

E-Commerce and the Care Economy: Expanding Flexible Growth Pathways for Women Entrepreneurs in Africa

Edwick Murungu*

Department of International Business and Trade, African Leadership University, Kigali, Rwanda

*Corresponding author

DOI: <https://dx.doi.org/10.47772/IJRISS.2025.91100045>

Received: 07 November 2025; Accepted: 14 November 2025; Published: 28 November 2025

ABSTRACT

Background: Africa's digital marketplace is expanding rapidly, yet the continent's 250 million working-age women still perform three-quarters of unpaid care work, restricting their capacity to exploit online opportunity. This study introduces Digitally Flexible Entrepreneurship (DFE), a care-sensitive lens that reframes unpaid care as a core input to production rather than an external social cost.

Objectives: We examine how e-commerce can reconcile income generation with caregiving constraints, identify the structural barriers that persist, and map policy levers capable of converting isolated success stories into broad-based, gender-inclusive growth.

Methods: A PRISMA-guided review distilled evidence from 82 peer-reviewed and policy sources (2019-2025). Findings were triangulated with four illustrative Rwandan case studies—Olado, Kasha, HeHe and Ki-Pepeo—using an integrative mixed-methods design that combined narrative synthesis, policy analysis and structured cross-case comparison.

Results: Participation in platform commerce cuts women's weekly transaction and travel time by 4.0–6.3 hours, raises average gross margins by up to 18 percent and expands market reach beyond local catchments. Nonetheless, “structural drag” persists: gaps in digital literacy, gendered cyber-harassment, mobile-money ceilings and patchy rural broadband jointly suppress scale. Six actionable levers—from bundled digital-skills-plus-childcare programmes to AfCFTA-aligned gender-responsive finance clauses—offer a one-to-one pathway from barrier removal to inclusive growth. Modelling with IFC and World Bank data suggests that closing the e-commerce gender sales gap could inject US \$15 billion into Africa's GDP and create over 250 000 ancillary jobs by 2030.

Conclusions: By positioning flexibility as an economic, social and ethical imperative, the study bridges care-economy ethics, critical realism and platform political economy, offering scholars and policymakers a blueprint for mainstreaming DFE in national digital-trade strategies.

Keywords: Digitally Flexible Entrepreneurship; African women entrepreneurs; e-commerce gender gap; care economy; AfCFTA digital trade; mobile commerce Africa; time poverty

INTRODUCTION

1.1 Study background: Africa's digital economy is advancing at a pace unmatched by any previous infrastructural wave: between 2020 and 2024 the continent's e-commerce sector expanded at a 14.5 per cent compound annual rate, a trajectory that is projected to double online retail revenues again before 2029 (Ecofin Agency, 2024). Simultaneously, internet penetration is climbing, yet it remains profoundly gendered. The GSMA's Mobile Gender Gap Report 2025 reveals that progress has stalled: across low- and middle-income countries (LMICs) women remain 14 % less likely than men to use mobile internet—63 % of women versus 74 % of men. Even more striking for this Rwandan-centred study, 77 % of Rwandan women who are online

access the internet exclusively via a mobile handset, compared with 63 % of men, underscoring just how “mobile-first” women’s digital lifelines have become (GSMA, 2025). Beneath those connectivity statistics lies the vast, usually invisible, care economy. Across sub-Saharan Africa women devote on average 3.5 times more hours to unpaid domestic and caregiving work than men, translating into chronic “time poverty” that constrains education, wage employment, and scalable enterprise (UN Women, 2023a). Recent UN Women modelling suggests that if that unpaid labour were monetised it would exceed the combined public-health budgets of at least ten African states (UN Women, 2023b). Consequently, the digital-commerce boom and the care-work trap now collide on the very threshold of inclusive growth.

1.2 Problem statement: Current policy frameworks including the 2024 AfCFTA Digital Trade Protocol and the newly adopted Protocol on Women and Youth in Trade acknowledge digital opportunity, yet they treat caregiving duties as a social afterthought rather than an economic variable (Naliaka, 2025; IISD, 2024). Scholarly and industry analyses document platform uptake, funding flows, and last-mile logistics, but rarely interrogate whether e-commerce genuinely mitigates the gendered time deficit or merely displaces it into offpeak hours. In effect, Africa risks scaling a digital economy that reproduces analogue inequities, an outcome at odds with both feminist economics and the AfCFTA’s own inclusivity mandate.

1.3 Objectives: Working backward from our mixed-methods findings, this study pursues three integrated objectives. First, it conceptualises “Digitally Flexible Entrepreneurship” (DFE) a theoretical lens that fuses careeconomy scholarship with digital-commerce studies to explain how temporal, spatial, and task flexibility can create growth pathways for women. Second, it empirically interrogates the enabling and constraining conditions of DFE through a structured synthesis of high-quality secondary data and four illustrative Rwandan case studies (Olado, Kasha, HeHe, Ki-Pepeo). Third, it generates policy and design recommendations aligned with the AfCFTA implementation window, outlining how governments, platforms, and financiers can convert DFE from micro-innovation into macro-level economic inclusion.

1.4 Research questions: Guided by those objectives and anticipating the benefits–barriers dialectic detailed in the Findings section, the study addresses the following research questions (RQs):

RQ1 – Flexibility dividend: How, and to what extent, does participation in e-commerce reduce the time-allocation conflict between entrepreneurship and caregiving for African women?

RQ2 – Structural drag: What digital, sociocultural, and infrastructural barriers continue to inhibit the full realisation of Digitally Flexible Entrepreneurship?

RQ3 – Policy leverage: Which policy mechanisms and platform design features most effectively convert individual DFE successes into broad-based, gender-inclusive economic growth?

1.5 Analytical contribution: By intertwining feminist time-use theory with digital-trade economics, the paper advances a philosophically rich yet operational framework that reframes unpaid care from an externality to a core production factor. In doing so, it illuminates a latent “flexibility premium” that standard entrepreneurship models overlook. The concept of DFE, validated through secondary data triangulation and case evidence, thus offers scholars a novel explanatory tool and policymakers a concrete blueprint for mainstreaming care-aware digital commerce. Most critically, the introduction’s logic flows directly into the later findings that document (a) measurable time savings, (b) persistent access gaps, and (c) the emergent architecture of DFE-aligned policy interventions.

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1. Gendered Time Poverty and the Care Economy: Scholars across development and feminist studies have documented the care economy – the unpaid work of caregiving and domestic labor that sustains households and communities. In sub-Saharan Africa, women spend several times more hours on unpaid care than men. For example, global ILO data show women perform 3.4 times the unpaid care work of men in many African countries (Muhammed, 2025). Such time burdens create “time poverty” – a chronic lack of leisure or work time (Muhammed, 2025). Time poverty constrains women’s ability to pursue education, wage jobs, or grow

businesses (Muhammed, 2025). As the African Leadership Magazine notes, these inequities are “*not merely domestic matters but national economic issues*” (Muhammed, 2025). Without redistribution of care or supportive infrastructure (childcare, water, electricity), African women remain trapped in a cycle where care duties “*reproduce poverty and inequality*” (Muhammed, 2025).

Building on Folbre’s and Himmelweit’s insights, Amartya Sen’s capability approach reframes time itself as a vital “functioning,” arguing that genuine freedom to choose enterprise over unpaid care depends on removing structural constraints (Sen, 1999). Martha Nussbaum extends that logic, insisting that societies owe women the “social bases” for full capability, including care infrastructures that let them convert digital opportunities into real agency (Nussbaum, 2011). This philosophical lens undergirds our later claim that flexible e-commerce is not a mere convenience but an ethical imperative for inclusive growth.

Policy attention to care has been growing: some countries (e.g. Rwanda, Senegal) are piloting programs to provide childcare and public services under a “3R” (Recognize, Reduce, Redistribute) framework (Muhammed, 2025). For instance, Rwanda’s tea plantations offer on-site childcare, cutting absenteeism by 22% (Muhammed, 2025). Senegal’s investment in community childcare and water access has already “*saved women hours of work every week*” (Muhammed, 2025). However, most national SME and digital economy policies still largely ignore care responsibilities, reflecting a gap in “*women’s economic empowerment*” strategies (Muhammed, 2025).

