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When Disruption Never Ends: Hybridisation as Permanent Adaptive Capability and the Emergence of Inclusive Resilience in African Digital Tutoring Ecosystems

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Abstract: Theories of organisational adaptation rest on a largely unexamined assumption: that disruption is episodic. Organisations are jolted, they respond, and they settle into a new equilibrium. This paper argues that this assumption fails in African digital ecosystems, where infrastructural scarcity, institutional fluidity, and successive global shocks make disruption a continuous operating condition rather than an interruption of normality. When disruption never ends, adaptation cannot be theorised as an episodic strategic response. It must instead be theorised as a permanent organisational capability. The paper takes digital tutoring enterprises, platform-based ventures that deliver learning support across formal and informal African markets, as its anchoring phenomenon, and develops the Disruption-Hybridisation-Transformation (DHT) model. The model theorises hybridisation, understood as the joint operation of hybrid value logic, hybrid resource orchestration, and hybrid technological adaptation, as the capability through which ventures convert continuous disruption into structural, capability-based, and institutional transformation. The paper then develops inclusive resilience as a distinct theoretical construct: the capacity of a digitally mediated ecosystem to maintain essential functions under continuous disruption while widening, rather than narrowing, the distribution of participation, capability, and legitimacy. The construct is differentiated from organisational resilience, ecosystem resilience, adaptive capacity, social resilience, and developmental resilience. Against purely virtuous readings, the model specifies trade-offs. Hybridisation builds legitimacy while eroding strategic coherence. Platform scaling widens access while deepening stratification. The feedback loops that reinforce adaptation can harden into path dependence. Nine proposition families (fourteen sub-propositions), explicit boundary conditions, and a treatment of alternative explanations translate the model into a falsifiable research agenda for digitally enabled ventures in emerging markets.

Keywords: Continuous Disruption; Hybrid Entrepreneurship; Digital Ecosystems; Inclusive Resilience; Africa; EdTech

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1. Introduction

Most theories of organisational adaptation share a premise so familiar that it is rarely stated: disruption is an event. An environmental jolt strikes (Meyer, 1982), a crisis unfolds and is managed (Williams et al., 2017), a disruptive entrant destabilises an industry (Christensen, 1997), and the organisation, if it adapts successfully, arrives at a new equilibrium. Adaptation is theorised as a bounded response bracketed by periods of relative stability: stability, rupture, response, restabilisation. This episodic assumption underwrites the architecture of disruption research, crisis management, punctuated models of organisational change, and much of the resilience literature, in which resilience is the capacity to “bounce back” to a functioning state after adversity.

This paper argues that the episodic assumption fails in African digital ecosystems, and that its failure has consequences for how organisational adaptation should be theorised. For a digital tutoring venture operating in Lagos, Nairobi, or Johannesburg, disruption is not an interruption of normality. It is the operating environment. Power, connectivity, prices, regulation, and examination calendars all fluctuate, and global shocks such as pandemics, capital-flow reversals, and the diffusion of generative artificial intelligence arrive on top of, rather than instead of, these chronic conditions (Welter, 2011; George et al., 2016; GSMA, 2024). There is no post-disruption equilibrium to return to, because there was no pre-disruption equilibrium to depart from.

Where disruption is continuous, layered, and multi-scalar, theories built on the jolt-response-recovery sequence mis-specify both the explanandum and the mechanism. The question is not how organisations recover from disruption but how they are constituted to function within it.

The theoretical consequence is the central claim of this paper: under continuous disruption, adaptation must be reconceptualised from an episodic strategic response into a permanent organisational capability, that is, a standing feature of organisational architecture rather than a repertoire activated in emergencies. The paper further argues that in institutionally incomplete environments this capability takes a specific organisational form: hybridisation. Ventures survive continuous disruption by permanently blending commercial and social value logics, formal and informal resources, and frontier and frugal technologies. Hybridity, on this account, is not the dual-mission identity choice described in social enterprise research (Battilana et al., 2009; Doherty et al., 2014). It is instead a structural necessity produced by the environment.

This reconceptualisation places entrepreneurial agency at the centre of the account. Founders and managers are the agents who enact it. They exercise judgement under uncertainty, reason effectually from the means at hand (Sarasvathy, 2001), create rather than merely discover opportunities (Alvarez & Barney, 2007), and construct resources through bricolage (Baker & Nelson, 2005). They do so in negotiation with investors, platform partners, and state actors whose interests only partially align.

Digital tutoring enterprises anchor the theorisation. These are digital-first, platform-based ventures that deliver academic support, instructional content, or personalised learning through mobile applications, web platforms, SMS or USSD interfaces, and AI-enabled tutoring agents (IFC, 2019; GSMA, 2024). They are analytically distinct from face-to-face tutoring centres, blended classroom providers, and degree-granting digital universities, whose organisational logics are not platform-mediated.

Digital tutoring ventures are a revealing site for theory because they sit at the intersection of the forces the model addresses. They are infrastructure-sensitive (service degrades the moment connectivity or power fails) and legitimacy-dependent (parents and ministries must trust them with children's learning). They are also multi-sided (orchestrating learners, tutors, content creators, payment providers, and regulators) and socially charged (education is a public good whose private provision is always contested). Few organisational forms depend so completely, and so simultaneously, on fragile infrastructure, public trust, informal labour, and the hopes families attach to children's schooling. For this reason, a theory of adaptation under continuous disruption finds few sharper test cases. Digital tutoring is the revealing case, however, not the boundary: the model is proposed as a middle-range theory of adaptation under chronic disruption for the broader class of platforms that provision quasi-public goods in institutionally incomplete settings, and Section 6 specifies where it travels and where it fails. Nigeria, Kenya, and South Africa supply illustrative variation: scale under infrastructural constraint, mobile-first innovation on rails of ubiquitous digital payments, and comparatively formalised regulation, respectively. The argument remains theoretical rather than empirical, and the examples discipline the concepts rather than test them. These are differences of configuration rather than merely of country, and the continent is treated throughout as a set of heterogeneous institutional configurations, made explicit in Section 6.1, not as a uniform environment.

The paper makes four contributions. First, it relaxes the episodic assumption embedded in disruption and resilience research and develops a theory of adaptation under continuous disruption, in which adaptive capacity is a permanent property of organisational design. Second, it reconceptualises hybridity: rather than a mission-driven identity choice, hybridity is theorised as structural hybridity, the organisational form that continuous disruption selects for in institutionally incomplete environments. Third, it develops inclusive resilience as a new construct, formally defined, dimensionalised, and differentiated from five neighbouring constructs with which it is easily conflated. Fourth, it disciplines the model with what integrative frameworks usually lack: trade-off propositions, explicit boundary conditions specifying where the model does not apply, failure pathways, and alternative explanations. Stated precisely, the model's novelty is twofold. It changes the environmental assumption under which adaptation is theorised, and it introduces a distribution-sensitive outcome construct. The mechanism apparatus deliberately builds on, rather than replaces, dynamic capabilities and hybrid-organisation research.

