**Detailed Mobile Money Functional & Technical Requirement Specifications**

**Document Version:** v1.0  
**Date:** [Insert Date]  
**Prepared By:** Business Analyst + Technical Architect

**2.1 Functional Requirements**

**FR-001: User Onboarding & KYC**

* Users must be able to register via USSD/Portal and provide national ID.
* Integration with eCitizen/National ID API for real-time verification.

**FR-002: Wallet Top-Up & Withdrawal**

* Customers must be able to top-up mobile money via bank and withdraw via agents.
* Real-time notification to ERP and balance sync.

**FR-003: Airtime & Bill Payment**

* Support purchase of airtime, utilities, and subscription services.
* Auto-generated receipts pushed to user wallet and CRM.

**FR-004: Transaction History & Reporting**

* Customers can view the last 30 transactions.
* Admins can generate audit reports for CBK, KRA, and internal analytics.

**FR-005: Agent Management**

* Register, suspend, or audit agents via back-office dashboard.
* Location-based monitoring for suspicious activity.

**2.2 Technical Requirements**

| **Requirement ID** | **Description** | **Priority** | **Owner** |
| --- | --- | --- | --- |
| TR-001 | Secure REST API support for JSON/HTTPS with OAuth2.0 + TLS encryption | High | Integration Lead |
| TR-002 | Middleware layer with failover, logging, and retry mechanisms | High | DevOps Architect |
| TR-003 | Message queue system (e.g., RabbitMQ or Kafka) for async wallet updates | Medium | Backend Developer |
| TR-004 | Data encryption (AES-256 at rest, TLS 1.3 in transit) | High | Security Engineer |
| TR-005 | RBAC (Role-Based Access Control) for all admin and API endpoints | High | IAM Specialist |
| TR-006 | Integration to Odoo ERP (v16) via XML-RPC and RESTful API bridge | High | ERP Engineer |

**2.3 API Integration Requirements**

* **Endpoints:**
  + /api/v1/transactions
  + /api/v1/kyc/verify
  + /api/v1/agent/register
  + /api/v1/reporting/export
* **Standards:** RESTful, Swagger 2.0 for documentation
* **Authentication:** OAuth 2.0 with token refresh; optional IP whitelisting

**2.4 Audit & Compliance Requirements**

* Full transaction logging with immutable hash chain (blockchain optional)
* Daily backups to secure S3 bucket or on-premise store

CBK & DPA audit trails retained for minimum 7 yea