



Accounts Payable: Invoice-to-Pay Optimization

This project aims to revolutionize our Accounts Payable (AP) process by optimizing invoice-to-pay operations. We will automate the clearing of standard invoices, reserving manual review only for those with unclear images or for high-value and high-risk exceptions. This strategic shift will enhance efficiency, accuracy, and overall financial control.

Project Scope & Target State

From invoice receipt to payment posting, our goal is to automatically process and clear all well-structured, detail-complete invoices using advanced Excel automation and seamless ERP integration. Manual intervention will be specifically targeted for:

- Invoices that are image-based with unclear or low-confidence data.
- Invoices lacking required details, such as missing line items or PO references.
- High-value invoices (above a predefined threshold) or other flagged high-risk items requiring additional scrutiny.



Business Objectives & Measurable Goals

Our primary objective is to significantly reduce manual handling and the backlog of exceptions, leading to improved speed and accuracy across the AP function. This will be achieved through several measurable goals:

1

Automated Clearance

Achieve **≥85–95%** automated clearance of incoming invoices (excluding intentionally unstructured image invoices) within **7 days** of receipt.

2

Cycle Time Reduction

Reduce the overall invoice cycle time (from receipt to posting) by **40–60%**.

3

Posting Accuracy

Attain **≥98%** accuracy in automated postings, measured by correct vendor, GL, amount, and PO matching.

4

High-Value Identification

Identify and escalate **100%** of high-value invoices automatically to ensure proper oversight.

These targets are designed to ensure a substantial improvement in our AP efficiency and control.

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In-Scope & Out-of-Scope Activities

In-Scope

- Invoice intake channels: Email, Supplier Portal, Scanned images.
- Invoice and data capture/validation processes.
- Auto-matching rules (2-way/3-way PO/GRN matching).
- Excel automation (pre-processing, business rules, enrichment).
- ERP posting via API/connectors for seamless integration.
- Exception queue handling and Service Level Agreements (SLAs) for manual review.
- High-value invoice detection and routing through an approval matrix.
- Vendor master data validation and enrichment to support automated matching.

Out-of-Scope

- Changes to procurement policy or PO creation processes.
- Full ERP replacement or major system upgrades (minor connector/configuration changes are acceptable).
- Contract negotiation or changes in vendor terms, unless explicitly required for automation purposes.
- Non-invoice payments (e.g., payroll, tax payments).



Definitions & Key Rules for Automation

Invoice Classification at Intake

Invoices are classified upon receipt:

- **Structured:** Electronic invoices (EDI, PDFs with embedded data) are candidates for full automation.
- **Image:** Scanned photos or low-quality PDFs below a defined confidence threshold are routed to a manual review queue.
- **Low-Detail:** Invoices missing critical information (e.g., line-item detail, vendor tax IDs, PO references) are flagged for enrichment. If enrichment fails, they proceed to manual review.



High-Value Invoice Rules

Rules define a "High-Value" threshold (e.g., > €X or \$Y) and maintain an exceptions list (e.g., specific vendor types, capital projects). Any invoice meeting these criteria will be automatically flagged and routed to an expedited approval flow with read-only auto-population for approvers.



Auto-Match Rules

Our system will implement:

- **3-way match:** Invoice vs. Purchase Order (PO) vs. Goods Receipt Note (GRN). Auto-posts upon exact match of amount and PO line(s).
- **2-way match:** Invoice vs. PO. Auto-posts when invoice matches PO amount and vendor master data.
- **Tolerance bands:** Parameterized tolerance bands (e.g., ±1–5%) will be applied based on business rules.

Excel Automation Layer Responsibilities

The Excel automation layer is a critical component for streamlining our invoice processing. It handles several key responsibilities:



Pre-Process Capture Output

This includes normalizing fields, applying fuzzy vendor matching, and performing currency conversions to standardize data.

Implement Rule Engine

The engine applies match rules, flags exceptions, and attempts data enrichment to ensure accuracy and compliance.



Produce Standardized Upload Files

Generates files in a format ready for seamless upload into our ERP system.

Create Exception Dashboard

Provides a clear, concise dashboard or tab showing reasons for each exception, facilitating quick resolution.

DMAIC Phases & Deliverables

Define



Deliverables: Project charter, SIPOC, Stakeholder map, Baseline data (current FPY, cycle times, cost per invoice).

Call to Action (CTA): Confirm high-value threshold and expected automation percentage with stakeholders.

Measure



Deliverables: Data collection plan; sample of invoices by channel (structured vs. image); current exception types and volumes.

Baseline KPIs: Current automated clearance %, average cycle time, cost per invoice, number of exceptions per day.

1

Analyze

Deliverables: Root cause analysis of top exceptions (e.g., missing PO, vendor master mismatch, low-quality images), process map with waste spots, Pareto analysis of defects.

