From Traditional Skills to Digital Enterprises: Technology Adoption among Women-Owned Food, Fashion and Interior-Decoration Businesses in Sierra Leone

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Abstract: Women-owned food, fashion and interior-decoration enterprises connect practical skill, cultural expression, household welfare and local employment in Sierra Leone. Their transition into digitally enabled businesses, however, is uneven. This critical narrative review examines how mobile money, social-media marketing, digital content, design applications, online customer communication, inventory tools and platform-based learning can expand the capabilities of women entrepreneurs in these sectors. It synthesises recent Sierra Leonean policy and programme evidence with wider scholarship on women's digital inclusion and small-enterprise transformation. The review argues that technology adoption is not a single decision to obtain a smartphone or open a social-media account. It is a staged process involving access, operational use, business integration and strategic control. Food enterprises can use digital tools for orders, costing, payments and safety information; fashion businesses can strengthen visual merchandising, design, customer measurement and supplier coordination; and interior-decoration firms can use digital portfolios, visualisation and project-management tools. Yet device and data costs, unreliable electricity and connectivity, limited working capital, weak digital and financial literacy, fraud, online harassment, informality and unpaid care responsibilities constrain adoption. Evidence from Sierra Leone's women-focused creative and financial-inclusion programmes suggests that adoption is stronger when practical training is combined with finance, mentorship, registration support, buyer connections and trustworthy payment systems. The article proposes a Gender-Responsive Digital Enterprise Pathway and recommends sector-specific capability development, low-data tools, cybersecurity support, intellectual-property protection and outcome-based evaluation.

Keywords: *Women Entrepreneurs; Digital Enterprise; Food Business; Fashion; Interior Decoration; Mobile Money; Digital Inclusion; Sierra Leone.*

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I. INTRODUCTION

Food production and catering, fashion and textiles, and interior decoration are not marginal domestic activities. They are enterprise fields in which technical skill, aesthetic judgement, customer trust and cultural knowledge are converted into income. Women commonly enter these businesses through apprenticeship, family practice, Home Economics education, informal training or necessity driven self-employment. Digital technology can widen the commercial reach of those skills, but it does not automatically remove the structural constraints surrounding women-owned micro and small enterprises.

Sierra Leone's current digital-development agenda emphasises broadband, digital skills, secure systems and inclusive participation. The Sierra Leone Digital Transformation Project, implemented from 2022 to 2027, is designed to strengthen digital infrastructure and skills, with explicit attention to women and underserved groups (Sierra

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Leone Digital Transformation Project, 2026). At the enterprise level, recent programmes show a similar movement from general digital access towards practical business use. UNCDF-supported initiatives have combined mobile money, digital literacy, agent networks and digital credit, while the World Bank-supported CreatiFi pilot paired digital bootcamps with business management, finance, registration and market connections (UNCDF, 2023; World Bank, 2026).

The central concern is therefore not whether women entrepreneurs use technology, but how deeply it is integrated into the enterprise, whose constraints it resolves, what new risks it creates and whether it produces durable control over customers, finance, knowledge and growth. This article examines those questions across three related but operationally distinct sectors.

➢ *Problem Statement*

Women entrepreneurs may use WhatsApp, Facebook, mobile money or smartphone photography while still relying on memory-based accounts, unstable supplier relationships, insecure payment practices and narrow local markets. Such use creates visibility without necessarily creating productivity or resilience. Available Sierra Leonean evidence also remains fragmented across digital finance, entrepreneurship, agriculture and the creative economy. A cross-sector synthesis is needed to explain the practical adoption pathways for women-owned food, fashion and interior-decoration businesses and to identify the institutional conditions required for technology to improve enterprise performance.

➢ *Purpose and Analytical Questions*

The review analyses the technologies relevant to the three sectors, the factors shaping adoption, the potential enterprise and livelihood outcomes, and the risks that must be governed. It asks: Which digital functions add practical value? Why does adoption remain shallow or uneven? How do sector differences affect technology choice? What support package is more likely to convert traditional skills into sustainable digital enterprises?

