

PROJECT SCOPE DOCUMENT

Automated Invoice Processing & Verification Platform

End-to-End Scope Definition

Version 1.0
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Document Control

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1. Executive Summary

This document defines the complete end-to-end scope for the Automated Invoice Processing & Verification Platform. The platform will serve as an intelligent ingestion and monitoring layer that works alongside Odoo, transforming manual invoice processing into an automated, audit-ready workflow.

Business Objective

Enable accountants to upload invoice images only, while the system automatically handles classification, verification, compliance (ZATCA), and audit tracking.

Key Benefits

- Eliminate manual invoice data entry and classification
- Achieve 100% invoice accuracy through dual verification
- Enable continuous audit readiness instead of year-end reconciliation
- Ensure ZATCA/E-Invoicing compliance automatically
- Reduce duplicate and fraudulent invoice risks

2. Project Overview

2.1 Problem Statement

Current accounting processes suffer from:

- Manual scanning and uploading of paper invoices
- Manual classification between purchase and sales invoices
- Manual supplier/buyer creation in Odoo
- Late or end-of-year invoice audits creating compliance risks
- Risk of duplicate or fraudulent invoices going undetected
- Fragmented visibility across multiple systems

2.2 Proposed Solution

A two-phase platform that serves as an intelligent ingestion layer alongside Odoo:

| Phase | Description |
|---------|------------------------------------------------------------------------------------------------------------------------|
| Phase 1 | Core Platform - Simple, reliable image upload with mandatory tagging, pre-validation, and secure storage |
| Phase 2 | Full Automation - OCR extraction, auto-entity handling, Odoo integration, ZATCA verification, and analytics dashboards |

2.3 Target Users

- Accountants (primary users for invoice upload)
- Finance Managers (dashboard and reporting access)
- Auditors (compliance and audit trail access)
- System Administrators (configuration and user management)

3. Scope Statement

3.1 In-Scope

The following items are included in the project scope:

Platform Development

- Web-based upload platform (responsive for mobile)
- User authentication and role-based access control
- Invoice image upload functionality (JPG, PNG, PDF)
- Mandatory tagging workflow (Purchase/Sales/Other)
- Image pre-validation (blur detection, duplicate check, format validation)
- Secure immutable storage for original images

OCR & Intelligence (Phase 2)

- OCR engine integration (Azure/AWS/Google Cloud Vision)
- Field extraction (seller/buyer, Name, VAT, invoice number, date, line items, amounts)
- Confidence scoring for extracted fields
- QR code decoding for ZATCA invoices

Odoo Integration

- REST API integration with Odoo
- Automatic Vendor Bill creation (Purchase invoices)
- Automatic Customer Invoice creation (Sales invoices)
- Auto-creation of draft entities (suppliers/customers) for review
- Original image attachment to Odoo records

ZATCA Compliance

- Integration with existing Odoo ZATCA/E-Invoicing modules
- QR (TLV) generation and validation
- Phase-1 ZATCA compliance verification

Analytics & Reporting

- Supplier Dashboard (totals, VAT exposure, trends)
- Invoice Status Dashboard (pipeline tracking)
- Audit Dashboard (missing invoices, duplicates, compliance)
- Internal verification database for dual-check capability

4. Phase 1 Deliverables - Core Platform

Phase 1 establishes the foundation with a controlled entry point for all invoice images.

| # | Deliverable | Description | Priority |
|-----|----------------------|------------------------------------------------------------------------------------|-------------|
| 1.1 | Upload Interface | Web-based responsive interface for uploading JPG, PNG, and PDF invoice images | Must Have |
| 1.2 | User Authentication | Secure login with role-based access control (Admin, Accountant, Viewer) | Must Have |
| 1.3 | Mandatory Tagging | Required classification before upload: Purchase Invoice, Sales Invoice, or Other | Must Have |
| 1.4 | Image Pre-Validation | Blur detection, duplicate detection (hash-based), and file format validation | Must Have |
| 1.5 | Secure Storage | Immutable storage with unique reference IDs; images cannot be modified post-upload | Must Have |
| 1.6 | Audit Trail | Logging of all uploads with user, timestamp, and metadata | Must Have |
| 1.7 | Basic Dashboard | View uploaded invoices, status, and basic filtering | Should Have |

4.1 Phase 1 Success Criteria

- All invoice images are uploaded with mandatory tags before processing
- Zero duplicate images accepted (hash-based detection)
- 100% of uploads have complete audit trail
- Original images are immutable once stored

5. Phase 2 Deliverables - Full Automation

Phase 2 transforms the platform into a fully automated invoice processing system.