Outcome: Prioritized list of automation opportunities and thresholds for safe auto-posting.



Improve

Deliverables & actions: Design Excel automation templates, configure ERP integration, create exception handling rules & SLAs, build approval routing for high-value invoices, and pilot with one vendor category or business unit (10–20% of volume) to measure performance. Target $\geq 80\%$ auto-clearance and $\leq 5\%$ auto-post exceptions for pilot.



Control

Deliverables: Control plan, dashboards (auto-clear %, exceptions by reason, cycle time), standardized Excel templates, runbook for escalation.

Handover: Standard Operating Procedures (SOPs), training for AP staff and approvers, and vendor communications.

Automation Design: Technical & Business Details

1. Capture & Classification

The initial step involves classifying each incoming invoice as either structured, image-based, or low-detail, setting the stage for subsequent processing.

3. ERP Integration

Middleware (e.g., RPA connector, iPaaS) is preferred for pushing payloads and capturing responses. Synchronous rejection cases are logged back into the Excel automation output for reprocessing, ensuring data integrity.

5. High-Value Processing

Approver inboxes are automatically pre-filled with invoice PDFs, summary data, and audit columns. Explicit approver acknowledgement is required before payment posting, unless specific automatic approval thresholds are met and signed off by an onshore Subject Matter Expert (SME).

2. Excel Automation

Leveraging Power Query and macros, we normalize vendor names, currency, and dates. A fuzzy match against the vendor master ensures accurate vendor ID enrichment, leading to auto-mapping if a match score exceeds the threshold. An ERP upload file containing validated invoices is then produced, complete with audit trail columns.

4. Exception Queue & UI

An exception dashboard (in Excel) provides a filterable queue for various exception types (unclear image, missing details, high-value, ERP rejected). One-click actions facilitate sending queries to vendors, routing to approvers, or correcting master data.

Key Performance Indicators (KPIs) & Critical-to-Quality (CTQs)

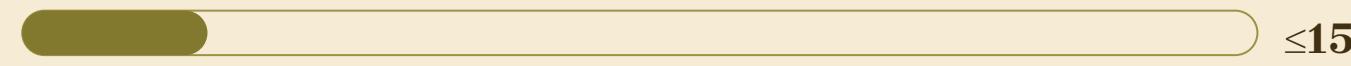
To ensure the success and effectiveness of our invoice-to-pay optimization, we will diligently track the following KPIs and CTQs, with ambitious targets:



85-95
%

% Auto-cleared Invoices

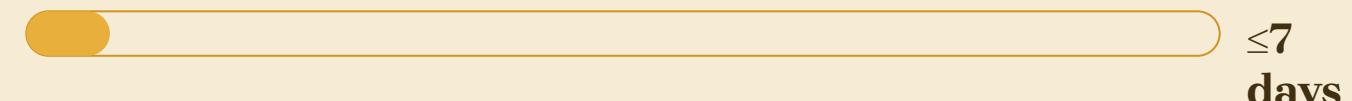
Targeting a high percentage of invoices processed without manual intervention.



≤15
%

% Manual Exceptions

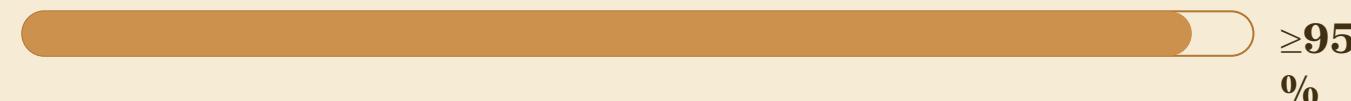
Minimizing the need for manual review to boost efficiency.



≤7
days

Average Invoice Cycle Time

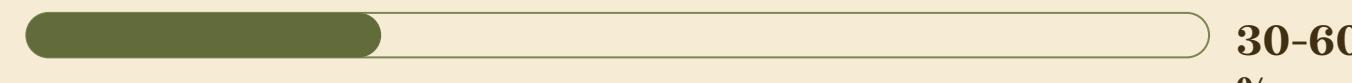
Reducing the time from invoice receipt to posting, aiming for significant reduction ($\geq 40\%$).



≥95
%

First Pass Yield (FPY)

Ensuring a high rate of invoices successfully processed on the first attempt.



30-60
%

Cost per Invoice Reduction

Achieving substantial cost savings per processed invoice.



100
%

% High-Value Invoices Flagged

Guaranteeing complete identification and proper handling of all high-value invoices.

Acceptance Criteria for "Automated Clearance": An invoice is considered auto-cleared if it has a correct vendor ID, GL mapping, amount, and currency, with PO matched (if applicable), and a successful ERP posting response, requiring no manual correction for 30 consecutive days in the pilot sample.

Risks & Mitigation Strategies

Risk: Vendor Master Mismatches

Incorrect vendor posting due to discrepancies in vendor master data.