Methodologically, the paper proceeds by integrative conceptual synthesis (MacInnis, 2011; Jaakkola, 2020), but synthesis in the service of correction rather than accumulation. The aim is not to combine four literatures but to identify the shared assumption that limits each and to theorise what follows when it is relaxed. The procedure had four steps. The domains were selected because each theorises adaptation under disruption at a complementary level: the environment (disruption and resilience research), the organisation (hybrid organising and dynamic capabilities), the architecture (digital ecosystems), and the context (African digital entrepreneurship). Within each domain, sources were identified purposively rather than systematically, pairing foundational statements

with recent Africa-focused scholarship. Constructs were fixed through explicit definition and differentiation from neighbouring constructs (Sections 2.2, 3.1, and 4.2). The emerging model was then stress-tested against alternative explanations and boundary conditions (Section 6) and grounded in three public-record vignettes, each selected to illustrate one mechanism and checked against at least two public sources. Section 2 develops this argument. Section 3 presents the DHT model as a co-evolutionary system with reinforcing and constraining feedback. Section 4 develops the construct of inclusive resilience. Section 5 derives nine proposition families, comprising fourteen sub-propositions and including curvilinear, moderated, and failure predictions. Section 6 specifies boundary conditions and confronts alternative explanations. Sections 7 and 8 discuss implications and conclude.

2. Theoretical Foundations: The Episodic Assumption and Its Limits

Four literatures speak to how organisations adapt in turbulent digital environments: disruption research, hybrid organisation research, digital ecosystem research, and organisational change and capabilities research. The argument of this section is not that these literatures are fragmented, since fragmentation is a bibliographic observation rather than a theoretical problem. The argument is that each rests, in a different way, on assumptions of episodic disruption and infrastructural or institutional sufficiency that do not hold in African digital ecosystems, and that relaxing those assumptions changes what each literature predicts.

2.1. Two Meanings of Disruption, One Shared Assumption

“Disruption” names two distinct phenomena that are frequently conflated. In the environmental tradition, disruption refers to jolts and crises: sudden, transient shocks that destabilise organisational routines and trigger adaptive search (Meyer, 1982; Williams et al., 2017). In the innovation tradition, disruption refers to the competitive displacement of incumbents by entrants whose initially inferior offerings improve along trajectories incumbents ignore (Christensen, 1997). The two traditions differ in mechanism, level of analysis, and prescription, and this paper keeps them separate: the environmental tradition informs the model’s treatment of infrastructural and institutional turbulence, while the innovation tradition informs only its treatment of competitive dynamics in the global EdTech market.

What the two traditions share, however, is the episodic premise. Jolts are transient. Disruptive innovation is an episode in an industry’s history with a before (incumbent stability) and an after (new market order). Both traditions therefore theorise adaptation as a response that begins when disruption arrives and ends when a new alignment is achieved. The nearest exceptions prove the rule. Research on continuous change shows firms sustaining perpetual innovation through semi-structures and time-paced transitions, but the continuity there is generated by the firm’s own competitive rhythm in munificent markets, not imposed by a failing infrastructure (Brown & Eisenhardt, 1997). Work on improvisation and sensemaking shows organisations acting resourcefully when structure collapses but treats such episodes as exceptional moments rather than the permanent condition of work (Weick, 1993; Miner et al., 2001). And crisis research treats even prolonged crises as bounded states with an entry and an exit (Wenzel et al., 2020). None of these literatures asks what organisational form adaptation takes when the disturbance never resolves. In that condition, jolts recur faster than recovery completes, and competitive, infrastructural, and institutional turbulence are permanently superimposed. That is the condition this paper theorises.

2.2. Hybridity as Choice vs. Hybridity as Necessity

Hybrid organisation research theorises ventures that combine commercial and social logics, and has produced rich accounts of mission drift, legitimacy management, and the governance of competing institutional demands (Battilana et al., 2009; Doherty et al., 2014). Its underlying assumption, however, is that hybridity originates in mission: founders choose to pursue social purpose alongside profit, and the theoretical problem is how they manage the resulting tensions. In institutionally incomplete environments this gets the causality backwards. Where public educational provision is unreliable and formal markets are thin, a purely commercial tutoring venture cannot acquire legitimacy, distribution, or trust, and a purely social one cannot acquire revenue, talent, or technology (Mair & Martí, 2009; Khanna & Palepu, 1997).

Hybridity is then not a values-driven choice that creates tensions to be managed. It is an environmentally selected structure without which the venture cannot function at all. Existing theory offers little account of this structural hybridity, that is, of hybridity as an adaptive response to continuous disruption rather than an expression of dual mission. It therefore cannot explain why hybridity is pervasive precisely where mission-driven social enterprise is rare. Because four related terms recur throughout the argument, Table 1 fixes their meanings and relations before the model is developed.

Table 1. Key terms distinguished.

Term	Meaning in This Paper	Relation to the Other Terms
Hybridity	A state: the co-presence of commercial and social logics, formal and informal resources, or frugal and frontier technologies within one organisation.	The generic condition: structural hybridity is one explanation of how it arises.
Structural hybridity	A form: hybridity that exists as a condition of viability, selected by continuously disrupted, institutionally incomplete environments rather than chosen as mission.	The paper's explanation of why hybridity is pervasive where mission-driven social enterprise is rare.
Hybridisation	A process and capability: the ongoing blending of logics, resources, and technologies through the three mechanisms of Section 3.4, exercised continuously rather than episodically.	What ventures do; it produces and maintains structural hybridity.
Adaptive capability	The general class: any enduring organisational capacity to reconfigure under change, of which dynamic capabilities are the canonical theorisation.	Hybridisation is the specific adaptive capability the model theorises for its domain (see Section 2.5).

2.3. Digital Ecosystems and the Abundance Assumption

Platform and ecosystem research explains how multi-sided architectures create value through network effects, complementarities, and orchestration (Parker et al., 2016; Thomas et al., 2014; Autio & Levie, 2017). Gawer (2014) integrates its economic and engineering strands by theorising governance as the platform owner's calibration of openness against control. Its theoretical machinery, however, presupposes an infrastructural and institutional substrate of ubiquitous connectivity, functioning payment rails, enforceable contracts, and formalised complementors, and it treats that substrate as background rather than as a variable. In much of Africa that substrate is the binding constraint. Connectivity is intermittent and expensive, complementors are frequently informal actors without legal personality, and governance operates through relational rather than contractual mechanisms (Ndemo & Weiss, 2017; George et al., 2016). Detailed studies of African digital entrepreneurship confirm the pattern: platform ventures on the continent grow through relational, infrastructure-improvising strategies rather than the frictionless scaling the canonical accounts assume (Friederici et al., 2020).

When the abundance assumption is relaxed, core predictions weaken. Network effects are bounded by data poverty. Winner-take-all dynamics are attenuated by market fragmentation. Orchestration becomes less a matter of API governance than one of negotiating with mobile network operators, ministries, and community intermediaries. Ecosystem theory therefore needs an account of orchestration under scarcity, which the DHT model supplies through hybrid resource orchestration.