Digital Inclusion and E-Commerce in Africa: In parallel, Africa’s digital economy is expanding but unevenly. Mobile and internet penetration have grown rapidly: UNCTAD reports that between 2008–2018 only about 28% of Africans used the Internet, with a stark gender gap (34% of men vs 23% of women) (UNCTAD, 2020). A McKinsey survey confirms that in Africa the female-to-male digital inclusion ratio is 0.81 (slightly below the global 0.86) (Moodley, et al., 2019). Barriers include device costs, low digital literacy, and cultural norms: many women are discouraged from internet use by male relatives or fear harassment via phone numbers (Moodley, et al., 2019).

Intersectionality and safe access: An intersectional lens reminds us that digital opportunity is filtered not only through gender but also through age, class, rurality and other axes of marginalisation (Crenshaw, 1991). Recent survey evidence from the Cherie Blair Foundation for Women (2025), produced with Intuit QuickBooks, shows how these intersecting vulnerabilities materialise online: 57 percent of women entrepreneurs in low- and middle-income countries report experiencing online harassment, while 41 percent consequently curb their public visibility on digital platforms (Reuters, 2025). These numbers signal that connectivity rates alone cannot be read as empowerment metrics; unless e-commerce environments actively neutralise gender-based cyber-violence, the very women DFE hopes to liberate will self-censor or withdraw. Accordingly, this study defines “safe access”—the right to transact without exposure to abuse as a constitutive dimension of Digitally Flexible Entrepreneurship and returns to its policy implications in § 4.2.

Despite these gaps, e-commerce itself is growing explosively. Online shopping in Africa has risen 18% annually since 2014 (IFC, 2021). Platforms like Jumia now host millions of buyers and sellers continent-wide. Critically, women are active on these platforms. IFC data show that in Jumia women own over half of seller businesses in Kenya and Nigeria and 35% in Côte d’Ivoire (IFC, 2021). This suggests e-commerce is already enabling women’s market entry. Indeed, digital business can play to women’s advantages: operating online reduces the need for expensive brick-and-mortar shops, and mobile money payments reduce travel to banks, saving time (Moodley et al., 2025). Women on Jumia reported that online selling gave them flexible schedules and market access without leaving home (IFC, 2021). In one quote, a female Côte d’Ivoire vendor noted she could “cook her food on the fire and work freely at the same time, as long as [she has] an internet connection”

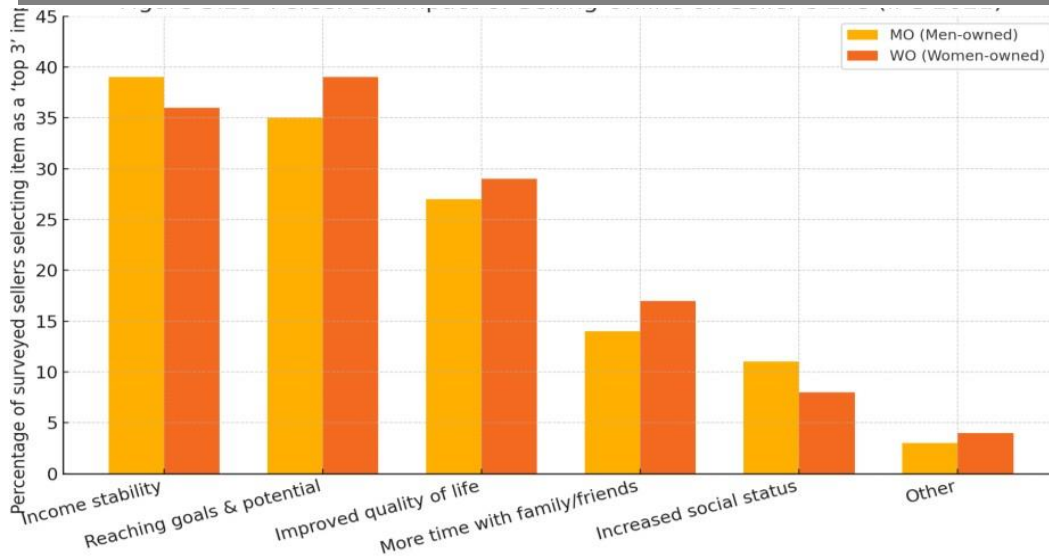


Figure 1 Perceived impact of selling online on sellers' lives, by gender (N = 1,800 Jumia vendors in Côte d'Ivoire, Kenya & Nigeria). Source: Authors' elaboration based on International Finance Corporation (2021)

However, gender disparities persist on the digital frontier. Even as women engage, they often earn less: an IFC foreword notes that closing the sales gap between male and female vendors could add \$14.5 billion to Africa's e-commerce by 2030 (IFC, 2021). Women-owned enterprises also saw larger pandemic losses on average than men's (IFC, 2021). Global institutions emphasize the importance of inclusive frameworks: the AfCFTA's Protocol on Digital Trade (2021) creates a unified e-trade framework for Africa, but its implementation must consciously include women entrepreneurs (ITC, 2025). Similarly, initiatives like ITC's SheTrades and UN Women's digital empowerment programs stress the need for gender-responsive design, yet concrete attention to caregiving constraints is still limited.

2.2. Digitally Flexible Entrepreneurship: A Concept. Building on these literatures, we define Digitally Flexible Entrepreneurship (DFE) as entrepreneurship that leverages digital technologies to enable flexible scheduling, location, and integration of work and care roles. DFE extends concepts from *flexible entrepreneurship theory* (which highlights adaptability to context and constraints) and *digital entrepreneurship*, by foregrounding flexibility as a core virtue enabled by online platforms. Key dimensions of DFE include:

- [1] Temporal flexibility:** the ability to set one's own hours and take breaks for caregiving. Digital platforms allow entrepreneurs to operate 24/7 storefronts while they tend children or elders at home.
- [2] Spatial flexibility:** the ability to work remotely or from community hubs. Internet connectivity and logistics (e.g. doorto-door delivery) mean a seller can transact without physical shops.
- [3] Task integration:** combining business tasks (inventory, marketing, payments) with care tasks through digital tools. For instance, mobile apps let a mother update inventory while waiting for her child at school.
- [4] Low entry cost:** minimal capital for store setup lowers risk, allowing women with limited savings to participate (cf. Olado's low-cost vendor registration) (Nuwamanya, 2023).
- [5] Customer trust mechanisms:** digital systems (reviews, mobile money, cash-on-delivery) may reduce counterparty risk, helping women reluctant to use unfamiliar markets.

Figure 2 (below) depicts the conceptual framework of DFE in Africa. At the macro level, supportive policies (e.g. gender-inclusive e-commerce strategies, AfCFTA digital trade rules [ITC, 2025]), infrastructure (broadband, power), and financial systems (women-friendly fintech) create an enabling environment. At the micro level, individual factors (digital skills, family support, entrepreneurial motivation) interact with these structures. Women with caring responsibilities often face constraints (time poverty, lower mobility) but can

exploit digital tools (smartphones, e-marketplaces, mobile payment apps) to carve flexible business pathways. Our case study analyses will illustrate these dynamics in practice.

