Requirement Gathering Report

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Project: Production Management Optimization System (PMOS) for SMEs

Client: SME Factory Stakeholders (Factory Manager, Production Supervisor, HR Officer, Quality Control, Operator Representative, IT Support, CEO)

1. Introduction

This report summarizes information collected from key stakeholders at an SME factory regarding their current **production management processes**. It identifies operational bottlenecks, inefficiencies, and improvement opportunities across production, HR, and quality departments.

The purpose is to document their **challenges, needs, and expectations** to ensure the proposed **Production Management Optimization System (PMOS)** aligns with their real workflow and business priorities.

2. Purpose of Requirement Gathering

The main goal of this requirement gathering exercise was to:

- Understand current challenges in manual production tracking and reporting.

- Capture department-specific needs and constraints.

- Translate feedback into actionable requirements for a digital production system.

- Align stakeholder expectations with a realistic, affordable implementation plan.

3. Scope of the Report

The scope covers all activities related to **production planning, performance tracking, HR shift alignment, downtime monitoring, and quality reporting** in the SME factory.

It includes:

- Production scheduling and shift planning,
- Machine and operator performance monitoring,
- HR attendance synchronization,
- Defect and downtime tracking,
- Daily and weekly reporting processes.

4. Objectives

- To understand how production data is currently recorded and shared.
- To identify pain points in scheduling, reporting, and communication.
- To capture stakeholder expectations for a digital management solution.
- To define both **functional** and **non-functional** requirements for PMOS.

5. Stakeholder Information

Stakeholder	Role	Responsibility
Factory Manager	Oversees production operations	Monitors performance and KPI results
Production Supervisor	Manages daily planning and output reporting	Handles shift scheduling and data tracking
HR Officer	Manages attendance and payroll	Provides attendance and shift data
Quality Control (QC)	Monitors product quality	Reports defect and inspection data
Operator Representative	Executes production tasks	Provides feedback on usability and workflow

Stakeholder	Role	Responsibility
IT Support / Vendor	Implements and maintains the system	Ensures data integration and reliability
CEO / SME Owner	Approves project direction and budget	Validates business impact and ROI

6. Method of Data Collection

- **Primary Method:** One-on-one semi-structured interviews

- **Format:** In-person and virtual (Zalo/Google Meet)

- **Duration:** 30–45 minutes each

- **Documentation:** Interview notes, summaries

7. Summary of Current Process (AS-IS)

- Shift planning and production scheduling are done manually using Excel.

- Operators record output and downtime on paper forms.

- HR tracks attendance separately, with no direct link to production shifts.

- QC reports are created manually, often late or inconsistent.

- Management receives summarized reports 1–2 days after production ends.

- No central database exists for performance or machine data.

Result: Data duplication, reporting delays, and a lack of real-time visibility across departments.

8. Identified Gaps / Challenges

Issue	Description
Manual Data Entry	Paper-based reporting leads to frequent errors and rework.
No Real-Time Data Visibility	Managers cannot monitor production progress instantly.
Disconnected Systems	HR, production, and QC each use separate files.

Issue	Description
Slow Decision-Making	Delays in report consolidation cause late reactions to downtime.
Untracked Downtime	No standardized system for logging stoppages and reasons.
Lack of KPIs	No clear metrics (OEE, efficiency, defect rate) to measure performance.
Resistance to Digital Change	Staff are used to manual entry and need training to adapt.

9. User Needs / Requirements (TO-BE)

Functional Requirements

- Automate daily production data collection and synchronization.
- Link HR attendance data with production shift scheduling.
- Allow supervisors to log downtime and defect reasons digitally.
- Display real-time dashboards for production, quality, and HR data.
- Generate daily reports automatically at the end of each shift.
- Calculate KPIs such as OEE, defect rate, and operator productivity.
- Provide role-based access for different departments (HR, QC, Supervisor).

Non-Functional Requirements

- Simple and intuitive interface for non-technical users.
- Offline functionality for areas with poor internet connectivity.
- Secure user login with role-based permissions.
- Fast and reliable data processing (<2s response time).
- Low-cost maintenance (<5% of annual operating cost).
- Compatibility with Google Sheets, AppSheet, or Odoo systems.

10. Prioritized Requirements

Category	Requirement
Must Have	Real-time production dashboard; Attendance integration; Downtime logging; Auto-report generation
Should Have	KPI and trend dashboards; Alert notifications; Mobile input access
Nice to Have	Predictive analytics (later phase); Integration with accounting; IoT sensor connectivity

11. Recommendations / Next Steps

1. **Validate gathered requirements** with all stakeholders in a workshop to confirm accuracy.

2. **Develop a low-fidelity prototype** using AppSheet or Odoo to visualize the solution.

3. **Pilot the PMOS** on one production line before scaling factory-wide.

4. **Train end-users (supervisors, operators, HR)** using short, practical sessions.

5. **Evaluate results after 1 month** to measure improvements in data accuracy and reporting speed.

12. Appendices

- Interview questions used.

- Interview summaries (available upon request).