2.4. Transformation, Capabilities, and the Munificence Assumption

Organisational change research theorises transformation largely as a bounded episode, planned or punctuated, with a beginning and an end. The dynamic capabilities tradition comes closest to the position developed here, since it theorises the capacity to reconfigure resources as an enduring organisational property (Teece et al., 1997), and in its high-velocity formulation even allows capabilities to become simple, experiential rules (Eisenhardt & Martin, 2000). But dynamic capabilities research was developed for resource-rich firms in munificent environments: it explains how firms that possess slack, deep labour markets, and stable institutions build reconfiguration routines. It is largely silent on what reconfiguration capabilities look like when slack is absent, labour is informal, and the institutional ground itself is moving. Under these conditions, reconfiguration must run on bricolage and improvisation rather than on accumulated redundancy (Baker & Nelson, 2005). The DHT model can be read as a specification of what dynamic capabilities become under continuous disruption and chronic scarcity: their content is hybridisation, and their outcome, at the ecosystem level, is inclusive resilience.

2.5. How DHT Differs from Dynamic Capabilities Theory

Because the claim that adaptation becomes a permanent capability invites an obvious rejoinder, namely that dynamic capabilities theory already says this, the distinction deserves explicit statement rather than implication. The DHT model is not a relabelling of dynamic capabilities. Table 2 summarises the five dimensions on which the accounts differ. The environmental assumption shifts from change that is rapid or discontinuous but bounded, with infrastructure and institutions treated as contextual parameters, to chronic, multi-source disruption in which infrastructural and institutional instability constitute the operating environment. The capability content shifts from deliberately abstract sensing, seizing, and reconfiguring routines to specified structural hybridity. The resource base shifts from conditions left largely unspecified, and usually examined in comparatively formal settings, to bricolage under chronic scarcity. The locus of agency shifts from managerial routines to entrepreneurial judgement exercised in multi-actor negotiation. And the outcome shifts from firm-level competitive advantage to an ecosystem-level, distribution-sensitive outcome

that includes failure pathways. The claim to novelty is therefore deliberately bounded: DHT does not replace the dynamic capabilities intuition but respecifies it for continuously disrupted, institutionally incomplete digital ecosystems, and what is new is the environmental assumption, the specified capability content, and the distributional outcome. Section 6.3 states the empirical contrasts that would distinguish the two accounts.

Table 2. The DHT model and dynamic capabilities theory compared.

Dimension	Dynamic Capabilities Theory (Teece et al., 1997)	DHT Model
Environmental assumption	Rapid, recurrent, or discontinuous market and technological change; infrastructural and institutional conditions typically treated as contextual parameters	Chronic, multi-source disruption in which infrastructural and institutional instability constitute the operating environment
Capability content	Abstract routines of sensing, seizing, reconfiguring	Specified: structural hybridity via value logic, resource orchestration, technological adaptation
Resource base	Resource conditions often under-specified, and usually examined in comparatively formal, munificent settings	Chronic scarcity; bricolage and formal–informal blending
Locus of agency	Managerial routines and organisational processes	Entrepreneurial judgement, effectuation, and multi-actor negotiation (founders, investors, state, informal workforce)
Outcome and level	Firm-level competitive advantage	Ecosystem-level inclusive (or exclusive) resilience, including failure pathways

2.6. The Shared Premise, and What Relaxing It Requires

Across these literatures, then, disruption is treated as a deviation from a functioning baseline: episodic, exogenous, and resolvable. African digital tutoring ecosystems violate all three terms, and relaxing the premise imposes three requirements that structure the remainder of the paper. Adaptation must be modelled as a permanent capability rather than a response. The organisational form of that capability in institutionally incomplete settings must be specified, and the model proposes structural hybridity. And the outcome variable must be rethought where disruption never ends, “recovery” is meaningless, and what requires explanation is the ecosystem’s capacity to keep functioning while distributing participation and capability broadly, the construct developed in Section 4 as inclusive resilience.

3. The DHT Model: A Co-Evolutionary Framework

3.1. Conceptual Logic

The Disruption–Hybridisation–Transformation (DHT) model explains how ventures operating under continuous disruption convert environmental turbulence into organisational transformation and ecosystem-level inclusive resilience, and why this conversion frequently fails. Figure 1 presents the model. Although its elements are introduced in sequence for expository clarity, the model is not a stage model and makes no claim that the elements occur in temporal order. It is a co-evolutionary system in which hybridisation is exercised continuously rather than triggered, transformation feeds back into the capacity to hybridise, and inclusive resilience reshapes the disruption landscape itself. Two feedback loops, one reinforcing and one constraining, determine whether the system spirals toward adaptation or hardens into path dependence (Section 3.6). Table 3 defines the model’s constructs.

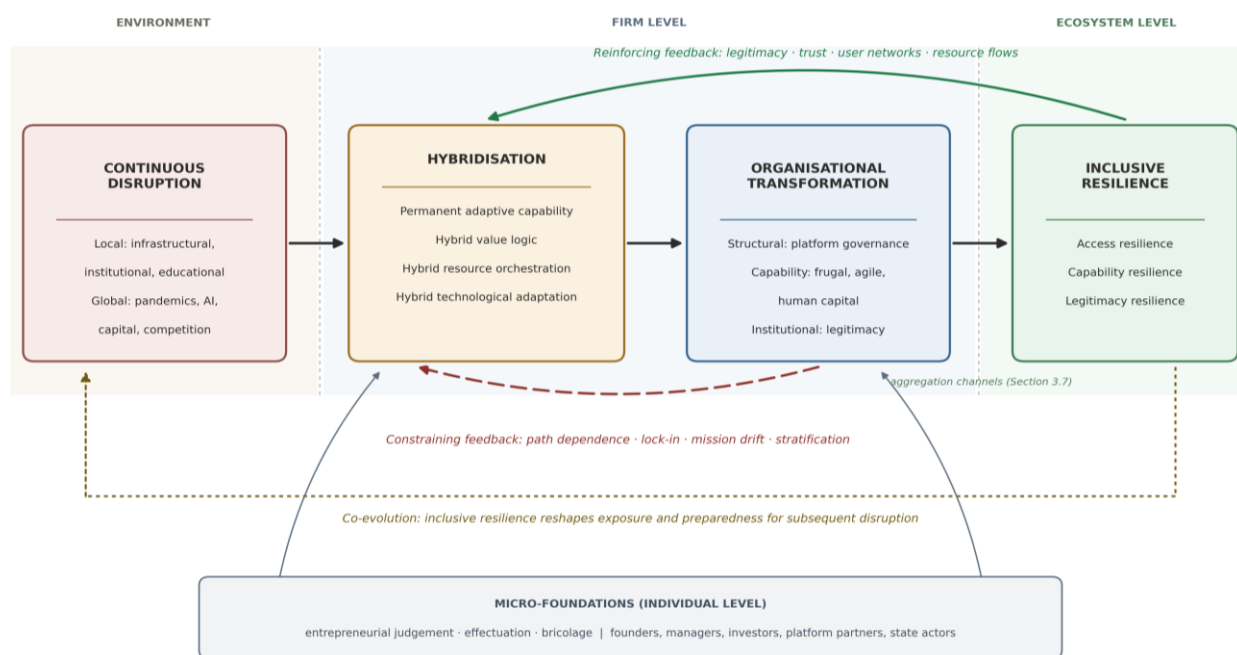


Figure 1. The Disruption–Hybridisation–Transformation (DHT) model. Notes: Background zones mark levels of analysis: continuous disruption is an environmental condition, hybridisation and transformation are firm-level, inclusive resilience is ecosystem-level, and the micro-foundations band is the individual level. The three aggregation channels of Section 3.7 operate at the firm–ecosystem boundary. Solid black arrows denote the primary adaptive pathway; the solid green arc the reinforcing feedback loop; the dashed red arc the constraining feedback loop; the dotted outer loop the co-evolutionary effect of inclusive resilience on subsequent disruption; grey arrows link micro-foundations to the mechanisms they enact. Source: Authors' elaboration.