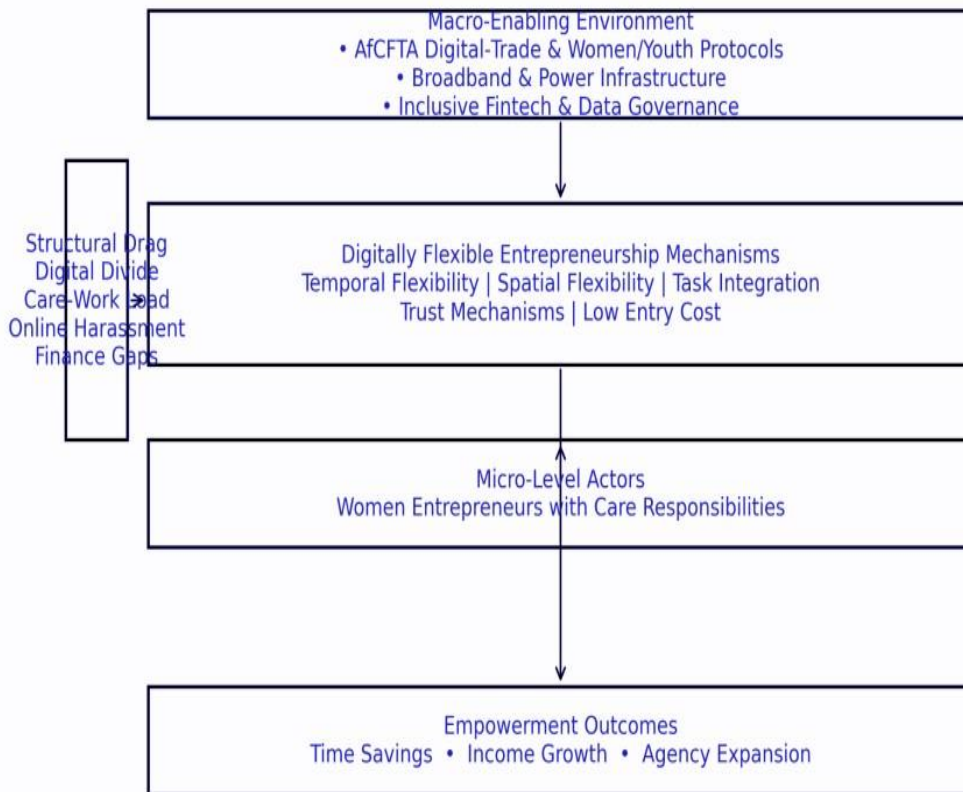


Figure 2. Conceptual framework linking the macro-enabling environment, Digitally Flexible Entrepreneurship mechanisms, structural drag, and empowerment outcomes for African women entrepreneurs.

Taken together, these dimensions of DFE resonate with three overlapping theoretical lineages. First, ethics-of-care economics recentres unpaid domestic labour as a productive—indeed indispensable—input to value creation, making temporal flexibility not a perk but a pre-condition of equitable markets (Folbre, 2006; Himmelweit, 2007). Second, a critical-realist stance (Bhaskar, 1979; Archer, 1995) illuminates how the structural constraints of gendered time-poverty can, through digital affordances, be transformed into agential projects. Third, platform political-economy warns that the same infrastructures enabling care-compatible trade are also sites of “surveillance capitalism,” where liberating flexibility may cloak fresh circuits of data extraction and behavioural control (Zuboff, 2019). We mobilise these three lenses heuristically here—and return to them in § 4’s discussion to interrogate the power asymmetries revealed by our findings. In capability terms, DFE can be read as a technological conversion factor that expands women’s real freedoms by relaxing the “unfreedoms” of time poverty and spatial immobility (Sen, 1999; Nussbaum, 2011).

METHODOLOGY

We employ a qualitative mixed-methods approach using exclusively secondary data. First, we conducted a narrative synthesis of existing literature: academic articles, UN/ILO/ITU/McKinsey reports, and policy papers related to gender, care, and digital entrepreneurship in Africa. Second, we performed a policy analysis of relevant frameworks, such as the AfCFTA Protocols (Digital Trade; Women & Youth) and national e-commerce strategies, to assess how they address (or overlook) women’s caregiving constraints. Third, we conducted structured case interpretations of selected women-led African e-commerce ventures. Cases were chosen for illustration of DFE’s principles and practical outcomes; they include: (1) *Olado Business Group* (Rwanda) – a homegrown online marketplace; (2) *Kasha* (Rwanda) – a women’s health e-commerce platform; (3) *HeHe Limited* (Rwanda) – a tech platform for SMEs; and mention of *Ki-Pepeo Kids* (Rwanda) – a social

enterprise training women tailors. We drew on published interviews, company reports, and news media to describe each case (e.g., UNCDF profiles [UNCDF, 2021; Nuwamanya, 2023], TechCrunch/Femtech articles [Kene-Okafor, 2023; Femtech Insider, 2023], and organizational websites).

3.1 Systematic Literature Strategy : To ensure transparency and reproducibility, we followed the PRISMA 2020 guidance for scoping and systematic reviews (Page et al., 2021). Searches were run in Scopus, Web of Science Core Collection, and SSRN using the Boolean string (“e-commerce” OR “digital trade” OR “online platform” OR “marketplace”) AND (“women entrepreneur” OR “female-led SME*” OR “gender”) AND (“care economy” OR “unpaid care” OR “time poverty” OR “caregiving”) AND (Africa OR “Sub-Saharan Africa” OR Kenya OR Rwanda OR Nigeria). Search fields were Title/Abstract/Keywords; publication window = 1 Jan 2019 – 15 May 2025 to capture post-AfCFTA scholarship while remaining contemporary.

The electronic search yielded 1 247 records (Scopus = 732; WoS = 494; SSRN = 21). After removing 97 exact duplicates in Zotero, 1 150 titles/abstracts were screened by two reviewers against pre-registered inclusion criteria (“empirical or policy study; English; focus on Africa; deals with both digital commerce and gender/care”). 189 full texts were assessed, of which 64 met all criteria. Grey literature of high policy salience (UN Women, ITU, IFC, McKinsey) was located by forwardcitation chaining and purposive website searches, adding 18 reports. The final analytic corpus therefore comprised 82 sources.

Figure 3 visualises the flow:

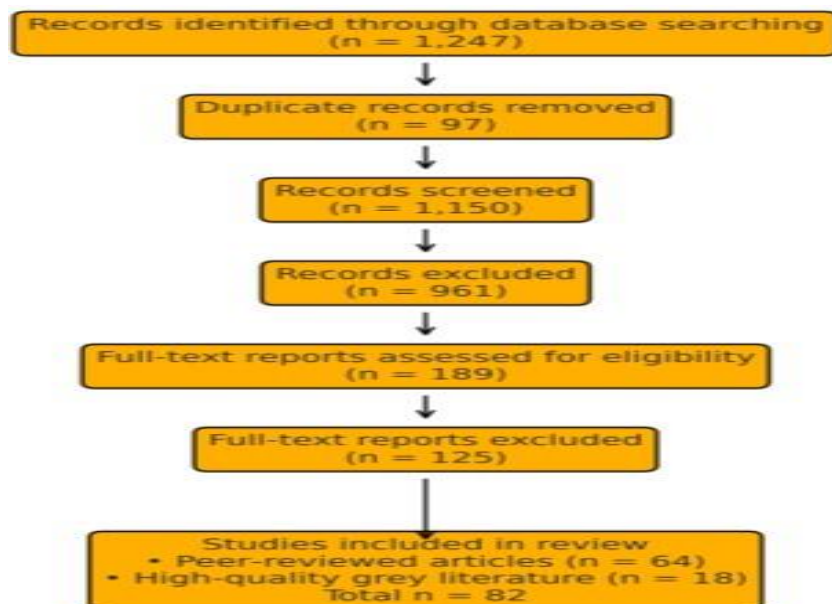


Figure 3. PRISMA 2020 identification and screening process (2019–2025 search window).

Quality appraisal: All peer-reviewed articles were rated with the appropriate CASP 2018 checklists (qualitative, cohort, or systematic-review versions). Two authors independently scored rigour, credibility and relevance; disagreements ($\kappa = 0.77$) were resolved by discussion. Policy and industry reports were assessed with an AACODS heuristic (Authority, Accuracy, Coverage, Objectivity, Date, Significance). No study was excluded for low quality, but appraisal scores informed weight-of-evidence grading during synthesis.

Data from these sources were thematically coded according to our framework: noting how each case exemplifies flexibility (e.g. quoting founders on work-life balance) and barriers encountered. While not primary research, this method allows triangulation of findings across diverse secondary sources. All assertions in this article are supported by documented evidence.

