



Business Plan for the SEDI-E Smart Digital Weighing Scale

SEDI-ESmartScale



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1. Executive Summary

The Smart Digital Weighing Scale (SmartScale) is an IoT-enabled, affordable, and locally manufacturable weighing device designed to improve accuracy, transparency, and digital inclusion in Nigeria's retail, agriculture, and logistics sectors. Unlike costly imported alternatives, SmartScale provides Class III-standard precision, dual-facing displays, offline-first IoT connectivity, and battery-backed resilience, making it ideal for SMEs, informal traders, and rural markets.

The business aims to commercialize SmartScale through local manufacturing, distribution partnerships, and service-based offerings (cloud analytics, calibration, maintenance). By targeting Nigeria's 39 million SMEs and tapping into the \$125+ billion retail market, SmartScale will scale nationally and regionally within ECOWAS, aligning with NASENI's industrialization objectives.

2. Business Description

- Business Name: SmartScale Technologies (SEDI-E innovation).
- Product: Smart Digital Weighing Scale (SmartScale).
- Sector: Retail technology, IoT solutions, SME empowerment.
- Value Proposition: Affordable, accurate, and connected weighing solution tailored to Nigeria's infrastructural realities, fostering trade fairness and digital adoption.

3. Market Analysis

3.1. Industry Overview

- ◆ Nigeria's retail sector is valued at ~\$125 billion annually (BusinessDay, 2021).
- ◆ Food & grocery retail alone was worth \$45.7 billion in 2020 (Guardian Nigeria/Market Research, 2020).
- ◆ Informal trade accounts for over 50% of GDP and depends heavily on weight-based transactions.

3.2. Target Market

- a) Informal Traders & SMEs: Market vendors, small retailers.
- b) Agriculture: Farmers, cooperatives, agro-processors.
- c) Logistics & Warehousing: Small-scale distributors, transport firms.

3.3. Market Gaps

- Imported smart scales are expensive, lack local support, and are not optimized for grid-unstable environments.
- Current digital scales lack IoT integration, transparency features, or durability.

4. Competitive Analysis

Feature	Imported Smart Scales	Local Basic Digital Scales	SmartScale (Proposed)
Price	High (\$120–\$250)	Low (\$40–\$80)	Moderate(\$75 – \$120)
Accuracy	High	Moderate	High ($\pm 0.05\%$ FS)
IoT Connectivity	Yes	No	Yes (offline-first)
Transparency (Dual Display)	Rare	No	Yes
Local Support	Limited	Yes	Yes
Battery Resilience	Limited	Limited	Yes (6+ hours backup)

5. Business Model

Revenue Streams:

1. Direct Product Sales – Scales sold to traders, SMEs, and cooperatives.
2. Subscription Services – Optional cloud dashboard (monthly/annual).
3. After-Sales Services – Calibration, firmware updates, maintenance contracts.
4. Partnership Sales – Bulk orders for government, NGOs, and cooperative programs.

Pricing Strategy:

- Unit Price: ₦120,000 - ₦170,000 (\$75 - \$105), ~50% cheaper than imported smart scales.
- Service Subscription: ₦6,000/month (\$3 - \$4) for analytics/cloud features.

6. Marketing and Sales Strategy

- Awareness Campaigns: Market demonstrations in Lagos, Enugu, Abuja.
- Distribution Channels: Direct sales, e-commerce (Jumia, Konga), cooperative networks.
- Partnerships: MSME agencies, agricultural cooperatives, fintech/payment

providers.

- Brand Positioning: Affordable Nigerian innovation for fair trade and digital trust.

7. Operations Plan

- Phase 1 (Year 1): Prototype refinement, certification (Weights & Measures, SONCAP), pilot deployment (50 - 200 units).
- Phase 2 (Years 2 - 3): Scale manufacturing to 500 - 1,000 units/quarter, expand into ECOWAS region.
- Phase 3 (Years 4 - 5): Launch advanced models (SmartScale Pro), integrate blockchain /AI features, target international markets.

Production Model:

- Local PCB fabrication and assembly.
- Injection-molded ABS casings for durability.
- Decentralized servicing network for after-sales support.

8. Management and Organization

- SEDI-E R&D Team: Product design, prototyping, and testing.
- Business Development Lead: Market strategy and partnerships.
- Production Manager: Oversees local manufacturing and quality assurance.
- Technical Support Team: After-sales service, calibration, customer training.

9. Financial Plan

Projected Costs (Year 1):

- R&D Refinement: ₦30 million
- Certification & Compliance: ₦5 million
- Initial Production (200 units): ₦30 million
- Marketing & Distribution: ₦10 million
- Total Year 1 Investment: ₦75 million (~\$47,000)

Revenue Projections:

- Year 1: 200 units × ₦145,000 = ₦29 million (~\$18,000)
- Year 2: 2,000 units = ₦290 million (~\$180,000)
- Year 3: 5,000 units = ₦725 million (~\$453,000)

Break-even expected in Year 2, with profitability from Year 3 onward.

10. Risk Analysis

- Technical Risks: Component supply chain challenges → mitigated through local sourcing.
- Market Risks: Resistance from traders used to manual systems → addressed via awareness campaigns.
- Financial Risks: Initial funding shortfalls → mitigated by phased scaling and grant support.
- Regulatory Risks: Delays in certification → mitigated by early engagement with SON and Weights & Measures.

11. Conclusion

The Smart Digital Weighing Scale represents a transformative Nigerian innovation that combines affordability, accuracy, and IoT integration to empower SMEs and informal traders. With a clear commercialization pathway, strong market demand, and alignment with Nigeria's industrialization goals, SmartScale is positioned to become a leading homegrown technology solution for transparent trade and digital inclusion.