Table 3. Construct definitions.

Construct	Definition
Continuous disruption	An environment in which chronic-structural stressors (infrastructure, institutions), cyclical stressors (economic volatility), and acute shocks (pandemics, policy reversals, technological discontinuities) are permanently superimposed, leaving no post-disruption equilibrium.
Structural hybridity	Hybridity held as a condition of viability, selected by the environment rather than chosen as mission (see Table 1).
Hybrid value logic	Commercial sustainability and social provision made mutually constitutive: provision generates legitimacy and users; revenue makes provision durable.
Hybrid resource orchestration	Mobilising and recombining resources across formal actors (operators, investors, ministries) and informal actors (tutors, community facilitators).
Hybrid technological adaptation	Architectures satisfying frugality constraints (low bandwidth, low-cost devices, offline use) and frontier expectations (AI personalisation) simultaneously.
Organisational transformation	Cumulative structural (platform governance), capability (frugal-technological, operational, human-capital), and institutional (legitimacy, regulatory alignment) change produced by sustained hybridisation.
Inclusive resilience	The ecosystem's capacity to maintain essential functions under continuous disruption while widening the distribution of participation, capability, and legitimacy (Section 4).

3.2. Continuous Disruption as Operating Condition

The model distinguishes three temporal layers of disruption whose superimposition defines the African digital operating environment, an environment that is itself heterogeneous: the layers described here vary in intensity across and within countries, along the configurations specified in Section 6.1. Chronic-structural disruption comprises the standing conditions that constitute the environment rather than disturb it: unreliable electricity, expensive data, uneven device access, institutional voids, and under-resourced

public schooling (Mair & Martí, 2009; UNESCO, 2023; GSMA, 2024). Cyclical disruption comprises recurring but irregular stressors: currency depreciation, fuel-price shocks, examination-calendar shifts, and election-cycle policy volatility. Acute disruption comprises genuine jolts in Meyer's (1982) sense, such as the COVID-19 pandemic, sudden regulatory bans, and the arrival of generative AI (UNDP, 2024; World Bank, 2023). The analytical point is that acute shocks land on organisations already saturated with chronic and cyclical stress. This is why episodic theory mis-predicts: it models the shock but not the saturated baseline. It is also why disruption is partially endogenous: each venture's adaptive moves, such as a new pricing model, a zero-rating deal, or an AI tutor, alter the competitive and institutional landscape that constitutes other actors' disruption.

3.3. *Micro-Foundations: Who Adapts, and How*

Ecosystems do not adapt. People do. The model's macro-level relationships are enacted by identifiable agents making decisions under uncertainty, and the model specifies these micro-foundations rather than leaving agency implicit. Founders and managing teams are the primary locus: operating without reliable market data or predictive planning horizons, they reason effectually, starting from who they are, what they know, and whom they know, and forming goals from available means rather than deriving means from fixed goals (Sarasvathy, 2001). Their opportunities are as much created as discovered: a market for USSD-based exam preparation does not exist in any meaningful sense until a founder constructs it through action and stakeholder enrolment (Alvarez & Barney, 2007). Resource constraints are met through bricolage, the practice of making do by recombining moonlighting teachers, second-hand server capacity, and community WhatsApp groups into functioning service infrastructure (Baker & Nelson, 2005). Around this locus sit actors whose judgements interact with, and often conflict with, those of founders. Investors press growth expectations that push against frugal design. Mobile network operators make zero-rating decisions that can create or destroy a distribution channel overnight. Ministry officials confer legitimacy but attach compliance costs. The informal tutor workforce decides whether to participate, and its decisions determine service quality. Hybridisation, transformation, and their failure modes are the aggregate outcomes of these interacting judgements, a point to which the failure analysis in Section 3.5 and Proposition 9 return.

3.4. *Hybridisation as Permanent Adaptive Capability*

Hybridisation is the model's core mechanism: the standing capability through which ventures metabolise continuous disruption. It operates through three interdependent sub-mechanisms, and for each the model specifies not only what it does but why it works and how it fails.

Hybrid value logic fuses commercial and social objectives into a single value proposition. The mechanism works through mutual constitution rather than balance. In incomplete markets, social provision (reaching underserved learners, pricing for affordability) generates the trust, legitimacy, and user volume on which any revenue model depends, while revenue makes the social provision durable (Doherty et al., 2014; Mair & Martí, 2009). The causal claim is thus stronger than the social-enterprise notion of managed dual missions: under continuous disruption, the commercial and social logics are load bearing for each other. The failure mode is decoupling, in which ventures adopt inclusive rhetoric for donors and regulators while operating a purely extractive commercial core. Decoupled hybridity forgoes the legitimacy reserves that constitute the buffer against acute shocks, which is why the model predicts (Proposition 9) that symbolically hybrid ventures fail at higher rates under sustained disruption.

Hybrid resource orchestration mobilises and recombines resources across formal and informal domains. Digital tutoring ventures assemble operating capacity from formal partners such as mobile network operators, payment providers, ministries, and global investors, and simultaneously from informal networks of freelance tutors, content creators, and community facilitators (Parker et al., 2016; Baker & Nelson, 2005). The mechanism works because the two resource domains fail under different conditions: formal channels are vulnerable to policy and capital-market shocks, informal networks to trust erosion and livelihood shocks, and their imperfect correlation is precisely what makes the blended portfolio robust. The logic is one of redundancy, analogous to diversification. The failure mode is over-orchestration: each additional partnership adds governance load, and ventures can reach a point where coordinating ministries, operators, investors, and informal workforces consumes the managerial attention that adaptation requires. Orchestration breadth is therefore theorised as curvilinear in its effects (Proposition 4).

Hybrid technological adaptation designs architectures that are simultaneously frugal and frontier. Ventures engineer for the constraint envelope through lightweight applications, compressed or audio-first content, offline caching, and SMS and USSD delivery (GSMA, 2024), while selectively integrating frontier capabilities such as AI-driven personalisation demanded by globally benchmarked users and investors. The mechanism works because frugality expands the addressable population downward while frontier features defend against competitive displacement from above. The architecture thus straddles market segments that pure-frugal or pure-frontier designs would surrender. The failure mode is technological mismatch: AI features that outrun user trust and digital literacy, eroding rather than enhancing engagement (Propositions 5a and 5b), or frugality abandoned under investor pressure, surrendering the venture's distinctive constraint fit.