II. REVIEW APPROACH

A critical narrative review was used because direct empirical research covering all three sectors in Sierra Leone remains limited. English-language scholarly and institutional material published mainly from 2018 to August 2026 was considered, supplemented by earlier evidence where relevant. Searches combined Sierra Leone, women entrepreneurs, micro and small enterprises, food business, fashion, creative economy, interior design, mobile money, social-media marketing, digital skills, financial inclusion and cybersecurity. Priority was given to government, World Bank, ILO, UNCDF and GSMA materials, together with relevant peer-reviewed literature. Sources were retained when they clarified the national context, a technology-use pathway, a gendered adoption constraint, a sector-specific application or an implementation lesson. The synthesis is interpretive and does not claim exhaustive systematic-review coverage or pooled effects.

III. WOMEN-OWNED ENTERPRISES AT THE INTERSECTION OF SKILL AND INFORMALITY

The three sectors share a dependence on practical expertise, reputation and repeat customers. They also frequently operate at the boundary between household and enterprise. Equipment may be kept at home, relatives may provide unpaid labour, business and household money may be mixed, and production may be interrupted by care responsibilities. These features reduce overheads and make entry possible, but they can obscure profitability, weaken access to finance and make growth difficult to document.

Sierra Leone's digital and entrepreneurial ecosystem mapping found that affordable finance is a major constraint and that personal savings are the dominant source of start-up capital. The same evidence recommends targeted capacity development for women and stronger integration of digital skills into education (UNCDF, 2022). Informality therefore interacts with digital adoption: enterprises with weak records may not qualify for finance, yet digital tools that could improve records require devices, skills, time and trust.

The creative economy offers a particularly important connection between traditional knowledge and enterprise growth. A 2026 World Bank account of Sierra Leone's Creative Economy Diagnostic reports that creative industries contribute an estimated 4.5% of GDP and 10% of formal employment, with fashion and textiles accounting for more than 11,000 formal jobs. The figures demonstrate economic significance, but they also show why digital transformation must extend beyond promotional posts to production systems, intellectual property, payments, compliance and market development (World Bank, 2026).

➢ *Published Quantitative Evidence*

Table 1 consolidates available secondary data relevant to women's digital enterprise development in Sierra Leone. The indicators come from programmes and diagnostics with different populations, locations and reporting periods; they should therefore be interpreted as contextual evidence rather than as a single nationally representative dataset.

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Table 1 Consolidates Available Secondary Data

Evidence area	Published indicator	Year/source	Implication for this review
Creative economy	Estimated 4.5% of GDP and 10% of formal employment	World Bank, 2026	Creative enterprise is economically significant, not merely supplementary household activity
Fashion and textiles	More than 11,000 formal jobs	World Bank, 2026	Fashion provides an established base for digitally enabled production and market expansion
Women-focused creative accelerator	24 women entrepreneurs participated; all businesses became formal; 60% reported new buyer or supplier connections; 30 direct jobs were created during the programme	World Bank, 2026	Digital bootcamps were most effective when combined with registration, finance, management and market links
Featured fashion enterprise	Team increased from 5 to 11 and reported revenue growth of 37% six months after the programme	World Bank, 2026	An illustrative enterprise outcome; it should not be generalised to all participants
Women mobile-money agents	More than 2,000 women agents recruited and trained; women's share of the Orange agent database increased from 4% to 15%	UNCDF, 2023	Women-agent networks can widen access, trust and women's participation in digital finance
Financial and digital literacy	More than 10,000 customers trained; over 500 trainees accessed a digital credit product	UNCDF, 2023	Skills, nearby services and finance operate as a connected adoption package
Entrepreneurial finance	66.5% of mapped businesses relied primarily on personal savings; more than half identified affordable finance as a major growth constraint	UNCDF, 2022	Technology costs compete directly with stock, equipment and household needs
Agency banking and training	Over 220 community agents deployed, including 87 women; 2,080 people trained, including 1,186 women	UNCDF, 2026	Local access points and practical training can support usage beyond account ownership
Mobile-internet gender context	Women in low- and middle-income countries were 12% less likely than men to use mobile internet; 810 million women remained unconnected	GSMA, 2026	Sierra Leonean enterprise interventions operate within a wider gendered access and usage gap

