# B-Bank Insight: A Centralized, AI-Powered Creditworthiness and Risk Scoring System for Informal Economies in Lesotho

## Introduction

Lesotho's banking sector plays a pivotal role in the nation's economic development. Despite advances in financial services, a significant portion of the population remains underbanked or excluded from formal financial ecosystems. According to the Central Bank of Lesotho (2023), more than 60% of citizens either do not have access to bank accounts or rely solely on informal financial systems such as mobile money platforms, community lending, and savings cooperatives. This situation limits their ability to access formal credit, savings products, and insurance services, creating a cycle of economic vulnerability. This project proposes the development of "B-Bank Insight," a centralized, AI-powered platform tailored to Lesotho's banking needs, aimed at bridging the gap between traditional banking infrastructure and the realities of informal financial activity. The platform will address the unique challenges of risk evaluation, customer profiling, and fraud detection, thereby fostering financial inclusion and strengthening the national financial system.

## Problem Statement

Lesotho’s financial institutions face a range of systemic issues in evaluating the creditworthiness of individuals and small businesses, particularly those operating outside the formal economy. Most citizens lack formal financial records or stable income documentation, rendering conventional credit assessment models ineffective. Customer information is fragmented across multiple banks, MFIs, and SACCOs, Mpesa, EcoCash resulting in incomplete financial profiles and redundancy in data collection. Additionally, the lack of a shared fraud detection and credit evaluation platform leads to inefficiencies, higher default rates, and inadequate risk mitigation. Rigid eligibility criteria and reliance on traditional credit scoring methods systematically exclude many viable borrowers, stifling innovation and entrepreneurship in informal and rural sectors.

## Motivation

This project is motivated by the need to create an inclusive, data-driven financial system that reflects the socio-economic landscape of Lesotho. While mobile money services such as M-Pesa and Ecocash have made digital transactions accessible, these platforms are not currently leveraged by banks for credit assessments. Community-based financial behaviors such as participation in stokvels, utility bill payments, and mobile money transaction histories are untapped data sources that offer valuable insights. The Central Bank of Lesotho’s Financial Sector Development Strategy (2021) emphasizes financial innovation, data integration, and consumer protection—goals aligned with this project.

## Proposed Solution

B-Bank Insight is a national, centralized platform that aggregates and analyzes structured and unstructured financial data using AI. Key features include:

1. Alternative Credit Scoring Engine: AI models assess creditworthiness using mobile money patterns, utility bill payments, SACCO savings, and behavioral data.

2. Unified Financial Profile System (UFPS): Each citizen receives a unique B-Bank ID linking all financial data.

3. Fraud Detection: Real-time detection of anomalies and a shared national watch list.

4. Loan Decision API: Provides real-time credit assessments to banks.

5. Inclusion Dashboard: Helps regulators track credit access and system-wide financial trends.

## Tools and Technologies to Use

Backend: Python (Django/FastAPI)

Frontend: React.js or Angular

Databases: PostgreSQL, MongoDB

ML: TensorFlow, Scikit-learn, PyCaret

APIs: RESTful APIs (JSON/XML)

Security: OAuth 2.0, RBAC, AES-256

Cloud: AWS or Azure

## Expected Outcomes

1. Broader credit access for underbanked populations

2. Efficient and fair credit scoring

3. Reduced fraud and redundancy

4. Improved policymaking tools

5. Strengthened trust in financial institutions

## References

1. Central Bank of Lesotho. (2023). Annual Report. https://www.centralbank.org.ls

2. Central Bank of Lesotho. (2021). Financial Sector Development Strategy. https://www.centralbank.org.ls

3. GSMA. (2022). State of the Mobile Money Industry in Sub-Saharan Africa. https://www.gsma.com

4. World Bank. (2020). Lesotho Financial Inclusion Data. https://data.worldbank.org

5. M-Pesa. (2023). Overview of Mobile Money Use. https://www.safaricom.co.ke

6. OECD. (2021). AI in Financial Services. <https://www.oecd.org>

How is a credit score or worthiness of a person calculated?

Which features are used to calculate the credit score of a person?

Are the standard procedures or majors used to calculate a person’s risk score and analysis?

Is there something in place used to calculate the risk analysis or risk score of a person? Something like an app or a program used or an AI model used?

How applicable is the project and do you think it can be applicable or used by the banks and other financial institutes?