Three brief vignettes, drawn from public sources and used illustratively rather than as evidence, ground the three mechanisms in observable practice.

Vignette 1. uLesson (Nigeria) - hybrid technological adaptation

Founded in Lagos in 2019, uLesson delivers curriculum-aligned video lessons through a mobile application. Confronting data costs that put streaming beyond the reach of many households, it compressed videos to a few megabytes and, in its early product, shipped its content library on SD cards with a dongle, so the same service worked online or entirely offline (Quartz Africa, 2020; TechCrunch, 2021). The architecture illustrates dual-track hybrid technological adaptation: frontier production values engineered to remain usable at the frugal edge.

Vignette 2. Eneza Education (Kenya) - hybrid resource orchestration

Eneza's Shupavu291 delivers curriculum-aligned lessons, quizzes, and a live Ask-a-Teacher service over USSD and SMS in partnership with Safaricom, with small weekly fees deducted from prepaid airtime (Disrupt Africa, 2016). Reported to have reached millions of mostly rural learners, it was described during COVID-19 school closures as one of Africa's largest classrooms (Pioneers Post, 2021). It exemplifies hybrid resource orchestration: a formal operator alliance supplies distribution and billing rails, while a distributed teacher network answers questions, blending formal and informal resources into one service.

Vignette 3. FoondaMate (South Africa)—frugal AI and hybrid value logic

Launched during the 2020 lockdown, FoondaMate is an AI-enabled study assistant operating entirely inside WhatsApp and Messenger: learners message it as they would a friend and receive past papers, definitions, and step-by-step help in multiple languages, on devices they already own (TechCabal, 2022). Embedding frontier AI in the lowest-data, most familiar channel shows that AI and frugality are not opposites; its conversational form is a live setting for the trust dynamics of Propositions 5a and 5b.

3.5. Transformation: Outcomes and Failure Pathways

Sustained hybridisation cumulates into organisational transformation along three dimensions. Structurally, ventures evolve from content providers into multi-sided platform orchestrators governing interactions among learners, tutors, developers, and institutional partners (Parker et al., 2016; Thomas et al., 2014). In capability terms, they accumulate frugal-technological, operational, and human-capital capabilities. These capabilities are the venture-level residue of repeated adaptation: each navigated disruption leaves behind routines, relationships, and skills that lower the cost of the next one (Teece et al., 1997). Institutionally, they convert operational presence into legitimacy through curriculum alignment, data-protection compliance, and engagement with ministries and examination boards, thereby helping to formalise digital education itself (Battilana et al., 2009; Zoogah et al., 2015).

The model does not, however, assume transformation. Three failure pathways interrupt the hybridisation–transformation link. First, decoupling, introduced above: symbolic hybridity generates no legitimacy reserves and therefore no institutional transformation. Second, resource dependence capture ventures whose orchestration becomes dominated by a single powerful partner, such as one operator, one donor, or one ministry, trade adaptability for access, and their transformation trajectory becomes hostage to that partner's stability. Third, governance overload: beyond a threshold of orchestration breadth, coordination costs crowd out adaptation, and structural transformation stalls in permanent firefighting. Explaining failure is not an addendum to the model but part of its point: a theory of adaptation under continuous disruption that explained only survivors would replicate the success bias it criticises in episodic theory.

3.6. Feedback: The Reinforcing Loop and the Constraining Loop

Two feedback loops close the system and make it genuinely co-evolutionary. The reinforcing loop runs from inclusive resilience back into hybridisation: widened access enlarges user networks, which strengthens network effects and revenue. Distributed capability deepens the informal talent pool on which orchestration draws. Accumulated legitimacy lowers the cost of the next round of partnership-building and regulatory engagement (George et al., 2016). Adaptation compounds. The constraining loop is the same causal machinery running in reverse, and its inclusion distinguishes the DHT model from purely virtuous integrative frameworks. Early hybrid configurations, such as a particular operator alliance, a USSD-based architecture, or a ministry relationship, are self-

reinforcing in precisely the way that generates organisational path dependence: initial returns lock in choices whose alternatives quietly disappear (Sydow et al., 2009). The venture that adapted brilliantly to the last configuration of disruption may find its locked-in architecture maladapted to the next one. Whether the reinforcing or the constraining loop dominates is not given by the model but is an empirical question governed by the conditions specified in Propositions 7 and 8. Inclusive resilience, finally, feeds back into the disruption layer itself: ecosystems with distributed digital capability experience the same objective shocks with lower subjective severity, because more actors possess the means to absorb and reroute around them.

3.7. From Firm to Ecosystem: Three Aggregation Channels

The model's mechanisms operate at two levels, and the link between them must be specified rather than assumed. Hybridisation is enacted within ventures. Inclusive resilience is a property of the ecosystem. Three channels convert the first into the second. The first is mimetic diffusion: practices that visibly survive disruption, such as a dual-track architecture that holds users through an outage, are copied by competitors who observe retention they cannot match, so that a firm-level adaptation becomes an ecosystem-level repertoire (Parker et al., 2016). The second is labour-market spillover: tutors, content creators, and developers circulate between ventures and into adjacent sectors, carrying capabilities that persist independently of any single firm's survival, which is why capability resilience can rise even as individual platforms fail (IFC, 2019). The third is institutional normalisation: each venture's legitimacy work, from curriculum alignment to data-protection compliance, lowers the legitimacy cost facing every subsequent entrant, cumulatively formalising digital education as an institution (Battilana et al., 2009; Zoogah et al., 2015). These channels operate at the boundary marked in Figure 1 between the firm-level and ecosystem-level zones. They are, importantly, valence-neutral: they transmit exclusion as readily as inclusion, since stratified pricing practices and extractive data practices diffuse through exactly the same imitation and mobility pathways. Which valence dominates is governed by the conditions stated in Propositions 6b and 7.

4. Inclusive Resilience: Developing the Construct

The outcome variable of the DHT model requires more than a label, because “resilience” is among the most overloaded terms in organisation theory and development studies. This section develops inclusive resilience as a construct in its own right: a formal definition, three dimensions, explicit differentiation from five neighbouring constructs, a theorised and partly conflictual relationship between its inclusion and resilience components, and its dark side.

4.1. Definition and Dimensions

Inclusive resilience is defined as the capacity of a digitally mediated ecosystem to maintain and regenerate its essential functions under continuous disruption while widening, rather than narrowing, the distribution of participation, capability, and legitimacy across its actors. Two features of the definition carry the theoretical weight. First, the referent is the ecosystem, not the focal organisation: a venture can be robust while its ecosystem is fragile, and vice versa; Section 3.7 specifies the channels through which firm-level adaptation aggregates to this level. Second, distribution is constitutive, not incidental. An ecosystem that maintains its functions by shedding its most vulnerable participants, for example by rationing service to premium users during a data-price shock, is resilient in the conventional sense but not inclusively resilient. The construct therefore builds a distributional test into the concept of resilience itself.