Mitigation: Implement a rigorous vendor master enrichment stage and maintain quick vendor lookup and approval processes for fuzzy matches.

Risk: ERP Rejection Issues

ERP rejections due to field mapping errors or currency inconsistencies.

Mitigation: Conduct comprehensive end-to-end testing, and implement robust error capture mechanisms with automatic retry or easy reprocessing flows.

Risk: Approval Delays

Approvers delaying high-value invoice approvals, thereby negating time gains from automation.

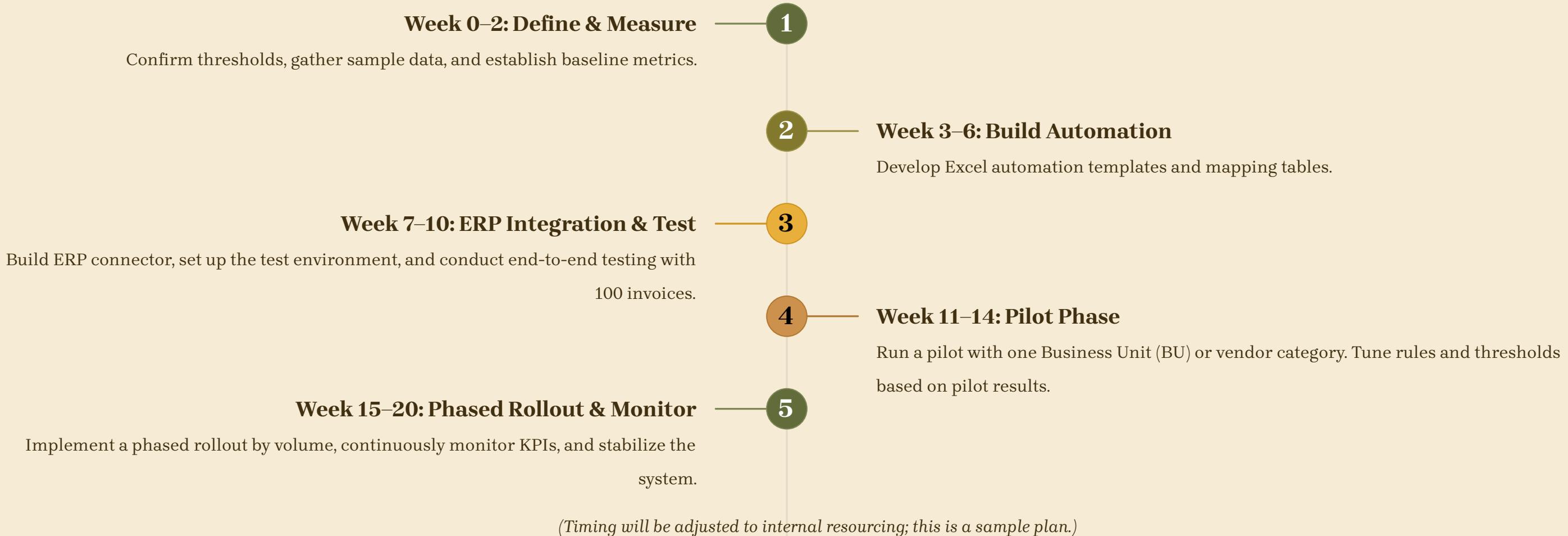
Mitigation: Establish clear Service Level Agreements (SLAs), implement mobile/email notifications, send automated approval reminders, and define an escalation matrix.

Risk: Security & Compliance Concerns

Potential security or compliance issues with automated posting processes.

Mitigation: Maintain comprehensive audit trails, enforce segregation of duties, implement limited service account permissions, and conduct regular sample audits.

Implementation Roadmap (High-Level)



Control Plan & Sustainment

- Weekly KPI dashboard during rollout; monthly executive summary thereafter.
 - Quarterly audit of auto-post accuracy and sample reconciliations.
 - Continuous improvement backlog for additional rules or exception reductions.

Quality & Control Improvements

- ⌚ First Pass Yield improved from ~70–80% to ≥95%
- ⌚ High-value invoice visibility improved from hours/days to real-time
- ⌚ Exception backlog reduced by 30–50% within first 2–3 months

Executive Summary

The target-state AP process enables 70–85% straight-through processing, reduces manual effort by up to 7 minutes per invoice, shortens invoice cycle time by 1.5–3 days and isolates risk to a small, well-controlled exception population





Your attention and engagement are greatly appreciated. We look forward to a successful implementation that transforms our financial operations.

We welcome any questions or insights you may have regarding the automation of our "Optimising Accounts Payable - Invoice to Pay Automation" processes.



**We appreciate your time and consideration of this transformative proposal.
We look forward to partnering with you to achieve these critical operational
efficiencies**