The Informal Economy and African-Language AI in the AfCFTA Digital Trade Regime

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The AfCFTA serves as the map for African trade and economic development, its mandate charging the continent toward an economic utopia. Yet its digital protocol, with a core scope built around diversity and vulnerable populations, excludes 90 percent of Africa's economic engine[1] : the informal sector. This exclusion is further compounded by the language exclusion informal enterprises face, where digital platforms and AI systems meant to power digital trade have yet to incorporate indigenous languages, stifled by a data drought that is decades in the making.

This paper argues that the interaction of the Digital Trade Protocol and its Rules of Origin Annex leaves informal cross-border traders without a clear, proportionate route to digital trade benefits, and that unequal African-language AI capacity turns the Protocol's promise of legal inclusion into practical exclusion.

The Protocol

The Digital Trade Protocol, negotiated from December 2022 and adopted in February 2024[2], in a process tracing back to the African Union's 2020 mandate on e-commerce, was drafted in response to the growing significance of digital adoption in driving economic development. The Protocol names this recognition directly, stating its aim to "harness digital technologies and innovation to boost intra-African trade and investment... generate sustainable and inclusive economic growth, stimulate job creation, reduce inequality, and eradicate poverty"[3]. Notably, this language of inclusion was settled first. The Protocol's annexes, including the Annex on Rules of Origin that would go on to define who actually qualifies as an enterprise, were not adopted until a full year later, in 2025. The promise came before the mechanism that would quietly narrow it.

That motivation was not misplaced. Global trends have already confirmed technology as a catalyst of economic development; in the United States, the digital economy already accounts for 18 percent of GDP[4]. Nearly two-thirds of the entire global digital economy is concentrated in just two countries, the United States and China[5]. What began as an early advantage of high-income digital powers is now, unmistakably, defining the terms on which the developing world must compete.

Africa's digital infrastructure remains among the least developed in the world, weighed down by limited connectivity, underinvestment, and regulatory capacity still catching up to the pace of change. Internet penetration stood at just 38 percent in 2024, well below the global average of 68 percent[6]. The gap is not evenly spread. Mobile broadband covers 86 percent of the population, yet 14 percent remain entirely unserved, a figure that rises to 25 percent in rural areas[7]. The urban-rural divide is stark: internet usage reached 57 percent in cities in 2024, compared to just 23 percent in rural areas, the widest such gap of any region the ITU tracks[8], a divide that illustrates decades of uneven investment. And yet, despite this, the hunger for technological adoption has outpaced the infrastructure meant to support it. Mobile money is moving faster than the systems built to formalize it, reaching 33 percent of African adults, more than three times the global rate of 10 percent[9]. This is not a continent waiting to be convinced. It is a continent that

has already decided and is building around the gaps left by those meant to serve it. Flutterwave now processes cross-border payments and mobile invoicing at a scale that lets informal traders operate with the efficiency of formal firms[10]. Farmerline's voice-based AI has reached over one million farmers across 26 countries, requiring no literacy in a colonial language to use it[11]. Neither platform waited for permission. Flutterwave and Farmerline built the infrastructure African trade needed while the law meant to enable that trade was still being negotiated, adopted, and annexed. The Protocol's purpose, then, is not to originate Africa's digital transformation but to codify it, to give legal form to a shift already underway despite persistent infrastructural gaps and years of insufficient government investment.

There is now both an imperative, the pressure to keep pace with a rapidly digitizing global economy, and an appetite, a hunger from the people themselves, to push for a digital revolution through protocol, infrastructure, and political will.

The irony sits in the Protocol's own words. Its Preamble states its objective as inclusive growth and reduced inequality. These are not vague aspirations; they are the Protocol's own chosen terms, written into the text that it asks State Parties to ratify. And yet the same instrument that stakes its legitimacy on these promises excludes, in its very definition of "enterprise," the sector that constitutes the actual backbone of African economic life. The informal sector.