The construct comprises three dimensions. Access resilience is the degree to which participation in the ecosystem's core functions is maintained across socio-economic strata under disruption. Operationally, it concerns how the distribution of active usage shifts when shocks strike (van Dijk, 2020; GSMA, 2024). Capability resilience is the depth of distributed competence the ecosystem generates: digital literacy among learners, pedagogical and entrepreneurial skill among tutors and creators, and technical capability among local developers, all of which persist even if any given platform fails (IFC, 2019). Legitimacy resilience is the durability of the trust relations linking platforms, users, communities, and state actors: the shared expectation that digitally mediated education is a legitimate and reliable institution, an expectation that survives individual organisational exits (Zoogah et al., 2015). The three dimensions are not interchangeable: an ecosystem can score high on access while generating little durable capability (thin inclusion), or high on capability within a narrow elite (deep exclusion).

4.2. What Inclusive Resilience Is Not

Table 4 differentiates inclusive resilience from the five constructs with which it is most easily conflated. The differentiating criteria are the referent (what becomes resilient), the mechanism (what produces the resilience), and the role of distribution (whether who benefits is part of the construct or external to it).

Table 4. Inclusive resilience and neighbouring constructs.

Construct	Referent	Core Question	Role of Distribution
Organisational resilience (Meyer, 1982; Williams et al., 2017; Duchek, 2020)	Focal organisation	Can the firm anticipate, absorb, and recover from adversity?	External to the construct, who benefits is not part of the definition
Ecosystem resilience (Holling, 1973)	System functions	Do system-level functions persist through perturbation?	Indifferent to distribution; function can persist while participants are shed
Adaptive capacity (Folke, 2006)	System potential	What latent ability to reorganise exists?	A precondition of resilience, not an outcome; distribution unspecified
Social resilience (Adger, 2000)	Community	Can communities withstand external stresses?	Community-level; lacks organisational micro-foundations and mechanisms
Developmental resilience (UNDP, 2024)	Macro economy / society	Do development gains survive shocks?	Macro-level aggregate; not traceable to organisational action
Inclusive resilience (this paper)	Digitally mediated ecosystem	Are essential functions maintained under continuous disruption while participation, capability, and legitimacy widen?	Constitutive: narrowing distribution disqualifies the outcome as inclusively resilient

Three differentiators do the work. Against organisational resilience, which theorises a developable firm-level capacity (Lengnick-Hall et al., 2011; Duchek, 2020), the construct shifts the referent to the ecosystem and makes distribution constitutive: a platform that survives a shock by abandoning its low-income segment is organisationally resilient and inclusively non-resilient. Against ecosystem resilience and adaptive capacity, it imports organisational micro-foundations, being generated by the specified hybridisation mechanisms rather than by unspecified system dynamics. Against social and developmental resilience, it retains the organisation as the generative unit while extending the outcome beyond it, which is what makes the construct studiable with organisational methods and linkable to managerial and policy levers.

4.3. Why Inclusion and Resilience Are Jointly Produced, and When They Conflict

The construct's two components are not merely juxtaposed. The model theorises inclusion as a resilience mechanism. Three arguments support this. First, redundancy. Widened participation multiplies the pathways through which the ecosystem's functions can be performed: more tutors, more content sources, more payment channels. Redundancy of this kind is the classic substrate of resilience. Second, diversity: an inclusive ecosystem spans user segments, revenue models, and delivery channels whose failure conditions are imperfectly correlated, which dampens the impact of any single shock. Third, legitimacy reserves: ecosystems perceived as broadly beneficial accumulate goodwill with communities and regulators that can be drawn down in crises, functioning as the shock-absorbing analogue of financial slack. Inclusion, in short, is not a normative decoration on resilience. Under continuous disruption it is one of resilience's production functions.

The relationship is nonetheless conflictual at the margin, and the construct is only credible if the conflict is theorised. Serving the hardest-to-reach users consumes resources that could otherwise build organisational slack, frugal pricing depresses the margins from which buffers are built, and breadth of participation increases coordination costs. Inclusion is therefore a cost to the organisation now and a resilience asset to the ecosystem later. This tension between temporal horizons and levels of analysis is a central dynamic of the model, is captured in Propositions 6b and 7, and defines the governance problem that determines whether transformation yields inclusive or merely private resilience.

4.4. The Dark Side: Resilience for Whom?

Finally, the construct must be protected against its promotional reading. Digital tutoring platforms are not inherently inclusive institutions. They extract behavioural data from minors in weakly regulated environments. They casualise tutoring labour into piece-rate gig work without social protection. Their freemium architectures can stratify learning support by ability to pay. Their growth can crowd out the non-digital provision on which the unconnected depend (van Dijk, 2020). The DHT model treats these not as regrettable externalities but as the constraining-loop outcomes that occur when transformation proceeds without distributive governance. Exclusive resilience, meaning ecosystem persistence achieved through stratification, is thus a theorised outcome state of

the model rather than an anomaly, and the empirical question the construct poses is under what governance conditions transformation tips toward inclusive rather than exclusive resilience (Proposition 7).

5. Propositions

The propositions translate the model into falsifiable claims, organised in three sets: baseline mechanisms (P1–P3), trade-offs (P4–P7), and feedback dynamics and failure (P8 and P9). Each sub-proposition states one principal relationship; compound predictions are separated into lettered components, giving nine families and fourteen sub-propositions in all. The set is deliberately not uniformly positive: a model of continuous disruption that predicted only virtuous outcomes would contradict its own premise. Several propositions are comparative, contrasting continuous-disruption environments with episodic ones, because the model's core claim is comparative.

5.1. Baseline Mechanisms

Proposition 1a. *The more continuous the disruption environment, the more likely ventures are to institutionalise hybrid value logics that fuse commercial and social imperatives.*

Proposition 1b. *Hybridity is more prevalent, and less associated with founder social mission, in continuously disrupted ecosystems than in episodically disrupted ones.*

Proposition 2a. *As disruption intensity rises, ventures blend formal institutional partnerships with informal network resources to a greater degree.*

Proposition 2b. *Under continuous disruption, ventures with blended resource orchestration survive longer than ventures relying on purely formal or purely informal resourcing.*

Proposition 3a. *The greater the infrastructural constraint, the more likely ventures are to adopt dual-track architectures that combine frugal design with selective frontier integration.*

Proposition 3b. *In constrained environments, ventures with pure-frontier architectures exhibit higher user churn and shorter survival than dual-track ventures.*

5.2. Trade-Offs

The second set theorises the tensions that integrative frameworks typically suppress. Each proposition pairs a benefit with its endogenous cost, and each is preceded by the mechanism that generates the tension.

The first trade-off concerns the breadth of hybridisation itself. Each additional logic and partner enlarges the venture's resource surface, but imports governance demands competing institutional prescriptions must be reconciled decision by decision (Pache & Santos, 2013), and coordination consumes the scarce managerial attention on which adaptation runs, the governance-overload pathway of Section 3.5. Legitimacy gains therefore accumulate faster than coordination costs at low hybridisation breadth, and slower at high breadth.