The data point to three recurring conclusions. First, women's enterprise sectors already have measurable economic and employment value. Second, finance and digital capability are interdependent: devices and services cannot be sustained where working capital is weak. Third, programme outcomes improve when digital training is embedded within a broader package of registration, mentorship, financial systems and buyer or supplier connections. The available figures remain programme-based and do not replace a nationally representative survey of women-owned food, fashion and interior-decoration enterprises.

IV. TECHNOLOGY-ADOPTION PATHWAYS

Table 2 Technology-Adoption Pathways

Enterprise Function	Food Businesses	Fashion Businesses	Interior-Decoration Businesses
Customer acquisition	Menus, food images, event packages, location and delivery communication	Digital catalogues, styling content, measurements and custom-order communication	Before-and-after portfolios, mood boards, quotations and client consultations
Production and quality	Costing, recipes, order scheduling, stock and food-safety information	Pattern/design applications, production scheduling, inventory and quality records	Space measurement, layout visualisation, materials lists and work scheduling
Transactions	Mobile money, digital receipts and order confirmation	Deposits, instalments, supplier payments and sales records	Project deposits, staged payments, budgets and expense tracking

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Market relationships	Supplier coordination and delivery platforms	Supplier discovery, collaborations, influencers and distant buyers	Artisan coordination, supplier comparison and project updates
Knowledge development	Videos, short courses and safety guidance	Trend research, digital design tutorials and business learning	Design inspiration, product specification and technical learning

- *Access: Devices, Connectivity and Accounts*

The first stage is reliable access to a personally controlled device, connectivity, charging and secure accounts. Shared phones can expose customer information, payment messages and business photographs. A social-media account managed by another person may create dependence rather than capability. Gender gaps in device ownership and mobile-internet use remain substantial across low- and middle-income countries, especially in sub-Saharan Africa. GSMA's 2026 evidence identifies affordability, skills and safety as persistent barriers, while noting that rural gender gaps are often wider than urban gaps (GSMA, 2026).

- *Operational Use*

Operational adoption occurs when tools reduce the effort or uncertainty of recurring tasks. Examples include confirming orders, receiving deposits, recording expenses, sharing delivery locations, storing customer measurements, preparing materials lists and sending project updates. These activities may appear simple, but they reduce missed information and create records that can support decisions. USSD and mobile money remain important because they work on basic devices and do not require continuous internet access. UNCDF's Sierra Leone programmes show that practical digital-finance training and nearby agents can turn nominal access into regular use (UNCDF, 2023, 2026).

- *Business Integration*

Integration begins when several tools support one connected workflow. A catering enterprise may link a digital order form to costing, payment confirmation, production scheduling and customer follow-up. A fashion business may connect a catalogue to measurements, deposit tracking, production status and collection dates. An interior decorator may connect a digital portfolio to a client brief, quotation, materials budget, supplier coordination and staged payment. Integration produces more value than isolated applications because it improves visibility across the enterprise.

- *Strategic Control*

The highest stage involves using reliable records and digital relationships to shape business direction. Owners can identify profitable products, repeat customers, seasonal demand, stock losses and cash-flow pressure. They can also negotiate with suppliers, document original designs, demonstrate performance to lenders and decide which platform relationships are worth maintaining. Strategic control requires the owner to understand the system and retain access to passwords, data and customer relationships.

V. SECTOR-SPECIFIC TRANSFORMATION

- *Food Enterprises*

Women-owned food businesses range from household processing and street vending to catering, baking and packaged products. Digitalisation can improve order accuracy, menu communication, costing, mobile payment and customer retention. Simple photo standards and consistent product descriptions can strengthen trust. Digital records can help separate household expenditure from business costs and reveal whether high sales actually produce profit.