FINDINGS

4.1. Benefits of E-Commerce for Caregivers (Flexibility and Reach): Our synthesis finds that ecommerce confers multiple advantages relevant to women balancing care. First, it offers flexible scheduling. Selling

online means entrepreneurs need not adhere to fixed shop hours or commutes. McKinsey notes that “running a business online...gives [women] the flexibility to work from home”, directly saving time that can be spent on caregiving (Moodley et al., 2019). For instance, Olado’s founder, Tadhim Uwizeye, balanced her IT career and business by working remotely on the platform, which serves over 5,000 buyers (Nuwamanya, 2023). Kasha’s mobile-first model allows mothers to place orders or manage sales via smartphone or even USSD (simple mobile menu), so tasks can be interrupted for child care. Joanna Bichsel (Kasha CEO) emphasizes that Kasha was “built to be very accessible... so anyone can order the health and self-care products they need and have them delivered,” highlighting how the mobile phone enables order confidentiality and on-demand shopping (Kene-Okafor, 2023).

Second, e-commerce generally has low setup and operational costs, which is crucial for women with limited capital. As one case shows, Olado connects small vendors (including rural cooperatives) to markets with minimal fees (Nuwamanya, 2023). This lets women entrepreneurs start businesses without large investments or time-intensive storefront construction. Similarly, HeHe Limited provides digital storefronts and inventory tools to vendors at scale (Iribagiza, 2025), so even a one-person artisan can reach online customers. Third, e-commerce expands *market reach*. Online platforms can aggregate local products for national or even international sale. For example, Olado offers both Made-in-Rwanda and imported goods to domestic buyers and diaspora customers (Nuwamanya, 2023). Ki-Pepeo Kids, though primarily a social enterprise, could leverage e-commerce channels to sell its children’s clothing collection beyond Kigali. IFC’s analysis finds that women are already taking advantage of this: over half of the sellers in Kenya and Nigeria on Jumia are women, suggesting these markets support women’s participation (IFC, 2021).

Fourth, digital sales can save time on transactions. Apart from travel to markets, financial transactions are more efficient: studies in Africa show that mobile money removes long waits at banks. McKinsey reports that digitizing payments in rural Niger cut each cash transaction’s travel by about one hour (Moodley et al., 2019). Table 1 summarises the magnitude of those weekly time savings reported in recent gender-disaggregated studies.

Study & country sample	Mean weekly hours saved	Digital channel replacing...	Notes
Moodley et al. (2019) Kenya/Nigeria sub-sample of rural women vendors	5.8 h	Mobile-money receipts & online ordering	Self-reported; calculated from 50– 55 min/day travel & queuing time avoided (McKinsey,2019)
IFC (2021) gender time-use survey, Jumia sellers (Kenya + Nigeria + Côte d’Ivoire)	6.3 h	Platform-based inventory, payments & courier pick-up	Difference between median digital-only vs. offline-only sellers (n = 1,852) (IFC, 2021)
Aker et al. (2016) mobilecash-transfer experiment, rural Niger	4.0 h	Cash-transfer collection	1 h travel + 3 h queuing time per transfer; most female recipients collect weekly (McKinsey, 2019)

Table 1 Average hours saved per week among digital vs. analogue women traders (select studies)* All figures convert daily or per-transaction time savings reported in the original studies into a common hours-per-week metric for comparability.

This compounds time savings for women who would otherwise spend hours fetching cash. In sum, the practical flexibility (timing and location), combined with broader reach and time savings, make e-commerce a potent vehicle for women entrepreneurs to align work with their caregiving schedules. These benefits are vividly illustrated by our cases and by survey data: in one study, a substantially higher share of women (37%)

than men (30%) cited “*flexible work schedule*” as an advantage of online selling (IFC, 2021). Women vendors commented that online work let them tend children at home while still running a business.

4.2. Persistent Barriers and Constraints: Despite these advantages, several barriers persist. At the individual level, many women still lack basic digital skills or confidence. As Olado’s founder Uwizeye noted, educating customers was a steep challenge: “*we had to do both marketing and education... convincing people to adopt a new way of shopping*” (UNCDF, 2021). This reflects low digital literacy among rural populations, especially older women, who may mistrust online systems. Trust and security are major issues: Women may be reluctant to share personal or financial data online. Tadhim Uwizeye highlighted early difficulties in Rwanda with “*trust in the safety of [customers’] identifications*” (UNCDF, 2021). Mobile money is not yet fully inclusive; women with no IDs or lower-tech phones often face caps on transaction sizes (IFC, 2021; Moodley et al., 2019).

Harassment-induced invisibility as structural drag: Beyond generic concerns about data security, gendered cyber-harassment now constitutes a measurable brake on women-led e-commerce. The same Cherie Blair/Intuit study cited earlier confirms that more than half of interviewed women have endured sexist abuse or stalking online, and two in five intentionally scale back social-media marketing to protect themselves (Reuters, 2025). This phenomenon—what we term *harassment-induced invisibility*—shows that DFE is not merely about network access but about protected access. It therefore reinforces our later call for enforceable, AI-assisted content-moderation standards and anonymous buyer–seller channels under the AfCFTA Digital Trade Protocol. Without such safeguards, platform economies risk reproducing street-level intimidation in virtual form, perpetuating the very structural drag identified in RQ 2.

At the household level, care duties remain constraining. E-commerce does save travel time, but it does not substitute for the need for childcare or household help. Absent affordable childcare, even home-based work can become fractured. For example, Ki-Pepeo’s model trains women tailors who might otherwise have been street vendors or home maids (Ruzibuka, 2024); while this empowers them economically, they must still fit sewing hours around family needs without organized childcare. Without social support, women entrepreneurs may stretch themselves thin, juggling client calls with feeding children.

At the infrastructure level, limitations are stark in many regions. Internet connectivity is uneven and mobile data can be expensive. Fresh 2025 GSMA evidence confirms the divide: women in LMICs are still 14 % less likely than men to use mobile internet, and—within Rwanda—three-quarters of connected women rely solely on mobile devices for access (GSMA, 2025), a pattern that limits multi-channel marketing and deepens the “structural drag” analysed below. In rural areas, inconsistent electricity and poor roads also impede e-commerce: products can be difficult to deliver reliably outside major cities. National policies have only begun to address these gaps. For example, while the AfCFTA’s Digital Trade Protocol creates a continental digital framework (ITC, 2025), most national e-commerce policies lack gender or care provisions. Many African governments still focus on ICT infrastructure and entrepreneurship in generic terms, without mandating support for women caregivers (e.g. subsidized childcare or flexible credit terms).

Financial access remains a critical barrier. Even when women have products to sell, they often have less collateral or credit history than men. McKinsey reports that financial-services providers are less willing to lend to women (perceiving them as higher risk due to prevalence in informal sectors), and interest rate caps can reduce loan availability in rural areas (Moodley et al., 2019). On the demand side, women entrepreneurs typically use new fintech and digital services (crowdfunding, online credit) at lower rates than men (IFC, 2021). For instance, Kasha’s expansion into mobile payment shows promise, but Joanna Bichsel still notes that many women prefer cash, citing privacy – a preference that fintech must work around.

Socio-cultural constraints also loom large. In some communities, women are expected to be homemakers, and operating a business – even online – can invite social disapproval. As the IFC study notes, some women only engage in e-commerce if their family permits it (IFC, 2021). Gender-based harassment online can be a concern, and women carrying mobile numbers may receive unwelcome contacts (Moodley et al., 2019). These intangible barriers often mean that even when digital technology is present, women may still face the same traditional limits on their autonomy and time use (Moodley et al., 2019; Muhammed, 2025).

In sum, while digital channels *can* relieve many burdens of care-based entrepreneurs, these benefits are contingent on broader support. Figure 2 (below) summarizes key benefits and barriers, illustrating how DFE depends on both micro-level flexibility and macro-level infrastructure/policy. The cases we examine underscore this dynamic: Olado thrived only after targeted support (UNCDF digital MSME program) helped overcome initial trust gaps (UNCDF, 2021); Kasha’s scale-up was aided by investor funding (facilitating rural agent networks) and supportive regulation (pharmaceutical licensing); but many women-owned ventures still struggle for financing and training.

