels and organizational resilience as a boundary condition.

Design/methodology/approach – The paper follows a systematic, narrative-synthesis literature review across the financial inclusion, financial capability, digital transformation, organizational resilience, and sustainable/ESG banking literatures, integrated through Sen's Capability Approach, the Dynamic Capabilities View, and Stakeholder Theory. A moderated serial-mediation conceptual model is developed and expressed as a set of research propositions, together with a fully specified empirical protocol for future quantitative validation.

Findings – The reviewed literature supports a pathway in which financial inclusion enables sustainable banking primarily through the sequential mechanisms of financial capability and digital transformation, rather than through a direct effect alone, and in which organizational resilience conditions whether digitally-enabled banks convert this pathway into stakeholder-oriented outcomes under stress.

Practical implications – The framework gives bank strategists, regulators, and fintech partners a mechanism-level account of where inclusion initiatives break down before reaching sustainability outcomes, and where resilience investment yields the greatest return.

Originality/value – Unlike prior integrative models that anchor sustainable banking in supply-side institutional and organizational-capability antecedents, this paper is among the first to anchor the pathway in the demand-side financial inclusion and capability literatures while treating resilience as an explicit boundary condition rather than a background control.

Keywords: *Financial Inclusion; Financial Capability; Digital Transformation; Organizational* ***Resilience;*** *Sustainable Banking; Moderated Mediation*

Table 1. Construct Definitions and Theoretical Anchors

Construct	Definition (as used in this paper)	Primary theoretical anchor(s)
Financial Inclusion (FI)	Access to, and usage of, formal financial services across the access–usage–quality dimensions established in the measurement literature.	Sen's Capability Approach; Sarma's Index of Financial Inclusion
Financial Capability (FC)	The internal capacity (knowledge, skill, attitude) plus the external opportunity to use financial services in one's best interest — distinct from financial literacy alone.	Sen's Capability Approach; Kempson/World Bank financial capability tradition
Digital Transformation (DT)	An institution's capacity to sense, seize, and reconfigure around digital opportunities in its delivery of financial services.	Dynamic Capabilities View (Teece)
Organizational Resilience (OR)	A meta-capability composed of anticipation, coping, and adaptation that determines whether a capability already exercised is sustained under disruption.	Dynamic Capabilities View; Duchek's capability-based resilience model
Sustainable Banking (SB)	Banking practice that internalizes environmental, social, and governance	Stakeholder Theory; Institutional Theory

Construct	Definition (as used in this paper)	Primary theoretical anchor(s)
	considerations into core lending, risk, and value-creation decisions.	

1. Introduction

Financial inclusion has entered its most successful decade on record. The World Bank's Global Findex Database 2025, drawn from surveys of roughly 145,000 adults across 141 economies, reports that 79 percent of adults worldwide now hold an account with a bank, another regulated institution, or a mobile money provider, up from 74 percent in 2021 and just 51 percent in 2011 (Demirgüç-Kunt et al., 2022; World Bank, 2025). Mobile technology has done much of the work: 86 percent of adults globally now own a mobile phone, and mobile money accounts alone have nearly doubled their role in formal saving across developing economies since 2021 (World Bank, 2025). Yet the same report contains a far less celebrated finding that motivates this paper. Overall financial health — the ability of account holders to pursue financial goals, absorb a shock, and feel confident about their finances — has not improved in step with access (World Bank, 2025). Roughly 1.3 billion adults remain entirely outside the formal financial system, more than half of them concentrated in eight economies, India, Nigeria, Indonesia, Pakistan, Bangladesh, China, Egypt, and Mexico among them (World Bank, 2025), and even among the newly banked, a meaningful share transact once and then let the account fall dormant.

This is not a new observation dressed in new statistics. It is, however, a sharper one than the financial inclusion literature has typically allowed itself to state. For much of the last two decades, financial inclusion research has treated access and usage as the outcome of interest in its own right (Sarma, 2008, 2012; Sarma & Pais, 2011; Honohan, 2008), producing composite indices — Sarma's Index of Financial Inclusion prominent among them — that reward a country for the sheer availability and uptake of formal financial services. That work has been indispensable for tracking policy progress, and national indices built in the same spirit, such as the Reserve Bank of India's Financial Inclusion Index, have shown genuine and rapid gains: India's FI-

Index rose from 43.4 in March 2017 to 67.0 in March 2025, with growth recorded across its access, usage, and quality sub-indices, while the Pradhan Mantri Jan Dhan Yojana scheme alone has enrolled approximately 560 million beneficiaries, more than 55 percent of them women (Reserve Bank of India, as reported in Press Information Bureau, 2025). What these indices were never designed to answer is a separate and increasingly urgent question: once a person or a small business has an account, what converts that account into the kind of durable financial behavior — and, at the level of the banking institution, into the kind of sustainability-oriented performance — that access alone does not guarantee?

This paper argues that the answer runs through a specific and testable mechanism rather than through financial inclusion directly. Access creates the opportunity for inclusion to matter; it is financial capability — the internal skill, knowledge, and confidence to use financial services well, combined with the external availability of products suited to the user's circumstances (Kempson, Collard, & Moore, 2006; Atkinson, McKay, Kempson, & Collard, 2006; World Bank, 2014) — that converts opportunity into use. Financial capability is not a synonym for financial literacy, a conflation the literature itself has repeatedly had to correct (Kempson & Poppe, 2018; Lusardi & Mitchell, 2014): literacy is knowledge; capability is knowledge acted upon inside a real opportunity structure, a distinction close enough to Amartya Sen's Capability Approach — the distinction between a person's resources and their genuine freedom to convert those resources into valued functionings — that financial inclusion scholars have invoked Sen directly to make the same point (Chakravarty & Pal, 2013; Sen, 1985). Capability, in turn, is not the end of the chain either. Whether a bank can act on an expanded, more capable customer base — whether it can originate the credit, design the savings product, or price the insurance that capability creates demand for — depends on the bank's own digital transformation: its capacity to sense where technology can extend its reach, seize the opportunity through new digital channels and data infrastructure, and reconfigure its operations around them (Teece, 2007; Teece, Pisano, & Shuen, 1997). Mobile money platforms have demonstrated exactly this kind of institutional-level conversion at scale, filling regulatory and infrastructural voids that kept the previously excluded outside formal credit markets entirely (Jack & Suri, 2014; Lepoutre & Oguntoye, 2018).

None of this, however, converts automatically into sustainable banking — banking practice that internalizes environmental, social, and governance considerations into lending, risk, and long-term value creation (Freeman, 1984; Weber, 2014) — unless the institution can absorb the shocks that inclusion-driven digital expansion itself creates. Rapid digital onboarding of previously unbanked, often first-time digital users has a well-documented shadow side: rising cyber-fraud exposure and fragile trust among new users are explicitly named as risks to the quality dimension of financial inclusion in current Reserve Bank of India commentary on the FI-Index. A bank that senses and seizes a digital opportunity but cannot anticipate, cope with, and adapt to the disruption that follows — the three capability stages of organizational resilience identified by Duchek (2020) — is a bank at risk of converting an inclusion success into a sustainability failure: reputational damage, regulatory censure, or customer harm that undoes the developmental promise of the original access gain.

