SME LOAN PRE-SCREEN SYSTEM – RIGHT-FIRST-TIME APPLICATIONS REPORT

1. Introduction

Small and Medium Enterprises (SMEs) represent one of the strongest pillars of India's economy. Banks receive a high volume of SME loan applications every day, but many of these applications get delayed or rejected due to missing documents, eligibility issues, or poor readiness. This increases the workload on branch staff and slows down loan processing.

To solve this issue, the SME Loan Pre-Screen System is designed as a digital tool that evaluates SME loan applications before submission. It ensures applications are complete, eligible, and ready for processing. This improves the "right-first-time" submission rate and reduces bounced applications.

2. Problem Statement

A large percentage of SME loan applications are incomplete or do not meet basic eligibility criteria. This leads to:

- Increased processing time
- Repeated follow-up with applicants
- Wastage of staff effort
- High number of bounced applications
- Poor loan approval turnaround time

There is no structured system to identify missing documents or eligibility gaps early. Therefore, a digital pre-screening system is required.

3. Objectives

1. To automatically check the completeness of SME loan applications.
2. To filter out applications that are clearly ineligible.

3. To provide applicants and staff with early guidance on missing documents.
4. To improve "right-first-time" SME loan applications.
5. To reduce workload and back-and-forth communication.
6. To create a digital readiness score for quick assessment.

4. Scope of the Project

The system includes the following features:

- SME application upload
- Checklist-based document verification
- Eligibility evaluation based on business turnover and rules
- Generation of a completeness score
- Final pre-screen decision (Complete, Partial, Incomplete, Not Eligible)
- Dashboard showing insights from 250 SME applications

5. Dataset Description

The dataset provided contains **250 mock SME applications**, including:

- Turnover band
- Type of business
- Whether required documents are submitted (Yes/No)
- Final sanction status
- Eligibility-related field

6. Proposed Solution

The solution is a **Digital SME Pre-Screening Engine** with the following components:

1. Document Completeness Checker

Checks whether mandatory documents like GST returns, financial statements, bank statements, and KYC documents are submitted.

2. Eligibility Rule Engine

Evaluates basic SME loan eligibility parameters such as turnover, business age, compliance, and risk.

3. Completeness Score Generator

Assigns a score out of 100 based on completeness and eligibility.

4. Recommendation System

Suggests missing documents and explains eligibility issues.

5. Pre-Screen Dashboard

Displays summary statistics such as total complete applications, incomplete ones, and the most commonly missing documents.

7. System Architecture

A four-layer architecture is used:

1. **User Interface Layer**
   HTML, CSS, JavaScript interface for data input and viewing results.
2. **Pre-Screen Application Layer**
   Handles document checking, rule evaluation, and scoring.
3. **Service Layer**
   Manages Excel import, CRUD operations, and dashboard analytics.
4. **Data Layer**
   Stores application records and audit logs.

9. Data Flow Diagram (Level 1)

1. User uploads SME application data.
2. Document Completeness Checker validates required documents.
3. Eligibility Engine evaluates the basic rules.

4. Completeness Score is generated.
5. Final result is displayed as Complete / Partial / Incomplete / Not Eligible.

10. Workflow of SME Loan Pre-Screening

1. Start
2. Upload Application
3. Check Document Readiness
4. Evaluate Eligibility
5. Generate Score
6. If complete → Ready for submission
7. If incomplete → Recommend missing items
8. End

11. Database Design

Table: applications

- id (Primary Key)
- name
- email
- phone
- turnover_band
- documents_submitted (Y/N values)
- eligibility_status
- completeness_score
- remarks

12. Frontend Design

The frontend includes:

- Upload page
- Application list view
- Checklist viewer

- Readiness result page
- Dashboard with counts and charts

Technologies used: HTML, CSS, Bootstrap, JavaScript, AJAX.

13. Backend Design

Backend logic is built using PHP and includes:

- Validation engine
- Rule engine
- Excel import service
- CRUD operations
- Dashboard data generator

Each module is separated for cleaner architecture.

14. Features of the System

- Import SME data from Excel
- Automated document validation
- Eligibility evaluation
- Completeness scoring
- Recommendations for missing information
- Dashboard insights
- Easy-to-use interface for staff

15. Future Enhancements

- AI-based risk prediction
- OCR scanning of documents
- Auto-filling form fields
- Real-time applicant communication
- Integration with HDFC's core loan system
- Mobile app version

17. Conclusion

The SME Loan Pre-Screen System provides a structured, digital-first solution to improve SME loan processing at . By identifying document gaps and eligibility issues early, the system increases processing efficiency and accuracy.