Business Requirements Document (BRD) – StockTrackPro

# 1. Project Purpose

The purpose of StockTrackPro is to streamline inventory management for Zeyn Caterers and similar small-to-medium enterprises by replacing manual and error-prone stock-keeping with a secure, mobile-first system. The system will enforce accountability, improve transparency for internal audits, and enable stakeholders to verify stock changes through role-based approvals and logs. It will also assist in identifying fast-moving and slow-moving products to support smart stock decisions.

# 2. Business Goals & Objectives

1. Ensure real-time visibility of current stock quantities and status.
2. Reduce stock loss through stock-proofing, admin verification, and activity tracking.
3. Enforce role-based responsibility (Admins, Managers, Staff, Suppliers).
4. Enable transparent audit trails for each stock entry, adjustment, or deletion.
5. Provide exportable stock reports (PDF/Excel) for monthly reviews.
6. Highlight fast-moving products to improve restocking efficiency.
7. Enable stock analysis across multiple suppliers and categories.

# 3. Scope

* In Scope:
* Product CRUD with supplier management
* Stock Count & Adjustment
* Stock-Take Sessions (open, close, submit sessions)
* Stock integrity features: stock-proof, admin verification
* Role-based access (Admin, Manager, Staff, Supplier)
* Activity log (who did what and when)
* Dashboard with fast-moving product insights
* Report generation (PDF, Excel)
* Firebase for authentication and backup
* Backend APIs (Spring Boot)
* Admin approvals for sensitive actions
* Out of Scope (MVP):
* AI product recommendations
* POS or e-commerce sync
* Multi-location warehouse tracking
* Camera-based stock count using image recognition

# 4. Business Requirements

1. The system must allow admins to create, update, and deactivate products and link them to suppliers.
2. Users should be able to open, perform, and submit a stock-take session.
3. Stock entries and adjustments must be traceable to a specific user and time.
4. Only admins can approve or reject sensitive stock changes (e.g., negative adjustments).
5. Managers can view reports, stock dashboards, and approve incoming supplies.
6. The dashboard should display fast-moving, low-stock, and out-of-stock items.
7. A full audit trail (activity log) must be available for each product.
8. Users must log in via secure Firebase authentication before performing actions.
9. Reports must be exportable in PDF and Excel formats for end-of-month use.
10. Suppliers can be added, edited, or deactivated (but cannot access the app).

## 5. User Roles & Permissions

### 🧑‍💼 User Roles

* **Admin**: Full system access, can manage everything including users, settings, approvals, and audit logs.
* **Manager**: Can manage stock, review reports, and supervise staff activity. Cannot manage other users.
* **Supervisor**: Limited version of Manager: oversees stock-taking but no access to user management or sensitive reports.
* **Staff**: Can perform stock-taking, view products, and log stock activities.
* **Viewer**: Read-only access to products, stock levels, and reports.
* **Supplier**: External role (optional) for tagging to products, **no login access**.

### 🔐 Permissions Matrix

| **Permission** | **Admin** | **Manager** | **Supervisor** | **Staff** | **Viewer** |
| --- | --- | --- | --- | --- | --- |
| View Products | ✅ | ✅ | ✅ | ✅ | ✅ |
| Create/Edit/Delete Products | ✅ | ✅ | ❌ | ❌ | ❌ |
| View Stock Levels | ✅ | ✅ | ✅ | ✅ | ✅ |
| Perform Stock-Take | ✅ | ✅ | ✅ | ✅ | ❌ |
| Approve Stock Changes | ✅ | ❌ | ❌ | ❌ | ❌ |
| View Reports | ✅ | ✅ | ❌ | ❌ | ✅ |
| Generate & Export Reports | ✅ | ✅ | ❌ | ❌ | ✅ |
| View Activity Log | ✅ | ✅ | ❌ | ❌ | ❌ |
| Manage Users & Roles | ✅ | ❌ | ❌ | ❌ | ❌ |
| View Suppliers | ✅ | ✅ | ❌ | ❌ | ❌ |
| Manage Suppliers | ✅ | ✅ | ❌ | ❌ | ❌ |
| System Settings | ✅ | ❌ | ❌ | ❌ | ❌ |

## 6. Assumptions & Constraints

### ✅ Assumptions

1. All users will have access to Android devices (and optionally web for Admin Portal)
2. Internet connectivity will be available during synchronization and Firebase operations
3. End users (e.g., Staff, Managers) will receive basic onboarding or training
4. Firebase will be used for authentication, data backup, and push messaging
5. The initial deployment will support only one business branch/warehouse
6. Admins will manage roles and assign permissions internally (no third-party access needed)
7. Suppliers will not need login access to the system

### 🚧 Constraints

1. The MVP will not support camera-based stock counting or OCR
2. The MVP will not include AI or predictive analytics features
3. External integrations (e.g., POS, e-commerce) are out of scope for this version
4. Backend APIs will be limited to Spring Boot REST services only
5. Users must authenticate through Firebase only (no SSO/OAuth)
6. All file exports will be in PDF and Excel only; no real-time email or push delivery at MVP
7. Only a single-warehouse environment will be supported at launch

## 7. Acceptance Criteria

1. The app allows admins, managers, and staff to log in securely via Firebase
2. Users can create, update, and view products with supplier associations
3. Stock-taking sessions can be started, modified, submitted, and logged
4. All sensitive changes (e.g., negative stock adjustment) require admin verification
5. Role-based access is fully enforced according to the permission matrix
6. The dashboard shows fast-moving, low-stock, and out-of-stock products
7. Activity logs are available and show which user made each change
8. Reports are downloadable in PDF and Excel for a given date range
9. Backend APIs (Spring Boot) successfully serve frontend Flutter screens
10. Data sync and backup via Firebase functions without manual intervention
11. All features pass user testing and 95% of bugs are resolved pre-deployment