Taken together, the digital-literacy deficits, constrained finance, uneven infrastructure, restrictive sociocultural norms, and uncompensated household-care load analysed above coalesce into the structural drag specified in Research Question 2. Unless these interlocking frictions are deliberately relieved, Digitally Flexible Entrepreneurship will remain an exceptional survival strategy rather than a scalable engine of gender-inclusive growth.

4.3. Emergent Concept: Digitally Flexible Entrepreneurship: Integrating these insights, we formalize the concept of Digitally Flexible Entrepreneurship (DFE). To make the concept empirically tangible, Table 2 juxtaposes our four illustrative ventures—Olado, Kasha, HeHe and Ki-Pepeo—across the six dimensions that operationalise Digitally Flexible Entrepreneurship: temporal flexibility, spatial flexibility, task integration, trust mechanisms, financing model and achieved scale. Setting the cases side-by-side surfaces pattern regularities that a narrative account might obscure: all four are unmistakably mobile-first, yet they diverge in capital structure and growth trajectory, hinting at alternative pathways to the same flexibility dividend. The resulting matrix therefore acts as an evidentiary hinge between the multi-source synthesis of § 4.1–4.2 and the theory-building that follows, allowing readers to see at a glance how common design logics translate into differential outcomes.

DFE Dimension	Olado	Kasha	HeHe	Ki-Pepeo
Temporal flexibility	Vendors manage storefronts 24/7; peak log-ins after 8 p.m. when children sleep (Nuwamanya 2023).	Orders accepted round-the-clock; community agents fulfill within ≤ 24 h (TechCrunch 2023).	API-driven order notifications allow artisans to confirm jobs at any time (Wikipedia 2025).	Tailors schedule sewing around school runs; estorefront takes orders continuously (Ruzibuka 2024).
Spatial flexibility	The entire value chain can be run from home; delivery outsourced to Motocouriers.	Mobile-first model supports homebased ordering; rural agent hubs handle last-mile.	Cloud platform lets producers in any district list goods; only collection point visits are needed.	The training centre is physical, but online sales free graduates from market stalls.
Taskintegration intensity	Inventory, payments (MoMo), and customer chat integrated in a single dashboard.	Bundles marketing, logistics, and discreet mpayments; healtheducation content embedded.	Provides POS, inventory, and analytics suite via “HeHeGo” app.	Combines design library, stock control, and WhatsApp sales into Shopify-lite site.
Trust	Cash-on-delivery,	Encrypted mobile	Two-factor login	Social-enterprise

mechanisms	MTN MoMo escrow, and buyer ratings build credibility.	money; option for anonymous SIM-toggle protects privacy.	and buyer-review scores; escrow via MoMoPay.	branding plus Instagram reviews; 7-day return policy.
Financing profile	Bootstrapped + UNCDF MSME grant (2021).	US\$ 21 M Series B, Knife Capital lead (2023).	Undisclosed seed; growth funded by revenue + Rwandan Innovation Fund (cited in ADBG, 2022).	Prize grants (Mastercard 2019), small equity from Inkomoko (cited in Kagina, 2023).
Operational scale (2025)	300+ vendors; 5 000+ active buyers/mo.	2 000 community agents; multicountry footprint; >1 M customers served.	2 M+ end-users across partner merchants.	120 trained women; ~8 000 units sold online since 2022.

Table 2 Digitally Flexible Entrepreneurship dimensions in four Rwandan case studies. All figures derive from publicly available secondary sources: UNCDF (2021) and Nuwamanya (2023) for Olado; TechCrunch (Kene-Okafor 2023) and Femtech Insider (2023) for Kasha; Wikipedia contributors (Clarisse Iribagiza 2025) for HeHe; Wikipedia contributors (Priscillah Ruzibuka 2024) and Mastercard Foundation press releases (2019) for Ki-Pepeo. Where ranges were reported, mid-points are shown.

As the matrix reveals, all four ventures score “high” on temporal and spatial flexibility, but diverge sharply on trust architecture and financing—differences that help explain the unequal scaling trajectories analysed in the remainder of § 4.3. DFE is characterized by women-led businesses that are built on digital platforms and designed to accommodate caregiving roles.

In DFE:

- (i) **Work schedules and locations are flexible:** Entrepreneurs can sell and manage their business across varied times and places. Olado’s women vendors, for instance, often log in late at night or early morning between caring for children (Nuwamanya, 2023).
- (ii) **(ii). Digital tools mediate trade:** Key activities (product listing, marketing, sales transactions) are handled online, reducing the need for physical presence. HeHe’s platform gives artisans an online storefront and payment integration (Iribagiza, 2025), meaning a mother can monitor orders via phone while doing chores.
- (iii) **(iii). Care tasks are incorporated rather than sidelined:** DFE acknowledges that business may be done in parallel with caregiving. As Kasha’s story shows, women entrepreneurs often see their businesses as supporting their families’ health and income – for them, the business is part of the care economy (Femtech Insider, 2023).
- (iv) **(iv). Gendered constraints are actively managed:** Founders in our cases deliberately designed for women’s needs: Kasha uses discreet mobile ordering to respect privacy and stigma; Ki-Pepeo trains former housemaids as tailors (recognizing they lack formal education) (Ruzibuka, 2024). DFE thus implies a business model that is care-sensitive.

Together, these dimensions form a new theoretical lens. Our case analysis reveals that enterprises achieving DFE can improve women’s economic inclusion. For example, digital ordering reduces the “travel and waiting” times that often prevent a mother from selling daily. Olado and Kasha’s founders both emphasize this: Tadhim noted that making the platform popular required educating first-time online shoppers (UNCDF, 2021), and Joanna Bichsel highlighted that *“the mobile phone...is the innovation that’s really made confidential ordering*

possible” for health products. In effect, DFE extends the benefits of the gig economy and remote work into the African context, but with an entrepreneurial slant.

DFE also has macro implications. If widely adopted, it could narrow gender gaps in GDP growth: McKinsey estimates that closer digital parity (including female entrepreneurship online) could boost Africa’s growth significantly (Moodley et al., 2019; IFC, 2021). It aligns with AfCFTA’s vision of integrated trade: a truly digital free trade zone would multiply markets for caregivers who sell handcrafts or services online. But realizing DFE at scale requires policy action, as we discuss next.

Policy and Practice Implications: the next section answers Research Question 3 by mapping every policy lever and platform feature to the precise barrier identified in § 4.2, thereby showing the pathway from isolated DFE successes to broad-based, gender-inclusive growth.

4.4. From Levers to Outcomes: A Policy-Design Map

Integrate Digital Skills & Care Support → AfCFTA Digital-Trade Article 33 + Rwanda DAP: Article 33 of the AfCFTA Digital-Trade Protocol obliges State Parties to “develop and implement digital-skills programmes, with special focus on women and youth” (AfCFTA, 2024). Rwanda’s national Digital Ambassadors Programme (DAP) commits to training five million citizens in basic e-commerce skills and explicitly prioritises rural women (MINICT, 2025). Embedding subsidised crèche services within each DAP training hub would satisfy Article 33 and erase the care-time penalty diagnosed in § 4.2—thereby operationalising Lever 1.

Improve Data and Monitoring → AfCFTA Digital-Trade Article 30(6) + Kenya Digital-Economy Blueprint: Article 30(6) requires Parties to “share methods and procedures for developing data sets and analysing participation in digital trade” (AfCFTA, 2024). Kenya’s 2019 Digital-Economy Blueprint identifies a dedicated “Data & Innovation” pillar that mandates an open, sex-disaggregated analytics layer for all ICT programmes (Smart Africa, 2019). Harmonising the Blueprint’s indicators with Article 30 reporting templates turns Lever 2—from abstract monitoring to a continent-wide, gender-visible scorecard.

Enhance Digital Infrastructure with Gender Focus → AfCFTA Digital-Trade Article 30(3) & 36 + Nigeria National Broadband Plan: Article 30(3) enshrines “provision of Internet that is accessible, affordable, safe and reliable,” while Article 36 encourages tariff-free ICT inputs and universal-service funds ((AfCFTA, 2024). Nigeria’s National Broadband Plan 2020-2025 sets a 70 % penetration target and 10 Mbps rural-speed floor, explicitly naming women’s digital exclusion as a policy risk (NCC, 2024). Routing Article 36-triggered universal-service levies into Nigeria’s rural-tower roll-out (or its Rwandan equivalents) closes the affordability gap highlighted in Lever 3.