Existing research has not, for the most part, modeled this as a single connected pathway. Financial inclusion, financial capability, digital transformation, organizational resilience, and sustainable banking each command a substantial and separately maturing literature, but integrative work remains scarce and, where it exists, is anchored on the supply side rather than the demand side of the relationship. The closest recent example, an integrated multi-level framework linking regulatory pressure, organizational capability, and digital transformation to ESG performance in emerging-Asian banks (Ullah et al., 2026), treats digital transformation as a moderator of the relationship between institutional pressure and organizational capability, but begins its causal chain at regulation and internal resources rather than at the inclusion and capability of the customers a bank serves, and does not engage organizational resilience as a distinct construct at all. This paper's contribution is threefold. First, it repositions financial inclusion, rather than regulatory pressure, as the point of origin for a sustainable-banking pathway, integrating a demand-side literature that prior integrative frameworks have left out entirely. Second, it specifies financial capability and digital transformation as sequential — not parallel — transmission mechanisms, so that the model states not just that these constructs are related but where in the chain each one does its work. Third, it elevates

organizational resilience from a background control to an explicit boundary condition, proposing that the digital-transformation-to-sustainable-banking link holds only for banks that have built genuine anticipation, coping, and adaptation capacity, and specifying the moderated serial-mediation structure this implies.

The remainder of the paper proceeds as follows. Section 2 reviews the five relevant literatures and identifies where each has, and has not, engaged the others. Section 3 positions the paper's contribution explicitly against the closest existing integrative work. Section 4 develops the theoretical framework, explaining why Sen's Capability Approach, the Dynamic Capabilities View, and Stakeholder Theory are integrated rather than merely listed. Section 5 presents the conceptual model and states it as a set of research propositions. Section 6 details the systematic review protocol this paper followed and specifies, in full, the empirical protocol a future quantitative study would need to test the model. Section 7 synthesizes the integrative findings the review supports. Sections 8 through 11 discuss the findings, state the paper's theoretical, practical, and policy contributions, and set out its limitations and a future research agenda, before Section 12 concludes.

2. Literature Review

2.1 Financial Inclusion: From Access to a Contested Outcome

Financial inclusion research matured around the problem of measurement. Sarma's (2008, 2012) Index of Financial Inclusion, built as a distance-based composite of banking penetration, availability, and usage, gave researchers and policymakers a single comparable number and remains among the most widely cited constructions in the field; Honohan (2008) independently pursued a similar cross-country measurement problem using household access data. Sarma and Pais (2011) then connected the resulting index to development outcomes, reporting a significant positive association between financial inclusion and per-capita income across countries. The World Bank's Global Findex Database, launched in 2011 and now in its fifth wave, extended this measurement tradition to a genuinely global, demand-side survey and is the source of the access statistics — 79 percent global account ownership, 1.3 billion adults still unbanked — cited in Section 1 (Demirgüç-Kunt et al., 2022; World Bank, 2025). A parallel, more normatively explicit strand grounds financial inclusion directly in Amartya Sen's capability–functioning framework:

Chakravarty and Pal (2013) construct an axiomatic index of financial inclusion for India explicitly from Sen's (1985) distinction between a person's commodities and their capability to function, arguing that what a financial institution enables people to do — not merely what services exist on paper — is the correct unit of measurement. This normative strand is the one this paper builds on, because it is the strand that already contains the seed of the access-versus-capability distinction the introduction opened with.

The measurement tradition also extends into a substantial causal literature connecting financial inclusion to development outcomes beyond the index-construction problem itself. Demirgüç-Kunt and Klapper's (2013) analysis of the first Global Findex wave documented systematic within- and across-country variation in formal-account usage, and Allen, Demirgüç-Kunt, Klapper, and Martinez Peria (2016) traced this variation to identifiable legal, institutional, and geographic foundations rather than treating access as randomly distributed. Panel evidence since has been broadly, though not uniformly, supportive of a poverty-reducing effect: Saha and Qin's (2023) 156-country panel finds financial inclusion significantly reduces extreme poverty in developing economies but not in high-income ones, and Tran and Le (2021) report a comparable effect using a separate country panel. Country-specific index-construction work has continued in parallel — Gupte, Venkataramani, and Gupta (2012) compute an India-specific financial inclusion index using a methodology adjacent to Sarma's — while a recent bibliometric mapping of the digital financial inclusion literature (Gallego-Losada, Montero-Navarro, García-Abajo, & Gallego-Losada, 2023, published in Research in International Business and Finance) confirms that the field has grown large enough to require exactly this kind of visualization to stay legible. None of this literature, however, is the literature that names the mechanism this paper is concerned with; it establishes that inclusion matters for development outcomes in aggregate, which is a different claim from explaining what converts an included individual's account into a bank's sustainable-performance outcome.

Digital channels have become the dominant recent driver of measured inclusion gains. Mobile money, in particular, has been shown to act as an institutional workaround in markets where formal credit infrastructure is thin: Jack and Suri (2014) document how Kenya's M-Pesa platform allowed

households to share risk and smooth consumption in ways the formal banking sector had not reached, and Lepoutre and Oguntoye (2018), publishing in Technological Forecasting and Social Change, compare Kenya and Nigeria to show that mobile money's emergence depends on a specific alignment of regulatory permissiveness and telecom-sector structure rather than on technology availability alone. The International Monetary Fund has since formalized this shift into its own digital financial inclusion index covering more than fifty emerging and developing economies, explicitly built to capture access to and usage of digital financial services rather than traditional banking penetration alone (International Monetary Fund, 2021). What this digital-inclusion literature demonstrates, taken together with the Global Findex 2025 finding that financial health has lagged access, is that the inclusion literature itself has begun to outgrow the assumption that access is the finish line. It has not yet, however, systematically named what should come next.

2.2 Financial Capability: The Construct the Inclusion Literature Needs

The construct that inclusion research needs is already well developed, just rarely connected back to it. The United Kingdom's Financial Services Authority commissioned the first large-scale empirical study of financial capability in 2004–2006 under Elaine Kempson, producing both a measurement instrument and a conceptual model distinguishing financial capability from financial literacy (Kempson, Collard, & Moore, 2006; Atkinson, McKay, Kempson, & Collard, 2006). The World Bank later adopted and extended this program to emerging economies, and its 2014 definition is the one this paper adopts: financial capability is "the internal capacity to act in one's best financial interest, given socioeconomic and environmental conditions," encompassing knowledge, attitudes, skills, and behavior alongside "the ability to access financial services that fit [a person's] needs" (World Bank, 2014). The definition is doing two things at once, and the literature has had to keep re-explaining both. First, it separates capability from literacy: literacy, per Lusardi and Mitchell's (2014) influential synthesis, is a narrower construct — numeracy and basic financial concepts — while capability is what a

person does with that knowledge once real financial products and real socioeconomic constraints are in the picture. Second, by naming "the ability to access financial services that fit their needs" as part of capability itself, the World Bank definition builds a direct bridge back to inclusion: capability is not something a person carries in isolation from the financial system, but the interaction between a person's internal capacity and the system's external suitability. Kempson and Poppe's (2018) later work in Ireland and Norway continues to insist on this same distinction against a competing view — the OECD's 2010 expert subgroup once suggested "literacy" and "capability" could be used interchangeably — which the capability research program has consistently rejected as conceptually unhelpful even where it persists in casual usage.