Proposition 4. *Hybridisation breadth has an inverted-U relationship with organisational transformation: transformation rises with initial hybridisation and declines beyond the threshold at which coordination costs erode strategic coherence.*

The second trade-off follows from the technological mechanism. Automation is efficient precisely because it removes people. Where institutional trust is thin and digital literacy limited, however, removing the human interlocutor also removes the relationship in which trust is anchored, so the same AI feature reads as innovation to one user segment and as unaccountability to another.

Proposition 5a. *AI integration reduces user trust in segments with low digital literacy and low institutional trust.*

Proposition 5b. *The effect of AI adoption on user engagement is negative below a threshold of user digital capability and positive above it.*

The third trade-off is distributional. Freemium economics defaults to stratification: paying users fund the features that then differentiate their service, while data costs price the poorest users out of rich-media channels (Parker et al., 2016; van Dijk, 2020). Aggregate access can therefore rise while the distribution of service quality narrows.

Proposition 6a. *Platform scaling increases aggregate access while increasing the stratification of learning support by ability to pay.*

Proposition 6b. *Scaling raises inclusive resilience only where frugal delivery channels and cross-subsidised segments are retained; otherwise, it raises exclusive resilience.*

The final trade-off concerns governance. Sustaining a productive balance of competing logics is not automatic; it is an accomplishment of governance design, as research on hybrid organisations demonstrates (Battilana & Dorado, 2010). The model therefore treats distributive governance, meaning arrangements that bind access breadth, informal-workforce protection, and community accountability into platform decision rights, as the switch between the two resilience outcomes.

Proposition 7. *Organisational transformation produces inclusive rather than exclusive resilience only under distributive governance; absent it, transformation defaults to firm-level resilience with narrowing distribution.*

5.3. Feedback Dynamics and Failure

The final set follows the model's loops. Path dependence converts early success into later fragility: configurations that win one disruption regime harden against reconfiguration for the next (Sydow et al., 2009), which is why the ecosystems that adapted fastest to the last shock may prove most exposed to an architecture-invalidating one such as generative AI. Decoupling, by contrast, converts hybridity from asset to liability: symbolic hybridity purchases short-run legitimacy while accumulating none of the reserves on which survival under sustained disruption draws, and the longer disruption lasts, the wider the gap between symbolic and structural hybrids should grow.

Proposition 8. *The stronger a venture's early hybrid configuration, the lower its subsequent reconfiguration capacity when disruptions invalidate existing architectures.*

Proposition 9. *Ventures whose hybridity is symbolic, meaning decoupled from operational practice, fail at higher rates under sustained disruption than structurally hybrid ventures.*

6. Boundary Conditions and Alternative Explanations

A model's credibility is established as much by where it fails as by where it applies. This section specifies the model's institutional and organisational scope and confronts four alternative explanations.

6.1. Institutional Boundary Conditions

The model presupposes two environmental features: disruption that is continuous, and institutional space in which hybrid organising is permitted. Where either is absent, the model attenuates in predictable ways. In state-dominant configurations, of which Ethiopia's and Egypt's education sectors are illustrative, the state monopolises legitimacy and constrains private platform activity. Hybrid resource orchestration is truncated because formal–informal blending is regulated away or absorbed into state programmes, and the model's institutional-transformation pathway largely fails to operate. In facilitative, comparatively stable configurations, such as Mauritius and in some respects Rwanda, disruption approaches the episodic pattern of the Global North. Episodic theories of adaptation regain traction, hybridity becomes closer to the mission-driven choice described in the social enterprise literature, and the model's comparative predictions (P1b) treat such settings as contrast cases rather than home domain. The model's home domain is the market-led, continuously disrupted configuration exemplified by Nigeria and Kenya: large informal sectors, emergent regulation, deep infrastructural constraint, and dense entrepreneurial activity. These are configurations rather than countries: within-country variation (Lagos versus rural Borno) can exceed between-country variation, and they travel to structurally similar ecosystems in South and Southeast Asia and Latin America.

6.2. Organisational Boundary Conditions

The model applies to digital-first, platform-based ventures that must earn both revenue and legitimacy. Each qualifier excludes a class of organisations. Non-profit tutoring providers lack the commercial logic whose fusion with the social defines hybrid value logic. Their adaptation is governed by donor dependence, and the model applies only in modified form. Government platforms receive legitimacy by fiat rather than earning it, disabling the institutional-transformation mechanism. Fully automated AI tutors without human tutor networks lack the informal-labour dimension of hybrid resource orchestration. As such offerings proliferate, the model predicts their adaptation will hinge disproportionately on the technological mechanism, a boundary that is itself a research

opportunity. Universities and offline tutoring centres fall outside the platform-mediated scope entirely. Within scope, the model is calibrated to early- and growth-stage ventures. Mature platforms with quasi-monopoly positions increasingly resemble the incumbents of standard platform theory.

6.3. Alternative Explanations

Four rival accounts could claim to explain the same phenomena, and the model must show what it adds to each. Institutional voids theory (Khanna & Palepu, 1997; Mair & Martí, 2009) explains why demand for private educational infrastructure exists but is silent on the organisational mechanism by which ventures convert void-filling into durable adaptation. DHT supplies that mechanism and predicts variation among ventures facing identical voids. Dynamic capabilities theory (Teece et al., 1997) predicts that reconfiguration capacity drives adaptation but presupposes resource munificence and does not specify capability content under scarcity. As elaborated in Section 2.5, DHT specifies the content (the three hybridisation mechanisms) and adds the distributional outcome that capabilities theory ignores. Bricolage theory (Baker & Nelson, 2005) explains individual resourcefulness but does not aggregate to ecosystem-level outcomes or specify when bricolage hardens into path dependence. DHT embeds bricolage as a micro-foundation within a system that includes feedback and failure. Platform economics (Parker et al., 2016) explains scale through network effects but predicts stratification rather than inclusion as the default outcome of growth. DHT agrees, as Proposition 6a states, and theorises the governance conditions under which the default is overridden. In each case the model is falsifiable against its rival: if ventures facing identical voids adapt identically, if pure-frontier ventures thrive in constrained markets, or if platform scaling produces inclusion without distributive governance, the model is wrong in identifiable ways.

7. Discussion

7.1. Theoretical Contributions

The paper's contributions are best stated as respecifications rather than combinations. To disruption and resilience research, it relaxes the episodic assumption, relocating adaptation from strategic response to permanent capability and redefining the outcome from recovery to sustained functioning-with-distribution. To hybrid organisation research, it reverses the causal arrow: hybridity is theorised as an environmentally selected structure rather than a mission-driven choice, which explains the prevalence of hybrid forms where mission-driven social enterprise is rare. To digital ecosystem research, it relaxes the abundance assumption and supplies an account of orchestration under scarcity. To the capabilities tradition, it specifies what dynamic capabilities consist of when slack is absent and institutions are fluid and extends the outcome to ecosystem-level inclusive resilience, a distribution-sensitive concept that makes who benefits internal to the assessment of whether an ecosystem is resilient at all.