The definition itself makes the exclusion explicit. Article 4 of the Annex on Rules of Origin defines an 'African-owned enterprise' specifically for purposes of origin and preferential treatment: it requires a legally constituted entity, African ownership and control, and substantial business operations within a State Party[12]. This threshold risks excluding many unregistered traders and own-account workers from the benefits tied to African-owned-enterprise status. The exclusion matters because the Annex separately requires favourable treatment for MSMEs, women, youth, indigenous peoples, rural and local communities, and other underrepresented groups under Article 7(2). The Annex, in other words, commits to protecting these groups elsewhere in its text, while the eligibility gate that determines who can access that protection does not clearly account for how they actually operate. The sharper claim is not that informal traders are erased from the Protocol, but that the Annex offers them no clear

route into it.

The asymmetry runs deeper still. The same Annex holds digital platforms to a lighter standard than enterprises. Platforms must meet the same ownership and control thresholds, more than 50 percent equity and the power to appoint a majority of directors but face no requirement to demonstrate “substantial business operations” within a State Party at all[13]. An enterprise must demonstrate substantial operations within African territory, a platform need not. The Protocol, in effect, asks less of the digital intermediary than it asks of the trader the intermediary claims to serve, creating a structural incentive for firms to organize themselves as platforms rather than enterprises simply to clear the bar[14]. The very actors the Protocol should be building infrastructure around are the actors its own definitions push furthest away.

Yet elsewhere in its own text, the Protocol explicitly commits, by name, to the very populations this exclusion most affects. Article 30 names them precisely, promising the "inclusion and participation of women, youth, indigenous peoples, rural and local communities, persons with disabilities, and other underrepresented groups"[15] in digital trade. Indigenous peoples are not an afterthought here. They are named, in the operative text, as a population the Protocol claims to serve. Article 31 extends this same logic to enterprises, promising to "promote and facilitate the meaningful participation"[16] of Micro, Small and Medium-Sized Enterprises (MSMEs) in digital trade.

Read together, these two provisions expose a gap the Protocol has not closed. Article 30 names indigenous peoples as beneficiaries but says nothing about the language barrier that determines whether they can actually participate. Article 31 promises meaningful participation to MSMEs but says nothing about the millions of informal enterprises that fall entirely outside its definition. The Protocol commits, in its own words, to populations this paper has already shown to overlap substantially, informal traders, rural communities, indigenous peoples, and African-language speakers, though they are not identical constituencies. Naming these populations is not the same as building the bridge required for actual participation, and the Protocol's inclusion commitments do not automatically ensure that informal traders or speakers of underserved African languages can use digital trade systems in practice. Article 30 does gesture toward that bridge, committing State Parties to identifying

barriers to participation and sharing methods for developing relevant datasets. Although present, these obligations are under-specified, they are general commitments without benchmarks, timelines, or a named connection to language access specifically.

Africa's Digital Trade Protocol cannot claim to serve enterprise while defining it out of existence for the population that constitutes it. In Nigeria alone, MSMEs make up 96.9 percent of all businesses, 87.9 percent of employment, and 46.32 percent of GDP[17]. This is not a marginal constituency awaiting inclusion. It is the economy itself, operating under a legal framework that was not built with it in mind. Nigerian MSMEs alone face a financing gap of over $236 billion, and despite recurring formalization efforts, only 4 percent have access to formal bank loans[18]. Across the wider region, the pattern repeats at scale. Informal work accounted for roughly 89 percent of employment across Sub-Saharan Africa between 2000 and 2016, and in Senegal, 97 percent of all enterprises operate informally[19]. These firms are not a drag on the region's development; they are a substantial share of it, contributing an estimated 40 percent of Sub-Saharan Africa's GDP[20]. And their impact extends beyond what growth figures alone can show. On a per-job basis, an informal job can be up to 100 percent as effective as a formal one at reducing poverty[21]. To write the informal sector out of a trade protocol is to exclude the single most effective engine of poverty reduction on the continent.