The conceptual proximity to Sen's Capability Approach is not incidental. Sen's (1985) distinction between the commodities a person holds and their real freedom to convert those commodities into valued functionings is structurally the same distinction financial capability research draws between having access to a financial product and being able to use it to genuine effect; this is the same theoretical move Chakravarty and Pal (2013) make on the inclusion side of the same literature, which is why this paper treats Sen's framework as the connective theoretical tissue between the inclusion and capability constructs rather than as a citation of convenience attached to only one of them.

2.3 Digital Transformation: The Institutional Capacity to Act on Capability

If financial capability is what allows a person to convert access into use, digital transformation is what allows a bank to convert a more capable, more active customer base into products and reach it did not have before. The dominant theoretical lens for organizational-level digital transformation is Teece's (2007) Dynamic Capabilities framework, which decomposes a firm's capacity for strategic renewal into sensing opportunities and threats, seizing them through resource commitment and business-model design, and transforming — continuously reconfiguring the firm's asset base to sustain the advantage (Teece, 2007; Teece, Pisano, & Shuen, 1997; Helfat et al., 2007). This is deliberately not the same lens used in the individual-adoption literature — technology acceptance and diffusion-of-innovation models explain why an

individual customer adopts a mobile banking app, a different level of analysis from why a bank restructures itself around digital infrastructure. Where the individual-adoption literature is the right tool (for instance, in explaining mobile money uptake among specific user segments), the Technology–Organization–Environment framework (Tornatzky & Fleischer, 1990) is often paired alongside it to explain the organizational conditions of adoption; but for a paper concerned with what a bank does at the institutional level, Dynamic Capabilities is the more precise fit, because sensing, seizing, and transforming are activities performed by the organization, not the customer.

The empirical record on digital transformation's role in extending financial access supports this institutional framing directly. Mobile money platforms are best understood, in Jack and Suri's (2014) and Lepoutre and Oguntoye's (2018) accounts, not as a product feature but as an institutional-level reconfiguration — a seizing and transforming response to a sensed gap in formal credit infrastructure. More recent work on digital multisided platforms extends the same logic: such platforms fill institutional voids in credit markets through data-based certification, unified access to distributed services, and network-effect scaling, functioning as a stepping stone toward formal financial inclusion for users the traditional banking sector had not reached. This is precisely the organizational-level mechanism this paper's model requires digital transformation to perform: not a customer-facing convenience layered on top of inclusion, but the institutional capability that converts an inclusion-and-capability-driven shift in customer behavior into products, channels, and reach a bank did not previously have.

Direct evidence for this conditional, rather than independent, role of digital transformation now exists in the Indian banking context specifically. Rebekah and Afjal's (2025) hybrid SEM-ANN study of 325 respondents in Chennai, built explicitly on the TOE framework and Dynamic Capabilities Theory, finds that technological and organizational capabilities significantly drive digital transformation and fintech adoption but do not directly improve bank performance on their own; digital transformation and fintech adoption instead mediate the capability-to-performance relationship. This is the same structural claim Section 5 formalizes as Proposition 3, independently arrived at in a single-country empirical study rather than assumed from

theory alone, and it is direct evidence — not merely theoretical plausibility — that digital transformation behaves as a transmission mechanism rather than a freestanding driver in exactly the institutional setting (Indian banking) this paper's illustrative grounding uses.

2.4 Organizational Resilience: The Condition Digital Expansion Creates a Need For

Digital transformation is not risk-free, and the literature on organizational resilience explains what a bank needs in place to absorb the risk digital expansion itself generates. Duchek's (2020) capability-based conceptualization, now one of the most cited frameworks in the field, defines organizational resilience as a meta-capability composed of three successive stages — anticipation (identifying potential threats before they materialize), coping (managing an event once it occurs), and adaptation (using the experience to change routines going forward) — each built from cognitive and behavioral sub-capabilities. Linnenluecke's (2017) systematic review of resilience research across business and management, covering 339 publications from 1977 to 2014, found the concept fragmented across five distinct research streams — responses to external threats, organizational reliability, employee strengths, business-model adaptability, and supply-chain design — a fragmentation that has made it easy for adjacent literatures, including digital transformation and financial inclusion research, to treat resilience as an assumed background condition rather than a construct requiring its own measurement and theoretical placement. Hillmann and Guenther's (2021) independent systematic review reaches the same diagnosis from a different angle, concluding that resilience research remains conceptually fuzzy specifically because measurement has lagged theory — a critique this paper takes seriously by adopting Duchek's (2020) three-stage structure as a single, named operationalization (Section 6.2) rather than leaving "resilience" as an unmeasured placeholder the way prior integrative banking frameworks have.

This is a consequential omission for banking specifically. The Reserve Bank of India's own recent commentary on its Financial Inclusion Index treats rising cyber-fraud and fragile first-time-user trust as material risks to the index's quality sub-component precisely because rapid digital onboarding — the same digital transformation this paper models as a mediator — increases a bank's

exposure surface at the same time as it increases reach. A bank that sensed and seized a digital opportunity without building anticipation and coping capacity is, in Duchek's (2020) terms, pursuing transformation without the resilience capability required to sustain it, which is the theoretical basis for this paper's decision to model organizational resilience as a boundary condition on the digital-transformation-to-sustainable-banking link rather than folding it into digital transformation itself or omitting it as prior integrative work has largely done.

2.5 Sustainable Banking: The Outcome Institutions Are Accountable For

Sustainable banking — banking practice that internalizes environmental, social, and governance considerations into core operations rather than treating them as compliance overlays — draws its dominant theoretical grounding from Stakeholder Theory (Freeman, 1984) and Institutional Theory (DiMaggio & Powell, 1983), the argument being that banks pursue ESG-oriented practice both because stakeholders beyond shareholders hold a legitimate claim on how the institution behaves and because coercive, normative, and mimetic institutional pressure — central bank guidance, sustainability taxonomies, and disclosure mandates — pushes the sector toward legitimacy-seeking adoption whether or not it is immediately profitable (Weber, 2014). In India specifically, the Securities and Exchange Board of India's Business Responsibility and Sustainability Reporting mandate for large listed companies, banks among them, exemplifies exactly this institutional pressure channel, and recent work applying Institutional Theory and Stakeholder Theory jointly to green banking adoption in India documents how regulatory uncertainty and institutional barriers continue to produce uneven implementation even where formal mandates exist (Chandran, Chandran, Achuthan, & Sahib, 2025). The literature's own findings on why implementation is so uneven — Chandran et al. (2025) attribute this to gaps in standardization and in bank-level readiness rather than to an absence of regulatory intent — is itself evidence that the missing piece is less about whether banks are told to become sustainable and more about whether the operational chain beneath that mandate (inclusion, capability, digital capacity, resilience) is actually in place to deliver it.