| # | Deliverable | Description | Priority |
|------|---------------------------|----------------------------------------------------------------------------------------|-------------|
| 2.1 | OCR Engine Integration | Cloud OCR (Azure/AWS/Google) for text and data extraction from images | Must Have |
| 2.2 | Field Extraction | Extract seller/buyer, VAT numbers, invoice number, date, line items, VAT amount, total | Must Have |
| 2.3 | Confidence Scoring | Score each extracted field; flag low-confidence fields for manual review | Must Have |
| 2.4 | QR Code Decoding | Decode ZATCA TLV QR codes for verification | Must Have |
| 2.5 | Entity Auto-Detection | Check if supplier/customer exists in Odoo | Must Have |
| 2.6 | Entity Auto-Creation | Create draft entities for new suppliers/customers pending accountant approval | Must Have |
| 2.7 | Odoo Vendor Bill Creation | Automatically create vendor bills in Odoo for purchase invoices | Must Have |
| 2.8 | Odoo Customer Invoice | Automatically create customer invoices in Odoo for sales invoices | Must Have |
| 2.9 | ZATCA Verification | Validate invoices via existing Odoo ZATCA modules; ensure Phase-1 compliance | Must Have |
| 2.10 | Internal Verification DB | Parallel database for duplicate detection, trend analysis, and internal audit | Must Have |
| 2.11 | Supplier Dashboard | Total invoices, amounts, VAT exposure, and monthly trends per supplier | Should Have |
| 2.12 | Invoice Status Dashboard | Track status: Uploaded → OCR → Verified → Posted; highlight exceptions | Should Have |
| 2.13 | Audit Dashboard | Missing invoices, duplicate risks, compliance status reporting | Should Have |

5.1 Phase 2 Success Criteria

- OCR extraction accuracy $\geq 95\%$ for standard invoice formats
- 100% of invoices verified through dual verification (ZATCA + internal)
- Automatic Odoo invoice creation with $< 5\%$ manual intervention rate
- Real-time dashboards updated within 5 minutes of invoice processing

6. Technical Architecture

6.1 High-Level Architecture

The system follows a layered architecture with clear separation of concerns:

User → Upload Platform → OCR Engine → Validation Layer → Odoo API → ZATCA Module
 ↘ Analytics DB → Dashboards

6.2 Core Components

| Component | Specification |
|--------------------|---------------------------------------------------------------------------------------------------------------|
| Upload Platform | Web + Mobile responsive; user authentication; role-based access control |
| OCR Engine | Cloud OCR (Azure Document Intelligence / AWS Textract / Google Cloud Vision); QR decoding; confidence scoring |
| Integration Layer | REST APIs; Odoo XML-RPC/JSON-RPC connectors; error handling and retry logic |
| Analytics Database | Separate from Odoo; optimized for reporting; immutable audit records |
| Storage | Cloud object storage (S3/Azure Blob) with encryption at rest; immutable once uploaded |

6.3 Security Requirements

- HTTPS/TLS encryption for all data in transit
- AES-256 encryption for data at rest
- No post-final edits to submitted invoices
- Complete audit trail for all actions
- Role-based access control with principle of least privilege

7. Integration Requirements

7.1 Odoo Integration

| Integration Point | Details |
|--------------------|--------------------------------------------------------------------|
| API Protocol | Odoo XML-RPC or JSON-RPC API |
| Vendor Bills | Create account.move records with type 'in_invoice' |
| Customer Invoices | Create account.move records with type 'out_invoice' |
| Partner Management | Query and create res.partner records for suppliers/customers |
| Attachments | Upload original invoice images as ir.attachment linked to invoices |
| ZATCA Module | Leverage existing certified ZATCA/E-Invoicing Odoo modules |

7.2 OCR Service Integration

- Primary: Azure Document Intelligence (Form Recognizer) - Invoice model
- Alternative: AWS Textract or Google Cloud Document AI
- QR decoding library for ZATCA TLV extraction

8. Acceptance Criteria

8.1 Functional Acceptance

| # | Criteria | Measurement |
|-----|-----------------------|----------------------------------------------------------------------------------|
| AC1 | Invoice Upload | All supported formats (JPG, PNG, PDF) upload successfully with metadata captured |
| AC2 | Mandatory Tagging | System blocks upload until invoice type is selected |
| AC3 | Duplicate Prevention | Hash-based detection rejects duplicate images with user notification |
| AC4 | OCR Accuracy | ≥ 95% field extraction accuracy on standard invoice formats |
| AC5 | Odoo Invoice Creation | Invoices created in correct Odoo module with all extracted data populated |
| AC6 | ZATCA Compliance | All invoices pass ZATCA Phase-1 validation before posting |
| AC7 | Audit Trail | 100% of actions logged with user, timestamp, and before/after state |

8.2 Non-Functional Acceptance

| # | Criteria | Measurement |
|-----|------------------|------------------------------------------------------------------------|
| NF1 | Response Time | Upload confirmation within 3 seconds; OCR processing within 30 seconds |
| NF2 | Availability | 99.5% uptime during business hours |
| NF3 | Concurrent Users | Support minimum 20 concurrent users |
| NF4 | Data Security | All data encrypted in transit (TLS) and at rest (AES-256) |