7.2. Implications for Practice and Policy

For founders and managers, the model reframes hybridisation from a compromise into the core adaptive asset, while warning through Propositions 4 and 8 that hybridity has an optimal breadth and that early architectural success plants the seeds of later rigidity. The propositions translate into specific practices. Retain frugal delivery channels when premium AI tiers are added, so that scaling does not strip the constraint-fit on which resilience rests (Propositions 3a, 6b). Cap and periodically audit partnership breadth against coordination load rather than accumulating alliances indefinitely (Proposition 4). Stage AI rollouts against measured user trust in low-literacy segments, not against engineering capability alone (Propositions 5a and 5b). Treat community accountability and informal-tutor protection as governance design rather than corporate philanthropy, because they are the switch that turns firm-level resilience into inclusive resilience (Proposition 7).

For policymakers, every supportive lever is double-edged, and the model's contribution is to name both edges. Zero-rating educational platforms widens access but can entrench incumbents and create dependence on operator goodwill; sunset clauses and periodic eligibility reviews mitigate the lock-in. Subsidised data and devices extend reach but can tilt competition toward subsidy-seeking rather than user value; tying subsidies to verified learner usage rather than device or download counts limits the distortion. Certification and curriculum alignment build trust and portability, yet regimes that demand formal credentials can exclude precisely the informal tutors on whom capability resilience depends; recognition of prior learning offers a less exclusionary route. Data-protection rules calibrated to minors are non-negotiable, but their compliance costs fall hardest on the smallest ventures, which argues for graduated requirements (UNESCO, 2023; UNDP, 2024; African Development Bank, 2024). The practical stake of Proposition 7 is that these design choices, not platform goodwill, determine which resilience an ecosystem gets.

7.3. A Research Agenda

The propositions define an empirical programme, and each set maps to a design. Propositions 1–3 invite comparative designs exploiting institutional variation across market-led, state-dominant, and facilitative configurations, including qualitative comparative analysis across Anglophone, Francophone, and Lusophone ecosystems (Welter, 2011; Eisenhardt & Graebner, 2007). Proposition 4 requires within-firm longitudinal data and curvilinear specification. Propositions 5a and 5b are testable in user-level field experiments that stage AI features across digital-literacy segments. Propositions 6a, 6b, and 7 require platform telemetry analysed with distribution-sensitive metrics. Longitudinal designs are essential for the feedback propositions: P8 requires observing ventures across at least two architecture-relevant disruptions, and the COVID-19 shock and the generative-AI shock provide a natural sequence. Section 6.3 already states, for each rival account, the observations that would count against the model; these designs are chosen to make such observations possible rather than merely to seek confirmation. Concretely, the model would be weakened if disruption continuity failed to predict structural hybridity once mission orientation is controlled (P1a and P1b); if purely formal or purely informal resourcing matched blended orchestration for survival (P2b); if returns to hybridisation proved linear rather than inverted-U (P4); if user digital capability did not moderate the trust effects of AI (P5a and P5b); or if distributive governance made no difference to the distributional consequences of scaling (P6b and P7). Two operational notes follow. Founder social mission (P1b) can be coded from founding documents and early public statements; the digital-capability threshold (P5b) is estimable through breakpoint or spline specifications within the field experiments.

Measurement development is a contribution opportunity in itself: inclusive resilience requires distribution-sensitive indicators rather than the aggregate continuity measures used in organisational resilience research (Duchek, 2020; Linnenluecke, 2017). Candidate indicators for the model's principal constructs are summarised in Table 5 as a starting point for operationalisation. Failure-inclusive sampling is non-negotiable: testing P9 requires cohorts that include dead ventures, accessible through app-store delistings, investor records, and regulatory filings.

Finally, sectoral extension to health-tech, agri-tech, and fintech would test whether structural hybridity and inclusive resilience generalise across domains where digital platforms provision quasi-public goods (Ndemo & Weiss, 2017). One further prediction is deliberately offered as a conjecture rather than a proposition. Adaptation capabilities forged under continuous disruption may be portable: ventures originating in continuously disrupted ecosystems may outperform stable-ecosystem entrants when both enter novel turbulent markets, because hybridisation capability substitutes for the local knowledge that both lack. The conjecture is attractive because it inverts the liability-of-origin logic of international business, but it requires development against that literature before it can carry propositional weight, and it is therefore placed on the research agenda rather than in Section 5.

Table 5. Principal constructs and candidate empirical indicators.

Construct	Candidate Indicators
Continuous disruption	Frequency and duration of power and connectivity interruptions; mobile data cost as a share of household income; count and reversal rate of regulatory changes affecting digital education; currency volatility; composite environmental-turbulence indices.
Structural hybridity	Commercial-to-social mix of revenues and activities; ratio and diversity of formal versus informal resource partners; co-presence of frugal (offline caching, USSD/SMS) and frontier (AI personalisation) architecture features; content analysis of value propositions against operational practice (to detect decoupling).
Organisational transformation	Number of distinct actor groups governed on the platform (structural); capability audits and product-release cadence (capability); accreditations, curriculum alignments, and formal agreements with ministries or examination boards (institutional).
Access resilience	Shock-conditional change in the socio-economic distribution of active usage; retention of subsidised and low-bandwidth user segments during shocks; geographic coverage stability.
Capability resilience	Persistence of tutor earnings and skill utilisation after platform exit; longitudinal learner digital-skill assessment; local developer employment traceable to platform ecosystems.
Legitimacy resilience	Institutional trust surveys among parents, educators, and officials; durability of ministry and operator partnerships across crises; regulatory sentiment and event analysis following adverse shocks.

7.4. Limitations

Three limitations bound the argument. First, as a conceptual paper its claims are disciplined by illustration rather than evidence, and the African examples are motivating rather than probative. Second, the model's micro-foundations, while specified, are not yet formalised: the interaction of founder, investor, and state judgements is described as a mechanism but not modelled as one. Third, the construct of inclusive resilience, though differentiated and dimensionalised, awaits the measurement validation that would establish its discriminant validity empirically rather than analytically. These limitations are the research agenda stated negatively.

8. Conclusions

This paper began by identifying a limiting assumption: that disruption is an event. In African digital tutoring ecosystems, and by implication in a widening class of digitally mediated environments in emerging markets, disruption is a condition. Taking that condition seriously required re-theorising adaptation as a permanent capability, hybridity as an environmentally selected structure, transformation as a contested and reversible accomplishment, and resilience as a distributional outcome rather than an organisational virtue. The DHT model assembles these elements into a co-evolutionary system with reinforcing and constraining feedback, failure pathways, and explicit limits, and the propositions specify how it can be wrong. If the model is broadly right, then the ventures examined here, small and hybrid platforms improvising to tutor children over intermittent connections, are not a peripheral curiosity of the digital economy but an early view of what organisational adaptation looks like when the disruption never ends.

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