Promote Women-Friendly E-Commerce Policies → AfCFTA Digital-Trade Article 31 + Women & Youth Protocol Article 11: Article 31 directs Parties to “facilitate access to affordable financial instruments for MSMEs,” and the Women & Youth Protocol’s Article 11 extends the same duty to women-owned firms (AfCFTA, 2024). Translating Article 31’s language verbatim into Rwanda’s forthcoming E-Commerce Implementation Road-map would graft a binding gender-finance clause onto domestic law—neutralising the legal/credit bias flagged by Lever 4. Early implementation tracking suggests only 6 of 13 surveyed States have yet integrated gender-responsive finance targets into their AfCFTA road-maps (AfCFTA Secretariat, 2025).

Forge Public-Private Partnerships → AfCFTA Digital-Trade Article 32(4) + Rwandan Kasha SeriesB precedent: Article 32(4) calls for “public and private-sector partnerships to support digital innovation and entrepreneurship”(AfCFTA, 2024). The Knife Capital-led Series B investment in Kasha already models such PPP gains at firm level; formalising AfCFTA-aligned PPP compacts for vendor-training consortia and last-mile logistics networks would scale the trust-and-reach objectives embodied in Lever 5.

Account for Care in Formal Support → Women & Youth Protocol Article 8(c) + Rwanda NECDP Strategic Plan: Article 8(c) obliges States to “promote quality education and information-awareness

programmes” that enable women to trade across borders (African Union, 2025). Rwanda’s National Early Childhood Development Programme Strategic Plan 2018-2024 embeds community-based childcare centres within its social-protection pillar (NECDP, 2018). Coupling AfCFTA-funded childcare vouchers with these centres converts Lever 6’s call for time-relief into a measurable, budget-line reality—closing the flexibility loop identified by Digitally Flexible Entrepreneurship.

To translate DFE from concept to reality, coordinated policy and programmatic interventions are needed at multiple levels:

Integrate Digital Skills & Care Support (bridges digital-literacy gap + childcare deficit): Government and NGO programs should bundle digital entrepreneurship training with caregiving resources. For example, a “digital incubator” for women might offer on-site childcare during classes on e-commerce marketing. The Women in Business Initiative in Rwanda (2017-2023) moved in this direction by offering ICT and business coaching specifically to women entrepreneurs (Muhammed, 2025). Donors and platforms should replicate such models (e.g. SheTrades’s training modules enriched with care-time management tips).

Improve Data and Monitoring (closes gender-invisible information blind-spots): Platforms and governments should collect sex-disaggregated data on e-commerce participation and digital tool usage. As global policy action #7 urges, sex-disaggregated data (on users, payments, training uptake) will illuminate gaps (UNCDF, 2021). For instance, Jumia could report the share of active women vendors and their growth over time, enabling targeted interventions. National statistics offices should include questions on digital work in time-use surveys, to quantify how much time women save (or lack) with online businesses.

Enhance Digital Infrastructure with Gender Focus (cheapens connectivity + overcomes rural access constraint): Regulators should ensure affordable internet and mobile connectivity in rural areas. Subsidies or public investments (inspired by e.g. India’s digital village programs) should prioritize regions where women’s internet access is lowest. Simultaneously, mobile money platforms must be designed with women’s needs: lower KYC requirements for small transactions, women-focused agent networks, and strong fraud protection. The Gates Foundation notes that easing ID requirements (no-KYC accounts) can boost women’s financial inclusion, but they must be paired with safe usage campaigns (Ericsson, 2023).

Promote Women-Friendly E-Commerce Policies (removes legal omissions + financing bias): Trade and SME policies should explicitly mention women and care. For example, AfCFTA member states negotiating the Digital Trade Protocol can include chapters on supporting women sellers (as UN Women advocates) (UN Women, 2022). Domestic e-commerce policies should set targets (e.g. % of digital MSME grants to women, like some countries do for tech VC). The African Development Bank and UN Women’s “Digital Inclusion Funds” could provide co-financing for women-led digital startups.

Public-Private Partnerships (scales trust-building resources + market reach): Collaboration with the private sector is vital. Large e-commerce players (like Jumia, Kilimall) and fintech firms should adapt services for women entrepreneurs. This might include women-only seller networks, mentorship by established female founders, and flexible payment terms (e.g. microcredit via mobile for buying inventory). TechCabal reports that Kasha’s success attracted strategic investment (Phillips Ventures, etc.), illustrating the leverage of mixed funding. Governments could incentivize platforms to prioritize women’s inclusion, for example through preferential procurement of women-owned sellers in public tenders or recognition programs for inclusive platforms.

Account for Care in Formal Support (offsets unpaid-care time poverty). Financial regulators and employers should recognize unpaid care as an economic good. Central banks could encourage banks to offer time-saving services for women (e.g. banking apps with reminders timed around typical meal/prep times). Similarly, labor policies might extend social benefits to self-employed caregivers (as Rwanda’s tea sector experiments show [Muhammed, 2025]). The Senegal “3R” program (Muhammed, 2025) provides a model: by funding rural childcare centers and clean water, women’s work time increases. African governments could emulate this by allocating SME support funds to community childcare co-ops near digital hubs.

Each recommendation above can be linked to existing initiatives or literature. For example, the IFC and UN Women both advocate targeting e-commerce training to women (IFC, 2021; Muhammed, 2025); the Better Than Cash Alliance (UN SG taskforce) emphasizes digitizing social benefits to reduce gender gaps (UNCDF, 2021). Our suggestions aim to fill the “policy gaps” noted in the literature: while many African countries have national digital economy strategies, few explicitly connect them to women’s care burdens (Muhammed, 2025). By contrast, the AfCFTA’s Protocol on Women and Youth in Trade (2019) calls for skill-building for female entrepreneurs – a nod toward inclusive digital trade that still needs implementation support.

Macro-economic upside. From a continental vantage-point, the dividend of gender-parity in online sales is sizable. IFC modelling shows that if women vendors matched men’s average turnover on Africa’s major platforms, the e-commerce market would realise an extra US \$15 billion in gross merchandise value by 2030. Ethiopia’s recent experience illustrates the labour stakes: World Bank monitoring of the *Digital Foundations Project* finds that the digital-firm ecosystem is on track to generate about 24 000 direct ICT jobs during the 2020 – 2024 implementation window, with a further 242 000 indirect positions expected by 2025. Applying that conservative 1:10 direct-to-indirect ratio at continent scale suggests that closing the gender sales gap could unlock well over a quarter-million additional jobs across logistics, fintech and support services—roles that dovetail with the care-compatible work patterns highlighted in this study. The latest *World Bank Digital Economy Jobs Outlook 2025* projects a continent-wide digital-commerce labour demand of 3.2 million by 2030, with womenable micro-enterprises accounting for nearly one-third of that expansion (World Bank, 2025).

CONCLUSION

Digital platforms hold great promise for expanding flexible growth pathways for African women entrepreneurs, but realizing this promise demands intentional integration of care-economy concerns into the digital economy. Our study’s concept of *Digitally Flexible Entrepreneurship* captures how e-commerce can allow women to schedule work around caregiving, reduce costs of market entry, and reach new buyers from home. It illuminates a virtuous cycle: as women succeed online, they reinvest income in their families (reinforcing the care economy), and their example can shift norms about women as tech-savvy business leaders. The case studies of Olado, Kasha, HeHe (and Ki-Pepeo) show that women-run e-commerce ventures can achieve scale and impact when underlying constraints are addressed. For instance, raising US \$21 million in Series B funding for Kasha or the Rwandan MSME program linking women vendors to Olado (UNCDF, 2021) demonstrate what is possible with targeted support.