The empirical literature connecting ESG activity to bank-level outcomes has grown large enough to generate its own internal

disagreements, which matter for how this paper frames sustainable banking as an outcome. Azmi, Hassan, Houston, and Karim's (2021) cross-country study of emerging-market banks finds ESG activity associated with improved financial performance, consistent with a business-case reading of Stakeholder Theory; but Liaqat, Floreani, and Naseer's (2026) 660-bank global study, published in Research in International Business and Finance, finds that ESG performance strengthens bank stability predominantly in individualistic cultures, with the effect measurably weaker under high uncertainty-avoidance and power-distance conditions — a finding that itself supports this paper's broader argument that a sustainability-oriented practice's payoff is conditional on context rather than uniform, the same logic Proposition 5 applies to organizational resilience specifically. Gangwani and Kashiramka (2024), publishing in Business Strategy and the Environment, similarly find that the ESG-to-value relationship among emerging-market banks depends on firm-level moderators (bank size among them) rather than holding as a flat effect. Read together, this literature supports treating sustainable banking as an outcome whose relationship to any single antecedent is conditional by nature — which is the premise this paper's entire moderated-mediation structure, not just its resilience proposition, depends on.

Recent integrative work has begun to connect sustainable banking outcomes to organizational and technological antecedents directly. Ullah et al. (2026), publishing in Frontiers in Environmental Economics, model ESG performance across banks in five emerging Asian economies as a function of regulatory pressure and organizational capability, with digital transformation entering the model as a moderator that strengthens the organizational-capability-to-ESG-performance relationship without exerting a significant direct effect of its own — a finding consistent with this paper's own theoretical claim that digital transformation functions as a conditional mechanism rather than an independent driver. Where that framework and this paper diverge is in where the causal chain begins and what sits at its boundary: Ullah et al. (2026) start from institutional pressure and internal organizational capability and do not engage financial inclusion, financial capability, or organizational resilience as named constructs at all. Section 3 develops this positioning in full.

3. Research Gap and Positioning Against Prior Integrative Work

Three gaps emerge from Section 2, and it is worth stating each against the single closest piece of prior integrative research rather than against the literature in the abstract, because a contribution claim that cannot survive contact with the nearest neighboring study is not a real contribution claim.

The first gap is where the causal chain begins. Ullah et al. (2026) build their integrated multi-level framework outward from regulatory pressure and organizational capability — a supply-side starting point consistent with Institutional Theory and the Resource-Based View. This paper starts instead from financial inclusion and financial capability — a demand-side starting point — on the grounds that a bank's sustainable-banking performance is not only a function of what regulators demand and what internal resources the bank holds, but of what its customer base is actually capable of doing with the products the bank offers. A financially included but low-capability customer base constrains a bank's ability to originate sustainable-lending products (green mortgages, climate-resilient agricultural credit, ESG-linked SME finance) regardless of how strong the bank's internal ESG governance or regulatory environment is, because the demand side of the transaction is missing. No integrative framework identified in this review, including Ullah et al. (2026), engages this demand-side mechanism.

The second gap is sequencing. Where digital transformation appears in adjacent integrative work, it typically appears as a single moderator sitting between one antecedent and one outcome (Ullah et al., 2026). This paper argues, on the basis of the capability and digital-transformation literatures reviewed in Sections 2.2 and 2.3, that financial capability and digital transformation are not two competing moderators of the same relationship but two sequential mediators performing different work at different points in the chain: capability converts inclusion into genuine customer-level financial activity; digital transformation is the institutional-level capability that converts that activity into products, channels, and reach. Collapsing them into a single stage, as prior integrative work does, obscures exactly where in the pathway an intervention — financial education, a digital-onboarding redesign, a core-banking upgrade — would need to be targeted.

The third gap is resilience's theoretical placement. Prior integrative work either

omits organizational resilience entirely or, more commonly across the wider organizational literature, treats it as an unmeasured background assumption (Linnenluecke, 2017). This paper elevates resilience to an explicit moderator on the second-stage (digital-transformation-to-sustainable-banking) path, on the grounds — established in Section 2.4 — that digital expansion measurably increases a bank's exposure to the kind of shocks (cyber-fraud, first-time-user trust failures) that only anticipation, coping, and adaptation capacity (Duchek, 2020) can absorb without the sustainability outcome itself being damaged.

The paper's contribution, stated concretely rather than as a claim to "fill a gap in the literature," is a moderated serial-mediation model — Financial Inclusion → Financial Capability → Digital Transformation → Sustainable Banking, with Organizational Resilience moderating the second-stage path — that a bank strategist, regulator, or fintech partner can use to locate, mechanism by mechanism, where an inclusion initiative is most likely to stall before it reaches a sustainability outcome, and where resilience investment yields the highest return in protecting the gains that digital transformation creates.

4. Theoretical Framework

This paper integrates three theoretical perspectives rather than applying them in parallel, because each does distinct explanatory work at a distinct stage of the proposed pathway, and the integration itself — not any one theory alone — is what the moderated serial-mediation model requires.

Sen's Capability Approach (Sen, 1985; Nussbaum & Sen, 1993) anchors the first stage of the model, the movement from financial inclusion to financial capability. Sen's central distinction — between the commodities and resources a person holds and their real, exercisable freedom to convert those resources into valued functionings — maps directly onto the distinction the financial inclusion and financial capability literatures have each independently arrived at: an account is a commodity; the capability to use that account to smooth consumption, build savings, or access appropriate credit is the functioning Sen's framework is built to explain. Chakravarty and Pal (2013) make this connection explicit on the inclusion side; the World Bank's (2014) capability definition makes the same connection, differently worded, on the capability side. This paper treats that convergence as the theoretical basis for modeling capability as

the mechanism, rather than a mere correlate, that stands between inclusion and everything that follows it.

The Dynamic Capabilities View (Teece, 2007; Teece, Pisano, & Shuen, 1997; Helfat et al., 2007) anchors the model's institutional stage, explaining both digital transformation and organizational resilience as capabilities a bank builds and exercises rather than static attributes it either has or lacks. Sensing, seizing, and transforming describe digital transformation's mechanism directly: a bank senses where an increasingly capable customer base creates unmet demand, seizes the opportunity through digital-channel investment, and transforms its operating model to sustain the resulting reach. Duchek's (2020) anticipation–coping–adaptation model of organizational resilience is best read as a specialized case of the same dynamic-capabilities logic, applied specifically to disruption rather than to opportunity: anticipation is a form of sensing directed at threats, coping is a form of seizing directed at containment rather than growth, and adaptation is a form of transforming directed at recovery. Reading resilience through the same theoretical family as digital transformation, rather than through an unrelated risk-management lens, is what allows this paper to model resilience as conditioning digital transformation's effect rather than as an unrelated control variable bolted onto the model for completeness.