Food enterprises also face non-negotiable safety responsibilities. Online advice should not replace validated hygiene and preservation guidance. Product images can create demand faster than production systems can manage, increasing the risk of poor temperature control, rushed preparation or unsafe delivery. Digital growth therefore needs to be paired with food-safety training, packaging, water and sanitation, storage and realistic order limits.

- *Fashion and Textile Enterprises*

Fashion is especially suited to visual platforms, but visibility alone can trap enterprises in unpaid enquiries, copying and price competition. Digital catalogues should be organised by product, fabric, size, lead time and price range. Measurement records, order numbers and production status can reduce errors. Design and pattern applications may improve experimentation, while short-form video can communicate workmanship and brand identity.

The CreatiFi accelerator offers a relevant Sierra Leonean illustration. Twenty-four women entrepreneurs received digital bootcamps, business management, financial planning and engagement with financial and telecom providers. The World Bank reported increased formalisation, digital adoption, buyer and supplier connections, and job creation during the programme. One featured fashion enterprise reported stronger inventory and financial systems and business growth after the intervention (World Bank, 2026). The lesson is that digital skills worked as part of a broader enterprise package.

- *Interior-Decoration Enterprises*

Interior-decoration businesses combine aesthetic design with project coordination. Digital portfolios, room photographs, mood boards, measurements and material schedules allow clients to understand proposals before work begins. Messaging tools support approvals and progress updates, while spreadsheets or mobile applications can track

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budgets and staged payments. These functions reduce disputes when scope, materials and payment stages are clearly documented.

The sector also raises privacy and intellectual-property concerns. Images of clients' homes may reveal location, possessions or family information. Photographs should be used only with informed permission, and private project files should not become public marketing content by default. Digital inspiration also makes copying easy; entrepreneurs need basic knowledge of attribution, contracts and protection of original work.

VI. ADOPTION CONSTRAINTS AND RISKS

➢ *Finance and Affordability*

The cost of smartphones, data, power, software subscriptions and replacement devices competes with stock, equipment and household needs. Credit products may be poorly matched to irregular cash flow. UNCDF evidence indicates that finance remains a leading constraint for Sierra Leonean entrepreneurs and that many rely on personal savings or family resources (UNCDF, 2022). Pay-as-you-go devices, savings-linked equipment finance and transparent small-business credit may reduce entry barriers, but repayment obligations must be aligned with business cycles.

➢ *Skills, Time and Confidence*

Training that teaches generic computer use without applying it to orders, costing, portfolios and payments rarely changes enterprise practice. Women also face time poverty from care and household work. Training should therefore be short, practical, repeatable and delivered at accessible times. Peer mentoring and sector-specific examples can reduce fear and provide trusted problem-solving support.

➢ *Safety, Fraud and Online Gendered Harm*

Phishing, payment reversals, impersonation, account takeover, customer harassment and non-consensual image sharing can turn digital visibility into exposure. Sierra Leone's cybersecurity awareness initiatives recognise that online safety for women and girls is central to inclusive participation (Sierra Leone Digital Transformation Project, 2025). Enterprise programmes should include password management, multi-factor authentication, payment verification, evidence preservation, privacy settings and escalation routes.

➢ *Platform Dependence and Data Ownership*

A business that exists only through one social platform is vulnerable to account suspension, algorithm changes and loss of access. Owners should maintain independent customer records, product catalogues and financial records. They should understand who controls the phone number, email address, cloud files and payment account. Digital transformation should increase enterprise control, not transfer it to an intermediary or platform.

➢ *Formalization and Regulation*

Registration can enable contracts, finance and institutional procurement, but compliance costs can discourage microenterprises. Support should bundle registration guidance with records, taxation basics, food and product standards, intellectual property awareness and access to markets. Formalisation without commercial benefit is unlikely to be sustained.