What is required is not the transformation of the informal sector, but the transformation of the Protocol's terms. Nguimkeu and Okou (2021) call this a "within" approach: extending the benefits of digital trade to informal actors as they are, not as the legal framework wishes they were[22]. This approach is realistic precisely because the alternative has already failed. The informal sector did not emerge by accident, nor does it persist out of neglect. Lakeman et al. (2019) note that the majority of self-employed workers and small firms across Africa operate outside formal regulatory systems by design, avoiding the tax burdens, licensing costs, and bureaucratic requirements that formal registration demands[23]. For many, informality is not a stage awaiting graduation into formality. It is a rational response to a formal system that was never built to accommodate them.

There is a cost to this. Elgin and Elveren (2018) argue that a lack of formalization limits the total resources available to an economy, denying governments the tax revenue and oversight that formal structures provide[24]. This is a real tension, and one this paper does not dismiss. But the case for forced formalization weakens considerably against what informality actually delivers. Diallo and Nilson (2023) find that the informal sector improves allocative efficiency, absorbing low-skilled workers who would otherwise have no employment at all[25]. What formalization would remove in bureaucratic neatness, informality already supplies in livelihoods.

Policy has tested the alternative, and the alternative did not work. A full formalization package implemented in Benin raised the formalization rate by only 16.3 percent, at prohibitively high cost[26]. Decades of formalization-first policy across the continent have produced modest results at best. The informal sector has outlasted the very policies designed to eliminate it, not because those policies were poorly executed, but because they misread what the informal sector is. It is not a failure of development to be corrected. It is a durable, rational economic structure that will not disappear because a trade protocol declines to recognize it. The smarter path is not to keep testing formalization against a sector that has already outlasted it, but to build around the sector as it actually functions.

This is already happening, with or without the Protocol's permission. Nsarkoh (2025) shows this is already happening on the ground. Platforms like Flutterwave offer what he calls "functional formalization without bureaucratic burden,"[27] letting traders operate with the efficiency of formal firms without forcing them through registration processes that have already failed at scale. The Protocol's enterprise definition should follow the same logic. Where an actor demonstrates real, sustained participation in digital trade, through platform activity, transaction history, or verified mobile money usage, that participation should qualify for the Protocol's protections regardless of formal registration status. The informal sector does not need to be formalized to be recognized. It needs to be seen.

But recognition on paper is not the same as access in practice. Even if the Protocol's definitions were rewritten to include every informal trader on the continent, a second exclusion would remain untouched, one written not into the

Protocol's legal text, but into the architecture of the technology the Protocol depends on to function: language.

The Technology

The rise of AI as the vehicle for automation, efficiency, scale, and freedom of time has made technology the new idealized ladder to economic prosperity. The economic impact of that adoption is not speculative. It is already measurable, already reshaping who trades, who scales, and who is left behind. Globally, the case for AI's economic value is no longer contested. 91 percent of small and medium businesses that have adopted AI report it directly boosts revenue[28], and a McKinsey global survey found that 63 percent of businesses using AI reported revenue increases in the business units where it was deployed, beyond the cost savings AI is typically adopted for[29]. Small businesses that adopt it report reclaiming 20 or more hours a month by automating administrative work previously done by hand[30].

These are global figures, not African ones. They are also self-reported, businesses describing what they believe AI did for them, not outcomes independently measured, and on their own they prove perception and momentum more than they prove causation. But the fact that this scale of data exists at all, thousands of businesses across multiple independent surveys converging on the same signal, is itself notable, because no African equivalent exists to draw from, even an imperfect one. What they actually describe is success built on conditions African small businesses do not yet reliably have: dependable connectivity, affordable devices and data plans, digital and financial literacy training, banking and credit systems that can absorb and act on digital records, and, at the center of this paper's concern, AI systems built to understand the language the business actually operates in. Birhane (2020) makes the underlying point directly, warning against solutions "developed with the values, norms, and interests of Western societies" being applied elsewhere without question, since "solutions devised in one culture may not transfer well to another."[31] Elsewhere, whether AI delivers value is settled. For African small businesses, that was never really the question. The question is whether the conditions AI depends on to work have been built at all.