Stakeholder Theory (Freeman, 1984), read alongside Institutional Theory (DiMaggio & Powell, 1983) where regulatory context is salient, anchors the model's outcome, sustainable banking. Stakeholder Theory supplies the normative reason a bank's ESG-oriented performance matters beyond compliance — regulators, depositors, borrowers, and the communities a bank operates in each hold a legitimate claim on how the institution behaves — while Institutional Theory explains the coercive and normative pressure (BRSR, CSRD, Basel climate-risk guidance, UNEP FI's Principles for Responsible Banking) that gives that claim regulatory teeth in a given jurisdiction. This paper treats sustainable banking as the joint product of what Stakeholder Theory says a bank owes its stakeholders and what the operational chain — inclusion, capability, digital transformation, and resilience — actually allows the bank to deliver.

Together, these three perspectives are integrated as follows: Sen's Capability Approach explains how the model's independent variable becomes its first

mediator; the Dynamic Capabilities View explains how the first mediator becomes the second, and what condition (resilience) determines whether that second mediator's effect holds; and Stakeholder Theory explains why the resulting outcome is worth modeling as "sustainable" banking rather than banking performance in the generic sense. No single one of the three theories, used alone, generates the moderated serial-mediation structure the next section specifies; the structure is a property of their integration.

5. Conceptual Model and Research Propositions

The framework developed in Sections 2 through 4 implies a moderated serial-mediation structure:

Financial Inclusion (FI) → Financial Capability (FC) → Digital Transformation (DT) → Sustainable Banking (SB), with **Organizational Resilience (OR)** moderating the DT → SB path.

Figure 1 presents the model. Because this paper is a conceptual and systematic-review contribution rather than a statistically tested empirical study (see Section 6), its claims are stated as research propositions rather than as hypotheses accompanied by p-values, and the paper does not claim empirical support beyond what the reviewed literature itself provides construct-by-construct. A future quantitative study following the protocol in Section 6.2 would restate P1–P7 as formal, statistically testable hypotheses.

P1. Financial inclusion is positively associated with sustainable banking outcomes, both directly and through the mediating pathway specified in P2–P5.

P2. Financial capability mediates the relationship between financial inclusion and digital transformation: financial inclusion's effect on a bank's digital-transformation outcomes operates in part through the capability of the customer base it serves, not through access alone.

P3. Digital transformation mediates the relationship between financial capability and sustainable banking: a more capable customer base translates into sustainable-banking performance in part through the bank's digital capacity to sense, seize, and act on the resulting demand.

P4. Financial capability and digital transformation jointly and sequentially mediate the relationship between financial inclusion and sustainable banking (serial mediation): the FI → SB relationship

operates in part through the specific path FI → FC → DT → SB, rather than through either mediator alone.

P5. Organizational resilience moderates the relationship between digital transformation and sustainable banking, such that the positive effect of digital transformation on sustainable banking is stronger where organizational resilience — anticipation, coping, and adaptation capability (Duchek, 2020) — is higher, and is attenuated or reversed where resilience capacity is low and digital exposure (for example, cyber-fraud risk or first-time-user trust failure) is left unmanaged.

P6. The indirect effect of financial inclusion on sustainable banking through the serial FC → DT pathway is itself conditional on organizational resilience (moderated serial mediation): the full FI → FC → DT → SB pathway is strongest for banks that combine high customer-side capability development with high organizational resilience, and weakest where digital transformation proceeds without a corresponding resilience capability.

P7. The relative strength of the FI → FC path and the FC → DT path will vary by institutional and regulatory context (for example, between jurisdictions with strong financial-capability infrastructure, such as the United Kingdom's or Ireland's Financial Conduct Authority-aligned programs, and jurisdictions where capability-building is comparatively nascent relative to access, such as several of the high-unbanked-population economies identified in the Global Findex 2025 report), such that the model's path coefficients are expected to differ by country or regulatory regime rather than holding as universal constants.

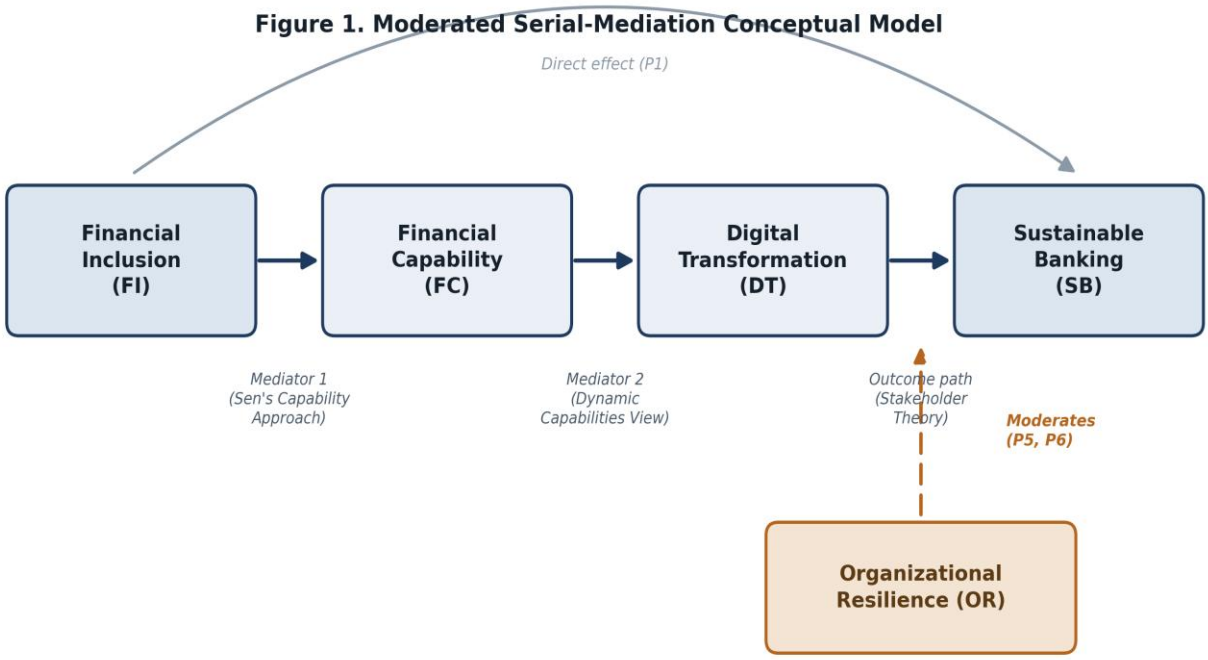

Figure 1. Moderated serial-mediation conceptual model. Solid arrows denote the hypothesized mediation chain and direct effect; the dashed arrow denotes the moderating effect of organizational resilience on the digital-transformation-to-sustainable-banking path.