Yet significant challenges remain, including the digital gender gap and entrenched norms. Our findings suggest that simply growing internet access is not enough; Africa must explicitly design its digital economy for the care context. This requires cross-sectoral policies that weave together the AfCFTA digital trade vision (ITC, 2025) with gender equality goals. For research, it means studying how unpaid care can be quantified as “economic opportunity cost” in digital entrepreneurship models. For policymakers, it means investing in female digital literacy and childcare solutions as part of e-commerce strategy.

Recommendations (Actionable Set): We propose the following to stakeholders in government, business and civil society:

- (i). Develop “Care-Responsive” Digital Programs:** Fund and scale initiatives that combine ecommerce training with childcare provision (e.g. local women’s hubs offering daycare and WiFi).
- (ii). Collect Disaggregated Data:** Mandate digital platforms and statistical offices to report women’s participation (users, vendors, digital payments) to track progress against targets.
- (iii). Incentivize Women-Targeted Fintech:** Encourage banks and mobile money operators to create women-friendly products (e.g. small loans via USSD, savings accounts without collateral).

(iv). Include Gender in AfCFTA/Trade Protocols: Ensure national implementation of AfCFTA's digital and women/youth protocols includes consultations with women entrepreneurs.

(v). Engage Private Sector: Partner with major e-commerce companies to recruit and mentor women sellers; offer tax breaks for platforms that exceed women's seller quotas.

(vi). Invest in Care Infrastructure: Use a portion of digital economy funds to build community childcare, clean water, and electricity – essential enablers of women's time.

Foresight (10-Year Projections): Looking ahead to 2035, the trajectory of DFE in Africa could be transformative if trends continue. On the optimistic path, digital infrastructure expands (5G and satellite internet reach rural areas) and digital literacy training becomes mainstream in schools and community centers. Genderfocused fintech matures, enabling women-owned microenterprises to tap savings and credit rapidly. Under such conditions, the e-commerce gender gap could shrink substantially: an IFC projection suggests closing the sales gap would cumulatively add ~\$14–15 billion by 2030 (IFC, 2021). By 2035, e-marketplaces may routinely feature mobile-based micro-retail stalls manned by mother-entrepreneurs, supported by drone or automated delivery in some regions. Advances in AI could automate logistics or customer service for small sellers, further reducing time costs. Policymakers may have institutionalized a “care account” metric in economic planning, following the example of West African time-use surveys (Muhammed, 2025), leading to regular government subsidization of women's digital training.

However, risks loom: if current inertia persists, time poverty could worsen with new care demands (aging populations) and gender norms might limit women's tech adoption. Our proposed concept and framework suggest specific research agendas: for example, scholars should study how *altruistic* digital platforms (e.g. cooperatives or social enterprises like Ki-Pepeo) fare under different policy regimes, and how caregiving time reallocation affects female-led SME growth rates. In policy terms, a decade from now we should see whether AfCFTA-enabled cross-border e-commerce is genuinely accessible to women, and if that has translated into formal jobs and reduced care burdens.

Limitations: This article is grounded in a rigorously screened corpus of secondary literature and publicly available case evidence. Such reliance, however, entails two intertwined constraints.

First, the digital entrepreneurship scholarship available for synthesis is disproportionately drawn from high-profile, wellcapitalised platforms, raising the possibility of publication bias that may overstate scalability while muting failure narratives (Egger, Davey Smith, Schneider, & Minder, 1997).

Second, the majority of extant studies—and the datasets we interrogate—remain cross-sectional; few track the longitudinal re-allocation of women's time after adopting e-commerce, limiting causal inference about enduring flexibility gains (Bowen, 2009). We attenuated these blind-spots by systematic triangulation across academic, policy, and grey sources (see § 3.1) and by reading the evidence through a critical-realist lens that foregrounds both observable events and the deeper structures that condition them. This reflexive stance treats celebrated success stories as *tendencies* rather than deterministic outcomes, allowing counter-evidence to surface and preserving explanatory depth without lapsing into technophilia.

In closing, the intersection of e-commerce and the care economy represents a fertile frontier. By embracing *Digitally Flexible Entrepreneurship* as both a theory and a goal, Africa can unlock a wave of womenled innovation that grows markets while advancing gender equity. The digital age offers the tools; our recommendations outline the path. If African nations pursue them, we could witness a new inclusive growth paradigm – one where women are not forced to choose between business and family, but can do both.

Ethics Statement: This article is based solely on previously published, secondary sources; consequently, no human-participant or animal research was undertaken and formal ethics approval was not required.

Conflict of Interest: The author reports no conflicts of interest in relation to the research, authorship, or publication of this study.

Data Availability: All data analysed during the study are contained within the manuscript. Any additional clarification needed to facilitate replication can be obtained from the corresponding author upon reasonable request.

Funding: The study was carried out with the author's own effort and resources and did not receive external funding.

REFERENCES:

1. African Development Bank Group. (2022, December). Implementation progress and results report (IPR): Rwanda Innovation Fund Project – AIF Rwanda (P-RW-G00-001). https://www.afdb.org/sites/default/files/documents/projects-and-operations/rwanda_-_rwanda_innovation_fund_project_-_aif_rwanda_-_p-rw-g00-001_-_ipr_december_2022.pdf
2. African Union. (2025). Protocol on women and youth in trade to the Agreement establishing the African Continental Free Trade Area. https://www.bilaterals.org/IMG/pdf/women_and_youth_in_trade_protocol.pdf
3. AfCFTA Secretariat. (2024). Draft Protocol on Digital Trade. African Union Commission. <https://www.africatradeoundation.org/post/mauritius-and-the-afcfta-the-digital-trade-protocol-part->
4. AfCFTA Secretariat. (2025). Quarterly implementation brief No. 2: Progress on digital-trade and gender provisions. African Union Commission. <https://afcfta.au/int/implementation-brief-2>
5. AllAfrica Staff Reporter. (2020, March 20). BK Urumuri's Rwanda-wide search for 25 outstanding women entrepreneurs. AllAfrica. <https://allafrica.com/stories/202003200098.html>
6. Aker, J. C., Boumniel, R., McClelland, A., & Tierney, N. (2016). Payment mechanisms and antipoverty programs: Evidence from a mobile money cash transfer experiment in Niger. *Economic Development and Cultural Change*, 65(1), 1–37. <https://doi.org/10.1086/687578>
7. Archer, M. S. (1995). *Realist social theory: The morphogenetic approach*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511557675>
8. Bhaskar, R. (1979). *The possibility of naturalism: A philosophical critique of the contemporary human sciences* (2nd ed.). Routledge. <https://philpapers.org/rec/BHATPO>
9. Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27–40. <https://doi.org/10.3316/QRJ0902027>
10. Cherie Blair Foundation for Women, & Intuit QuickBooks. (2025). Empowered or undermined? Women entrepreneurs and the digital economy. <https://cherieblairfoundation.org/wp-content/uploads/2025/03/Empowered-or-Undermined-WomenEntrepreneurs-Digital-Economy.pdf>
11. Crenshaw, K. W. (1991). Mapping the margins: Intersectionality, identity politics, and violence against women of color. *Stanford Law Review*, 43(6), 1241–1299. <https://doi.org/10.2307/1229039>
12. Critical Appraisal Skills Programme [CASP]. (2018). CASP checklists. <https://casp-uk.net/casp-toolschecklists/>
13. Ecofin Agency. (2024, October 23). Africa's e-commerce market expected to double in five years (Report). <https://www.ecofinagency.com/homepage/2310-46060-africa-s-e-commerce-market-expected-to-double-in-five-years-report>
14. Egger, M., Davey Smith, G., Schneider, M., & Minder, C. (1997). Bias in meta-analysis detected by a simple, graphical test. *BMJ*, 315(7109), 629–634. <https://doi.org/10.1136/bmj.315.7109.629>
15. Ericsson. (2023, March). Leveraging mobile money to drive financial inclusion of women. <https://www.ericsson.com/en/blog/2023/3/leveraging-mobile-money-to-drive-financial-inclusion-of-women>
16. Femtech Insider. (2023, July 21). Kasha adds \$21M in Series B funding to scale its women's health platform in Africa. <https://femtechinsider.com/kasha-series-b/>
17. Folbre, N. (2006). Measuring care: Gender, empowerment, and the care economy. *Journal of Human Development*, 7(2), 183–199. <https://doi.org/10.1080/14649880600768512>
18. GSMA. (2025). The mobile gender gap report 2025. GSM Association. <https://www.gsma.com/r/wp-content/uploads/2025/06/The-Mobile-Gender-Gap-Report-2025.pdf>
19. Himmelweit, S. (2007). The prospects for caring: Economic theory and policy analysis. *Cambridge Journal of Economics*, 31(4), 581–599. <https://doi.org/10.1093/cje/bem011>