9. Assumptions & Dependencies

9.1 Assumptions

- Odoo instance is operational and accessible via API
- Existing Odoo ZATCA/E-Invoicing modules are installed and configured
- Users have reliable internet connectivity for web-based access
- Invoice images will be of reasonable quality (not heavily damaged or illegible)
- Cloud services (OCR, storage) are approved for use with company data
- Client will provide sample invoices for OCR training and testing
- Accountants will be available for UAT testing

9.2 Dependencies

- Odoo API credentials and access permissions
- Cloud service accounts (Azure/AWS/GCP) setup and billing
- SSL certificates for secure deployment
- Hosting infrastructure provisioning
- Client sign-off on Phase 1 before Phase 2 development begins

10. Out of Scope (Exclusions)

The following items are explicitly excluded from this project:

| Exclusion | Rationale |
|------------------------------------------|------------------------------------------------------------------------------|
| Odoo installation or configuration | Assumes existing Odoo instance is operational |
| ZATCA module installation | Uses existing certified modules already in Odoo |
| Native mobile applications (iOS/Android) | Web responsive design serves mobile needs; native apps can be Phase 3 |
| Historical data migration | System processes new invoices only; historical migration is separate project |
| Custom OCR model training | Uses pre-trained cloud OCR models; custom training is enhancement |
| AI fraud detection | Future roadmap item for Phase 3+ |
| Voice-to-invoice functionality | Future roadmap item for Phase 3+ |
| Integration with other ERPs | Scope limited to Odoo; other ERPs are separate projects |
| User training delivery | Documentation provided; formal training sessions quoted separately |

11. Risks & Mitigations

| # | Risk | Impact | Likelihood | Mitigation |
|----|-----------------------------------------|--------|------------|--------------------------------------------------------------------------------------------------------------------|
| R1 | Poor image quality reduces OCR accuracy | High | Medium | Image pre-validation with blur detection; user feedback for re-upload; confidence scoring with manual review queue |
| R2 | Odoo API changes break integration | High | Low | Use stable API versions; implement abstraction layer; monitor Odoo release notes |
| R3 | OCR service downtime | Medium | Low | Queue-based processing with retry logic; consider secondary OCR provider |
| R4 | User adoption resistance | Medium | Medium | Simple, intuitive UI; demonstrate time savings; provide documentation and support |
| R5 | ZATCA regulation changes | Medium | Medium | Modular design allows updates; rely on certified Odoo ZATCA module updates |
| R6 | Scope creep during development | High | Medium | Strict change control process; clear exclusions documented; phased delivery |

12. Timeline & Milestones

12.1 Phase 1 Timeline (Estimated: 6-8 weeks)

| Week | Milestone | Deliverables | Exit Criteria |
|------|---------------------------|------------------------------------------------|---------------------------|
| 1-2 | Project Kickoff & Design | Technical design document; UI wireframes | Design sign-off |
| 3-4 | Core Platform Development | Upload interface; authentication; tagging | Demo to stakeholders |
| 5-6 | Validation & Storage | Pre-validation; secure storage; audit trail | Internal testing complete |
| 7-8 | UAT & Deployment | User acceptance testing; production deployment | Phase 1 Go-Live |

12.2 Phase 2 Timeline (Estimated: 10-12 weeks)

| Week | Milestone | Deliverables | Exit Criteria |
|-------|------------------------|--------------------------------------------------------|-------------------------|
| 1-3 | OCR Integration | OCR engine setup; field extraction; confidence scoring | OCR accuracy validated |
| 4-6 | Odoo Integration | API integration; invoice creation; entity handling | End-to-end flow working |
| 7-8 | ZATCA & Verification | ZATCA validation; internal verification DB | Compliance verified |
| 9-10 | Dashboards & Analytics | Supplier, invoice, and audit dashboards | Dashboards operational |
| 11-12 | UAT & Go-Live | Full system testing; production deployment | Phase 2 Go-Live |

13. Sign-Off

By signing below, the parties acknowledge that this document accurately represents the agreed scope of work for the Automated Invoice Processing & Verification Platform project.

| Project Sponsor / Client | Project Manager / Vendor |
|--------------------------|--------------------------|
| Name: _____ | Name: _____ |
| Title: _____ | Title: _____ |
| Signature: _____ | Signature: _____ |
| Date: _____ | Date: _____ |

Additional Approvals (if required)

| Technical Lead | Finance Approver | IT Security |
|----------------|------------------|-------------|
| Name: _____ | Name: _____ | Name: _____ |
| Sign: _____ | Sign: _____ | Sign: _____ |
| Date: _____ | Date: _____ | Date: _____ |

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