That evidence, thin as it is for Africa specifically, points the same direction. Research on AI adoption among South African SMEs finds strong awareness and interest in generative AI tools, constrained sharply by cost and limited technical knowledge[32]. The OECD's own assessment is blunter still: SME adoption of AI lags significantly behind that of large firms, even though SMEs are the backbone of the economies in which they operate.[33] What stands between African small businesses and that value is not desire; it is access, and language is one of the walls built into that access.

And this exclusion is not a matter of connectivity alone. It is a matter of data poverty. The SAHARA benchmark evaluates 517 African languages across a range of natural language processing (NLP) tasks, the field of artificial intelligence concerned with how machines read, interpret, and produce human language[34].

Its findings are stark. English performs at the top on nearly every measure, while Fulfulde, Wolof, Hausa, Oromo, and Kinyarwanda are systematically pushed to the bottom in reasoning, generation, and classification[35]. This is not because these languages are somehow harder for machines to parse. It is because no one built the datasets to teach machines to understand them. Decades of underinvestment in African-language data, documentation, and digital infrastructure have produced exactly the gap one would expect[36]. The result is a continent holding under 3 percent of the global AI market, which is now being asked to build its economic future on[37].

For a small business, the value of AI is entirely conditional on whether the system understands the language that the business operates in. A chatbot, an automated verification tool, a voice-based service, none of it functions for a trader if the AI beneath it was never trained on their language. Farmerline's success with over one million farmers across 26 countries proves this is solvable when the investment is made deliberately[38]. It also proves, by its rarity, how far the rest of the field has to go.

Where that investment has not been made, the consequences compound. As digital trade increasingly depends on AI to draft agreements, verify identities, and process cross-border transactions, a business operating in an underserved language is not merely inconvenienced; it is functionally excluded from the

infrastructure the Protocol claims will connect it to wider markets. And this exclusion does not fall evenly. The population most likely to rely on an indigenous language as its primary language overlaps substantially with the population already operating informally, rural, outside formal education systems built along colonial lines, the same population this paper has already shown to be locked out of the Protocol's enterprise definition. This is not a separate exclusion, but a compounding one, layered onto a population the Protocol has already failed to recognize.

Recommendations

The Protocol's failure is not one of intent but of scope, and the fix follows the same logic Nsarkoh identifies on the ground: legal recognition should track demonstrated participation, not paperwork. Under the Annex on Rules of Origin, State Parties should amend the definition of "enterprise" to permit an alternative pathway to qualification, one built on verifiable transaction history, platform activity, or sustained mobile money usage, in place of formal registration. This is not a lowering of the bar. It is a recognition that the bar, as written, measures compliance with a bureaucracy the informal sector has already outgrown, rather than participation in the trade the Protocol claims to govern.

The language exclusion requires a parallel, not a substitute, intervention. Article 30's commitment to indigenous peoples is meaningless without a corresponding obligation to build the infrastructure that lets them transact in their own languages. The Protocol should condition digital trade facilitation funding, wherever it is channeled through national development banks or development finance partnerships, on demonstrated investment in indigenous-language AI capacity, benchmarked against instruments like SAHARA rather than left to the market incentives that have already produced decades of underinvestment. Language access belongs alongside connectivity and cybersecurity as a named pillar of the Protocol's digital trade infrastructure commitments, not an implied byproduct of them.

Neither fix requires new populations to be named. Both are already there in Articles 30 and 31. What the Protocol needs now is not new promises but the machinery to keep the ones it has already made.

Footnotes

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[12] DTP, Annex on Rules of Origin, art. 4.

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[20] Nguimkeu & Okou, *supra*, at 713.

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[24] Ceyhun Elgin & Adem Elveren, *The Consequences of Informality on Fiscal and Monetary Policies* (2018), cited in Nsarkoh, *supra*, at 1.

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