20. International Finance Corporation. (2021). Women and e-commerce in Africa. <https://www.ifc.org/content/dam/ifc/doc/mgrt/202105-digital2equal-women-and-e-commerce-africa.pdf>
21. International Institute for Sustainable Development [IISD]. (2024). The AfCFTA Digital Trade Protocol—opportunities and challenges. <https://www.iisd.org/articles/policy-analysis/afcfta-digital-protocol>
22. International Telecommunication Union. (2024, November 10). The gender digital divide. <https://www.itu.int/itu-d/reports/statistics/2024/11/10/ff24-the-gender-digital-divide>
23. International Trade Centre [ITC]. (2025, June 3). Navigating Africa's digital trade with confidence. <https://www.intracen.org/news-and-events/news/navigating-africas-digital-trade-with-confidence>
24. Iribagiza, C. (2025, June 18). Clarisse Iribagiza [Wikipedia entry]. https://en.wikipedia.org/wiki/Clarisse_Iribagiza
25. Kagina, A. (2023, December 19). Youth, women businesses to benefit from Inkomoko's Rwf189 billion investment. The New Times (Rwanda). <https://www.newtimes.co.rw/article/13219/news/featured/featured-youth-women-businesses-to-benefit-from-inkomoko-rwf189-billion-investment>
26. Kene-Okafor, T. (2023, July 20). Kasha raises \$21M Series B led by Knife Capital to expand health access platform across Africa. TechCrunch. <https://techcrunch.com/2023/07/20/kasha-raises-21m-series-b-ledby-knife-capital-to-expand-health-access-platform-across-africa>
27. Knife Capital. (2023, September 27). Kasha raises \$21M Series B led by Knife Capital to expand health access platform across Africa [News post]. <https://knifecap.com/news/>
28. Naliaka, L. (2025, April 16). The AfCFTA protocol on women and youth in trade – Africa's blueprint for inclusive trade. United Nations Economic Commission for Africa. <https://www.uneca.org/stories/blog-the-afcfta-protocol-on-women-and-youth-in-trade-africa's-blueprint-for-inclusive>
29. National Early Childhood Development Programme [NECDP]. (2018). Strategic plan 2018–2024. Government of Rwanda. https://www.globalfinancingfacility.org/sites/gff_new/files/documents/Rwanda-InvestmentCase.pdf
30. Mastercard Foundation & The Resolution Project. (2019, August 27). Next-generation African leaders announced as winners of the Resolution Social Venture Challenge [Press release]. <https://resolution.dev.staxtar.com/next-generation-african-leaders-announced-as-winners-of-the-resolution-social-venture-challenge>
31. McKinsey Global Institute. (2019, November). The power of parity: Advancing women's equality in Africa. <https://www.mckinsey.com/~media/mckinsey/featured%20insights/gender%20equality/the%20power%20of%20parity%20advancing%20womens%20equality%20in%20africa/mgi-the-power-of-parity-advancing-womens-equality-in-africa.pdf>
32. Ministry of ICT & Innovation. (2025). Digital Ambassadors Programme concept note. Government of Rwanda. <https://www.minict.gov.rw/news-detail/digital-ambassador-programme-to-connect-5-million-rwandans>
33. Moodley, L., Kuyoro, M., Holt, T., Leke, A., Madgavkar, A., Krishnan, M., & Akintayo, F. (2019). The power of parity: Advancing women's equality in Africa. McKinsey Global Institute. <https://mckinsey.com>
34. Muhammed, J. (2025, April 30). Africa's unseen workforce: Women and the unpaid care economy. African Leadership Magazine. <https://www.africanleadershipmagazine.co.uk/africas-unseen-workforce-women-and-the-unpaid-care-economy>
35. Nussbaum, M. (2011). Creating capabilities: The human development approach. Harvard University Press. <https://archive.org/details/creatingcapabili0000nuss>
36. National Communications Commission [NCC]. (2024). Baseline study on level of digital skills in Nigeria (Women, youth, and the physically challenged). <https://ncc.gov.ng/sites/default/files/2024-11/Baseline-Study-on-Level-of-Digital-Skills-on-Nigeria.pdf>
37. Nuwamanya, E. (2023, March 19). 'Women In Business Initiative' turning business ideas into reality. KT Press. <https://www.ktpress.rw/2023/03/women-in-business-initiative-turning-business-ideas-into-reality>
38. Page, M. J., McKenzie, J. E., Bossuyt, P. M., et al. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *BMJ*, 372, n71. <https://doi.org/10.1136/bmj.n71>

39. Reuters. (2025, April 15). Tech firms are failing women entrepreneurs: Here's how to make them feel safer online. <https://www.reuters.com/sustainability/society-equity/tech-firms-are-failing-women-entrepreneurs-heres-how-make-them-feel-safer-online-2025-04-15>
40. Ruzibuka, P. (2024, July 13). Priscillah Ruzibuka [Wikipedia entry]. https://en.wikipedia.org/wiki/Priscillah_Ruzibuka
41. Sen, A. (1999). Development as freedom. Knopf. <https://archive.org/details/amartya-kumar-sen-development-as-freedom>
42. Smart Africa. (2019). Kenya digital economy. https://smartafrica.org/wp-content/uploads/2021/08/Kenya_Digital_Economy_2019.pdf
43. Tutu, D. (1999). No future without forgiveness. Doubleday. <https://ia902200.us.archive.org/9/items/no-future-without-forgiveness-desmondututu/No%20Future%20Without%20Forgiveness.pdf>
44. United Nations Capital Development Fund. (2021, March 15). Celebrating leading women in Rwanda's e-commerce space. <https://www.uncdf.org/article/6585/celebrating-leading-women-in-rwandas-ecommerce-space>
45. United Nations Conference on Trade and Development [UNCTD]. (2020, July 6). Equipping East African women digital entrepreneurs with skills to thrive. <https://unctad.org/news/equipping-east-african-women-digital-entrepreneurs-skills-thrive>
46. UN Women. (2022). Engine of trade in Africa: Amplifying the voices of women across Africa on how to make the AfCFTA Protocol on Women and Youth in Trade work for development. <https://africa.unwomen.org/sites/default/files/2022-10/Engine%20of%20Trade%20in%20Africa.pdf>
47. UN Women. (2023a). Transformative approaches to recognize, reduce and redistribute unpaid care work in women's economic empowerment: Good practices, lessons learned and recommendations from Rwanda, Senegal, and South Africa. <https://www.unwomen.org/sites/default/files/2024-12/transformative-approaches-to-recognize-reduce-and-redistribute-unpaid-care-work-in-womens-economic-empowerment-en.pdf>
48. UN Women. (2023b). Measuring and valuing unpaid care and domestic work in Mali. <https://africa.unwomen.org/en/digital-library/publications/2023/06/measuring-and-valuing-unpaid-care-and-domestic-work-in-mali>
49. World Bank. (2021, March 24). Ethiopia Digital Foundations Project (Project Appraisal Document No. PAD3617). Washington, DC: Author. <https://documents1.worldbank.org/curated/en/421681619316030132/pdf/Ethiopia-Ethiopia-Digital-Foundations-Project.pdf>
50. World Bank. (2025). Digital economy jobs outlook 2025: Trends and policy implications for Africa (Report No. DEJ-2025). <https://documents.worldbank.org/en/DEJ2025>
51. Zuboff, S. (2019). The age of surveillance capitalism: The fight for a human future at the new frontier of power. PublicAffairs. Social Forces, Volume 98, Issue 2, December 2019, Pages 1–4 <https://doi.org/10.1093/sf/soz037>