Table 2. Summary of Research Propositions

Prop.	Statement (abbreviated)	Relationship type
P1	FI is positively associated with SB, directly and indirectly.	Direct effect
P2	FC mediates the FI → DT relationship.	Mediation (stage 1)
P3	DT mediates the FC → SB relationship.	Mediation (stage 2)
P4	FC and DT jointly and sequentially mediate FI → SB.	Serial mediation
P5	OR moderates the DT → SB relationship.	Moderation
P6	The FI → FC → DT → SB indirect effect is conditional on	Moderated serial

Prop.	Statement (abbreviated)	Relationship type
	OR.	mediation
P7	Path strengths vary by institutional/regulatory context.	Cross-context boundary condition

A note on why organizational resilience is modeled as a moderator on the second-stage path rather than as a third serial mediator or as a first-stage moderator: resilience's theoretical function, per Duchek (2020), is to determine whether a capability already exercised (digital transformation) is sustained under disruption, not to generate the capability in the first place. Modeling it as a mediator would imply that resilience produces sustainable banking on its own account, which the literature does not support; modeling it as a first-stage moderator (on FI → FC) would imply that resilience conditions whether inclusion becomes capability, a claim no reviewed source makes. Placing it on the DT → SB path is the specification the reviewed literature — particularly the shocks the RBI's own FI-Index commentary associates with rapid digital onboarding — most directly supports. A future empirical study, per Section 6.2, should nonetheless test this placement against the two alternative specifications rather than assume it, since PLS-SEM model comparison (via information criteria or PLSpredict out-of-sample comparison; Hair, Risher, Sarstedt, & Ringle, 2019) can adjudicate between them once real data exists.

6. Methodology

6.1 Systematic Review Protocol (as conducted for this paper)

This paper's literature base was assembled through a structured, two-round search across each of the five constituent constructs — financial inclusion, financial capability, digital transformation, organizational resilience, and sustainable/ESG banking — together with the methodological literature underlying the proposed empirical protocol (Section 6.2), a targeted search for existing integrative frameworks combining any two or more of the five constructs (undertaken specifically to test this paper's novelty claim against the closest available prior work rather than asserting novelty without having looked), and a targeted third-round search for comparative, cross-context evidence bearing on Proposition 7. In total, 33

discrete search queries (32 searches plus one full-text retrieval of the closest competing paper) were run across three rounds — construct definition and measurement, methodology, and a final round targeted specifically at cross-context comparative evidence for Proposition 7 — returning on the order of 250–300 raw results with substantial overlap across queries. Candidate sources were screened for direct relevance to construct definition, measurement, or theoretical grounding, and retained only where the underlying publication could be independently verified — author names, publication year, journal or publisher, and, where available, a resolvable DOI — against real, retrievable bibliographic records. Sources that could not be verified to this standard (for instance, papers known only from a secondary citation, with an ambiguous or unconfirmed journal attribution) were excluded rather than included on the strength of a plausible-looking reference. This produced the 54 sources in the final reference list. Readers should note what this number does and does not represent: it is an honest count of a single-analyst, tool-assisted search process, not a formal multi-database export subjected to independent dual screening, and it should not be mistaken for the latter.

This is a narrower and more targeted protocol than a full PRISMA-registered systematic review (Page et al., 2021) with a pre-specified multi-database export, a formal screening flowchart with inter-rater reliability, and deduplication against a bibliographic manager; the paper does not claim to have conducted the latter, and the search process described above was mediated by web-based discovery of publisher and repository pages rather than direct API access to Scopus or Web of Science. Section 11 identifies a full bibliometric mapping — using the VOSviewer software (van Eck & Waltman, 2010) or the R bibliometrix package (Aria & Cuccurullo, 2017) against a formal Scopus and Web of Science export — as a natural and necessary next step that this narrative synthesis has not itself performed, and which would be required before this review could be described as a registered systematic review in the PRISMA sense rather than a structured, transparently-documented narrative synthesis.

6.2 Proposed Protocol for Empirical Validation (future study — not conducted in this paper)

The propositions in Section 5 are conceptual and are not tested with primary or secondary

data in this paper. The protocol below specifies, in full, how a future quantitative study should test them, so that the model developed here is immediately actionable as a pre-registration-style design rather than requiring a separate methods paper to operationalize it.

Population and sampling. The target population is retail and MSME-facing bank managers or relationship officers (for a supply-side test of the DT and OR constructs) or retail/MSME banking customers (for a demand-side test of the FI and FC constructs); a full test of the model requires paired or linked data from both populations within the same institutions, since FI and FC are properly customer-level constructs while DT, OR, and much of SB are properly institution-level constructs, a multilevel data requirement the model's constructs make unavoidable and which single-level survey designs common in this literature typically do not satisfy. Purposive or stratified random sampling should target a minimum of 300–450 usable customer-level responses per participating institution, consistent with established PLS-SEM sample-size guidance for a five-construct model with a moderation term (Hair, Hult, Ringle, & Sarstedt, 2022), alongside institution-level data from a minimum of 15–20 participating banks if institutional variation (Proposition 7's cross-context claim) is to be tested rather than assumed.

Measurement. Every construct should be operationalized using scales adapted from, and explicitly cited to, an established source rather than constructed ad hoc: financial inclusion from the access–usage–quality dimensions established by Sarma (2008, 2012) or the Global Findex survey instrument (Demirgüç-Kunt et al., 2022); financial capability from the Kempson, Collard, and Moore (2006) / Atkinson et al. (2006) financial capability battery, explicitly excluding pure financial-literacy items so the construct is not collapsed back into the distinction Section 2.2 works to preserve; digital transformation from an organizational digital-maturity instrument consistent with the sensing–seizing–transforming structure (Teece, 2007); organizational resilience from an instrument operationalizing Duchek's (2020) three-stage anticipation–coping–adaptation structure; and sustainable banking from an ESG-banking performance instrument consistent with Stakeholder Theory's multi-stakeholder outcome logic (Freeman, 1984). A pilot study ($n \approx 30–40$) should precede full data

collection to confirm item clarity and preliminary reliability before the full sample is fielded.

Analytical technique. Partial least squares structural equation modeling (PLS-SEM, via SmartPLS) is the appropriate technique given the model's moderated serial-mediation complexity and the likely mix of reflective and formative indicators across constructs (Hair et al., 2022). The measurement model should report Cronbach's alpha and composite reliability (both exceeding 0.70), average variance extracted (exceeding 0.50) for convergent validity, and the heterotrait–monotrait ratio of correlations (Henseler, Ringle, & Sarstedt, 2015) rather than the Fornell–Larcker criterion alone for discriminant validity, given Henseler et al.'s demonstration that Fornell–Larcker does not reliably detect discriminant-validity violations that HTMT does detect. Common method bias should be assessed through Harman's single-factor test and a full collinearity variance-inflation-factor test (Kock, 2015), since either alone is regarded as an insufficient check in current methodological guidance. The structural model should be assessed through bootstrapping with a minimum of 5,000 subsamples, reporting path coefficients, R^2, f^2 effect sizes, Q^2 predictive relevance, and PLSpredict out-of-sample comparison (Hair, Risher, Sarstedt, & Ringle, 2019) rather than in-sample R^2 alone. Proposition 6's moderated-mediation claim should be tested through the index of moderated mediation (Hayes, 2015; Preacher, Rucker, & Hayes, 2007) with bootstrapped confidence intervals, not through the significance of the interaction term in isolation, since a significant interaction term does not by itself establish that the indirect effect is conditional on the moderator in the way Proposition 6 specifies.