VII. GENDER-RESPONSIVE DIGITAL ENTERPRISE PATHWAY

Table 3 Gender-Responsive Digital Enterprise Pathway

Stage	Enterprise question	Essential support	Evidence of progress
1. Secure access	Can the owner reliably and safely access the necessary device, account, power and connectivity?	Device options, charging, data support, account ownership and cyber-safety	Owner controls accounts and can recover access
2. Task adoption	Does technology solve a recurring business problem?	Sector-based coaching for orders, records, payments, design or portfolios	Regular use in at least two core tasks
3. Workflow integration	Are customer, production and financial activities connected?	Templates, mentoring and simple interoperable tools	Fewer errors, better records and faster fulfilment
4. Market expansion	Does adoption create viable buyers, suppliers or finance?	Buyer links, branding, logistics, finance and compliance support	Repeat customers, new markets and documented revenue
5. Strategic control	Can the owner use data and protect knowledge to direct growth?	Analytics, contracts, IP, privacy, leadership and succession support	Evidence-based decisions and reduced platform dependence

The pathway avoids measuring success by the number of accounts opened or people trained. It treats adoption as cumulative capability. Movement between stages is not automatic: an entrepreneur may market online while lacking secure payment or reliable records. Programmes should diagnose the weakest stage and address it directly.

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VIII. IMPLICATIONS FOR EDUCATION, POLICY AND ENTERPRISE SUPPORT

➢ *Home Economics and Technical Education*

Home Economics programmes should connect food, clothing, textiles and household-space skills with digital costing, content creation, customer management, mobile payment, online safety and enterprise records. Students and community trainees should practise complete workflows rather than isolated software commands. Joint teaching between Home Economics and ICT departments can make digital tools relevant to production realities.

➢ *Financial and Telecom Providers*

Providers should design low-cost business accounts, clear transaction histories, merchant identifiers, fraud-resolution procedures and credit based on transparent criteria. Women-agent networks can improve trust and access. UNCDF reported that a Sierra Leone initiative recruited and trained more than 2,000 women mobile-money agents and expanded women's representation in the agent network (UNCDF, 2023).

➢ *Government and Development Partners*

Public programmes should combine infrastructure and skills with procurement access, standards support, intellectual-property protection and outcome measurement. The national digital-transformation agenda creates an enabling foundation, but enterprise inclusion requires deliberate gender and sector design. The Technology, Innovation and Entrepreneurship Advisory Council can help connect public policy with the practical realities of entrepreneurs, finance providers and training institutions (Ministry of Communication, Technology and Innovation, 2026).

➢ *Incubators and Business Associations*

Support organisations should offer sector-based cohorts, peer networks, short diagnostic clinics and follow-up coaching. Training outcomes should include verified changes in records, security, sales processes and profitability, not attendance certificates alone. Associations can also negotiate group data packages, supplier discounts, equipment finance and shared photography or design facilities.

IX. RESEARCH AGENDA

Future research should establish baseline evidence by sector and location. Mixed-method studies can measure device control, breadth and depth of use, profitability, customer reach, formality, cyber incidents and time savings while explaining why technologies are adopted or abandoned. Longitudinal designs are needed to distinguish temporary online visibility from sustained enterprise improvement. Research should also examine disability, age, rural location, household bargaining, unpaid care, platform dependence and the ownership of designs and customer data.

X. CONCLUSION

The movement from traditional skill to digital enterprise is not a rejection of practical or cultural knowledge. It is an effort to give that knowledge stronger systems for reaching customers, controlling money, documenting quality and planning growth. Women-owned food, fashion and interior-decoration businesses can benefit from mobile money, digital records, visual marketing, design tools and online learning, but adoption will remain shallow where access, finance, safety, time and institutional support are weak.

Sierra Leone's emerging experience shows that effective digital-enterprise support is bundled: practical skills are combined with finance, mentorship, registration, market links and secure payment infrastructure. The proposed pathway places women's control at the centre. A digitally transformed enterprise is not simply visible online; it is safer, better organised, more connected to viable markets and more capable of converting skill into sustainable livelihood.

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