What this paper does not claim. No survey was fielded, no PLS-SEM model was estimated, and no statistical results are reported anywhere in this paper. Any figures resembling path coefficients, loadings, or fit indices would necessarily be invented rather than observed, and this paper deliberately does not include them. Section 7's synthesis below draws only on the qualitative and conceptual convergence documented in the reviewed literature, not on a quantitative test of the model.

7. Integrative Synthesis: The Financial-Inclusion-to-Sustainable-Banking Pathway

Read together rather than construct by construct, the reviewed literature supports four convergent observations that constitute this paper's central synthesis.

First, the inclusion literature has already produced the evidence that access is not the finish line, without yet naming the mechanism that follows it. The Global Findex 2025 finding that financial health has not tracked account ownership (World Bank, 2025) is not an anomaly inside the inclusion literature; it is consistent with a measurement tradition — Sarma's (2008, 2012) access-usage-quality decomposition, the RBI FI-Index's own three-way access/usage/quality structure — that has always implicitly separated the existence of access from the quality of its use, without the literature drawing the further, capability-focused conclusion that Section 2.2's review makes explicit.

Second, the capability and inclusion literatures converge on Sen's framework independently of one another, which is stronger evidence for the FI → FC mechanism than either literature's within-field claims alone. Chakravarty and Pal (2013) reach for Sen (1985) to build a financial inclusion index; Kempson-tradition capability research (Kempson, Collard, & Moore, 2006; World Bank, 2014) reaches for the same underlying distinction — commodities versus the freedom to convert them into functionings — to define financial capability, without either literature citing the other's use of Sen. Two separately developing research programs converging on the same theoretical distinction to solve two different measurement problems is a stronger basis for treating FC as the mechanism connecting them than either literature could establish reviewing itself alone.

Third, the digital-transformation and mobile-money literatures already describe DT performing the FC → DT → SB conversion this paper proposes, without labeling it as such. Jack and Suri (2014) and Lepoutre and Oguntoye's (2018) accounts of mobile money as an institutional-level response to a sensed infrastructural gap are, in Dynamic Capabilities terms, exactly the sensing-seizing-transforming sequence Section 4 uses to theorize digital transformation's mediating role; digital multisided platforms filling institutional voids through data-based certification, unified access, and network-effect scaling is the same mechanism

restated at the platform-ecosystem level. Ullah et al.'s (2026) empirical finding that digital transformation shows a strong moderating association with organizational-capability-to-ESG-performance but no significant independent direct effect is, read through this paper's framework, consistent with — not contradictory to — modeling digital transformation as a conditional mechanism rather than a freestanding driver of sustainable banking, which is the specification P3 and P5 both depend on.

Fourth, the resilience literature explains why the pathway can fail even when every prior stage succeeds, and current regulatory commentary on India's own FI-Index shows this is an active, not merely theoretical, risk. Duchek's (2020) anticipation-coping-adaptation structure gives content to what "resilience" means for a digitally-transforming bank; the RBI's own explicit naming of cyber-fraud and eroded first-time-user trust as risks to its FI-Index's quality dimension is evidence that this is not a hypothetical boundary condition invented for theoretical completeness, but a documented feature of the exact expansion process (rapid digital onboarding of newly included, often first-time digital users) this paper's model places at its center.

8. Discussion

Reconnecting each of these four observations to the theoretical framework in Section 4 clarifies what the paper's integration adds beyond restating each literature's own findings. Sen's Capability Approach does more than supply a citation for the FI → FC link; it explains why the link should be expected to hold across contexts as different as the UK-origin Kempson tradition and Indian- or Pakistani-context inclusion research (Chakravarty & Pal, 2013), because the commodity-versus-functioning distinction is a general feature of how resources translate into outcomes, not a context-specific empirical regularity. The Dynamic Capabilities View does more than describe digital transformation as "important"; it predicts, correctly against Ullah et al.'s (2026) empirical result, that digital transformation should behave as a conditional or moderating mechanism rather than an independent driver, because sensing and seizing capabilities by construction only produce value when there is an underlying opportunity (in this model, capability-driven customer demand) for them to act on. And Stakeholder Theory, read alongside the documented unevenness of BRSR-mandated green-banking implementation in India (Chandran et al., 2025), explains why

regulatory mandate alone — the starting point of prior integrative frameworks such as Ullah et al. (2026) — is necessary but insufficient: a stakeholder-legitimacy obligation a bank cannot operationally deliver, because the inclusion-capability-digital-resilience chain beneath it is incomplete, produces exactly the symbolic-compliance-without-substantive-outcome pattern the green-banking-adoption literature already documents.

The discussion also surfaces a genuine point of theoretical tension the paper does not resolve by assertion. Proposition 7 predicts that path strengths will vary by regulatory and institutional context, and the reviewed literature offers at least two competing accounts of why: an institutional-maturity account, in which stronger capability infrastructure (financial-education mandates, consumer-protection regimes) directly strengthens the FI → FC path (consistent with Kempson-tradition capability research); and a technology-substitution account, in which weak formal capability infrastructure is partially compensated for by mobile-money and digital-platform mechanisms that reduce the capability threshold required for a customer to transact at all (consistent with the mobile-money literature's institutional-void-filling argument).

Real comparative evidence bears on both accounts, and it does not point cleanly at either. On the institutional-maturity side, the United Kingdom's Money and Pensions Service coordinates a national UK Strategy for Financial Wellbeing (launched 2020) with an explicit, funded, multi-decade capability-building infrastructure behind it, and the OECD/INFE's own policy handbook on national financial-education strategies documents 59 economies now running comparable programs of widely varying maturity — a real, measurable spread in the institutional infrastructure Proposition 7 claims should matter. On the technology-substitution side, Kenya's M-PESA is the literature's canonical test case, and the evidence is genuinely mixed rather than confirming that technology closes the capability gap on its own: Suri and Jack (2016), publishing in Science, document real, lasting poverty and gender-equity gains from mobile money's spread; but Van Hove and Dubus's (2019) three-step probit analysis of the same environment finds that only 7.6 percent of Kenyans have ever used an M-PESA account to save, and that the people left behind at each successive stage — from SIM access, to account ownership, to actual saving — are disproportionately poor, uneducated, and female, the same

populations financial-capability research identifies as facing the largest capability gap in every other context studied. Read against this paper's framework, Van Hove and Dubus's finding is not a rebuttal of the technology-substitution account so much as a demonstration that digital access alone reproduces the exact FI-without-FC pattern Section 1 opens with — mobile money extended financial inclusion in Kenya without, for most of the newly included, producing the capability to use it for saving, which is the mechanism gap this entire paper is built to name. This suggests a refinement to Proposition 7 worth stating explicitly: technology substitutes for missing formal capability infrastructure in extending FI, but the reviewed evidence does not support technology substituting for missing FC itself — capability-building remains a distinct requirement even where the access problem has been solved digitally.

These accounts are not mutually exclusive, but they generate different empirical predictions — the first predicts FC mediates most strongly where capability programs are mature; the second predicts DT can partially substitute for missing FC in low-capability-infrastructure contexts — that only the empirical protocol in Section 6.2, run across genuinely heterogeneous regulatory contexts, can adjudicate.

9. Theoretical Contributions

This paper contributes to theory in three specific ways, each stated against the gap it closes rather than as a generic claim of advancing the literature. First, it supplies a mechanism-level account — Section 5's moderated serial-mediation model — where the financial inclusion literature has to date supplied outcome-level measurement (Sarma, 2008, 2012; Demirgüç-Kunt et al., 2022) without a correspondingly explicit account of what stands between access and downstream institutional performance. Second, it extends the Dynamic Capabilities View into a domain — the joint modeling of digital transformation and organizational resilience as related but distinct capability sets — that Duchek's (2020) and Teece's (2007) frameworks each support individually but have not previously been integrated to explain jointly in a banking-sector, inclusion-linked context. Third, it sharpens the theoretical placement of organizational resilience specifically, arguing and justifying (Section 5) why resilience belongs on the second-stage moderating path rather than as an omitted background assumption (the pattern

Linnenluecke's 2017 review found dominant across the wider resilience literature) or as an undifferentiated third mediator.

10. Practical, Managerial, and Policy Implications

For bank strategy and management. The model implies that inclusion-driven growth strategies and digital-transformation investment should not be evaluated on customer-acquisition or digital-adoption metrics alone; the framework predicts that sustainable-banking payoff depends on whether capability-building (financial education embedded in onboarding, not offered as a separate and easily-skipped module) precedes or accompanies digital-channel expansion, and on whether resilience investment (fraud detection, trust-rebuilding mechanisms for first-time digital users) is sized to the pace of digital onboarding rather than treated as a fixed cost independent of growth rate. A bank scaling digital financial inclusion faster than it scales resilience capacity is, on this model, scaling the precise conditions under which Proposition 5's attenuation or reversal effect should be expected to appear.

For regulators and central banks. The RBI's own FI-Index already tracks access, usage, and quality as separate sub-indices, and the model here suggests a further disaggregation is warranted within "quality": distinguishing capability-building outcomes (are newly included customers using accounts in ways that reflect genuine capability, not just initial enrollment) from resilience outcomes (fraud incidence and trust metrics among newly digital users) would let a regulator identify whether an apparent inclusion success is on track to become a sustainable-banking outcome or is accumulating the specific risk this paper's model predicts. More broadly, the BRSR and comparable disclosure mandates (CSRD, Basel climate-risk guidance) are, on this model, necessary but insufficient instruments: a mandate that requires ESG disclosure without a parallel requirement or incentive for capability- and resilience-building is asking banks to report on an outcome the operational chain beneath it may not support.

For fintech and ecosystem partners. Mobile-money and digital-platform providers occupy, in this model, the digital-transformation mediator directly, and the mobile-money literature's own institutional-void-filling logic suggests these providers can accelerate the FC → DT path specifically in contexts where formal capability infrastructure is thin — but only if

platform design treats capability-building (clear product design, in-context financial education, fraud-safe defaults) as a feature of the platform rather than an externality left to banks or regulators to address separately.

11. Limitations and Future Research Agenda

This paper's limitations follow directly from its chosen scope and should be read as specific rather than boilerplate. First, the review is a targeted, construct-driven narrative synthesis rather than a full PRISMA-registered systematic review with a pre-specified database export and independently screened corpus; a formal bibliometric mapping using VOSviewer or the R Biblioshiny package across a complete Scopus and Web of Science export of all five constituent literatures would test whether the thematic clusters this paper identifies by close reading also emerge from citation and co-occurrence patterns at scale, and would likely surface additional integrative or adjacent work this targeted search did not capture. Second, and most importantly, the model is conceptual: Propositions 1 through 7 are not statistically tested in this paper, and the paper's contribution should not be read as empirically validated until the protocol in Section 6.2 has actually been carried out. Third, the paper's illustrative empirical grounding leans on India-specific data (the RBI FI-Index, PMJDY, BRSR) alongside globally-sourced Global Findex statistics; Proposition 7's cross-context claim is, by the paper's own logic, precisely the proposition this India-weighted grounding is least equipped to test, and a genuinely comparative empirical study spanning jurisdictions with materially different capability infrastructure (for example, contrasting a mature capability-program context such as the UK or Ireland with a mobile-money-led context such as Kenya) is needed before Proposition 7 can be treated as more than a plausible extension. Fourth, the paper resolves the theoretical tension identified in Section 8 — the institutional-maturity account versus the technology-substitution account of cross-context variation — by identifying it, not by adjudicating it; doing so requires the multilevel, cross-context data collection specified in Section 6.2, not a further conceptual argument.

The future research agenda this paper proposes is, accordingly, concrete rather than a generic call for "more research." A first priority is executing the empirical protocol in Section 6.2 in a single well-

characterized institutional context, to establish whether the moderated serial-mediation structure holds at all before testing its cross-context variation. A second priority, once single-context validation exists, is the comparative, multi-jurisdiction design Proposition 7 requires, ideally spanning at least one mature-capability-infrastructure context and one mobile-money-led, lower-capability-infrastructure context, to adjudicate between the institutional-maturity and technology-substitution accounts identified in Section 8. A third priority is testing the alternative specifications of organizational resilience's placement in the model — as a first-stage moderator, a third serial mediator, or (as specified here) a second-stage moderator — against one another using PLS-SEM model comparison or PLSpredict, rather than assuming this paper's placement is correct by theoretical argument alone. A fourth priority, distinct from testing this paper's specific model, is the formal bibliometric mapping identified above, which would situate this paper's narrative synthesis against the full citation structure of the underlying literatures and likely refine both the theoretical integration in Section 4 and the novelty positioning in Section 3.

12. Conclusion

Financial inclusion has succeeded on its own terms: more of the world's adults hold a formal financial account today than at any point since the Global Findex Database began tracking the measure in 2011. This paper has argued that the same data documenting that success — specifically, the 2025 Global Findex finding that financial health has not risen in step with access — identifies the limit of what access alone can explain, and that the limit is best understood not as a failure of financial inclusion but as evidence that inclusion operates through a mechanism the literature has not yet fully named. Integrating Sen's Capability Approach, the Dynamic Capabilities View, and Stakeholder Theory, this paper has proposed that mechanism as a moderated serial-mediation pathway: financial inclusion enables sustainable banking primarily through the sequential work of financial capability and digital transformation, conditioned on the organizational resilience that determines whether digital expansion strengthens or undermines the outcome it was meant to serve. The model is conceptual, not yet empirically tested, and Section 6.2's protocol specifies exactly how that testing should proceed. What the paper offers in the

meantime is a mechanism-level account precise enough that a bank strategist, a regulator refining what "quality" means inside a financial inclusion index, or a fintech platform designer can locate, construct by construct, where an inclusion initiative is positioned to succeed or to stall before it reaches the sustainability outcome it was intended to produce.

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