

Accounts Payable (Invoice Automation) – Assignment

1. Title & Summary

Title: Accounts Payable Invoice Automation

Summary: Manual invoice processing is slow, error-prone, and leads to late payments to vendors. Automation can accelerate the cycle, reduce costs, and enhance accuracy.

2. Problem & Evidence

Problem:

The Accounts Payable (AP) team manually processes each invoice received via email, including data entry, ERP system input, PO matching, approval collection, and payment initiation. This process is time-consuming, error-prone, and carries risks of duplicate or late payments.

Evidence:

- On average, processing a single invoice takes approximately 9.2 days.
 - Implementing best-in-class automation can reduce processing time to around 3–4 days.
(Source: Ardent Partners ePayables Report, 2024)
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3. Stakeholders & Beneficiaries

Stakeholders:

- AP Team:** Collects, verifies, and processes invoices in the ERP system.
- Procurement Team:** Creates and verifies Purchase Orders (PO).
- Receiving/Warehouse Team:** Generates Goods Receipt Notes (GRN) and confirms receipts.
- Vendors/Suppliers:** Sends invoices and expects timely payments.
- Finance Manager / Controller / CFO:** Provides final approvals and monitors compliance and cash flow.
- IT / ERP Admin:** Handles system integrations and data security.

Beneficiaries:

- AP Team:** Reduced manual workload.
 - Finance Team:** Improved cash flow and compliance.
 - Vendors:** Timely and accurate payments.
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4. KPIs & Impact

KPI	Current	Target	Impact
Invoice Cycle Time (days)	~9.2	~3–4	60% faster processing
Cost per Invoice (\$)	9–12	3–4	65% cost reduction

KPI	Current	Target	Impact
Exception Rate (%)	20–25	<10	Fewer errors & rework
Vendor On-Time Payment (%)	70–80	>95	Improved vendor satisfaction

5. Multi-Step Workflow

- Invoice Collection:** Vendors send invoices via email, portal, or e-invoice upload.
 - Data Extraction (OCR/AI):** Use AWS Textract or Google DocAI to extract fields: Vendor, Invoice#, PO#, Amount, Tax.
 - Validation / 3-Way Match:** Match PO and GRN in ERP; mismatches go to Exceptions Queue.
 - Exception Handling:** AP team manually reviews low-confidence or mismatched invoices.
 - Approval Routing:** Amount-based approval routing to AP Manager, Controller, or CFO.
 - Payment Execution:** Use Bank API (NEFT/ACH/UPI) for payment scheduling and ERP ledger update.
 - Vendor Notification & Ledger Posting:** Send remittance email, maintain audit logs, and post to ERP.
 - Analytics & Dashboard:** Monitor KPI metrics, exceptions, cycle time, and cost savings.
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6. Development Approach

- Systems & Tools:** Email API/S3, OCR/AI (Textract/DocAI), ERP (SAP/NetSuite/MS Dynamics), Integration platform (Workato/MuleSoft), Bank APIs, Dashboard (Power BI/Tableau).
 - Data Flow:** Invoice received → OCR extraction → 3-way match → Exceptions → Approval → Payment → ERP ledger → Vendor notification → Dashboard.
 - Human-in-the-loop:** Manual review for low-confidence or mismatched invoices.
 - Rules & Safeguards:** Duplicate hash check, partial receipts tolerance, retry mechanism for API downtime.
 - Observability/Monitoring:** Metrics (invoices/day, exceptions, cycle time, cost saved), alerts (failed API/payment).
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7. Failure Modes & Recovery

Failure Mode	Problem	Recovery / Action
OCR / Data Extraction Error	Low-confidence fields	Exceptions queue + manual review + retry
ERP / Bank API Downtime	Payment failure	Queue + retry + manual override + alert
Duplicate / Fraudulent Invoice	Duplicate invoice	Hash check + exceptions queue + 4-eyes approval
Partial GRN / Mismatch	PO/Invoice mismatch	Tolerance rules + escalation + vendor clarification

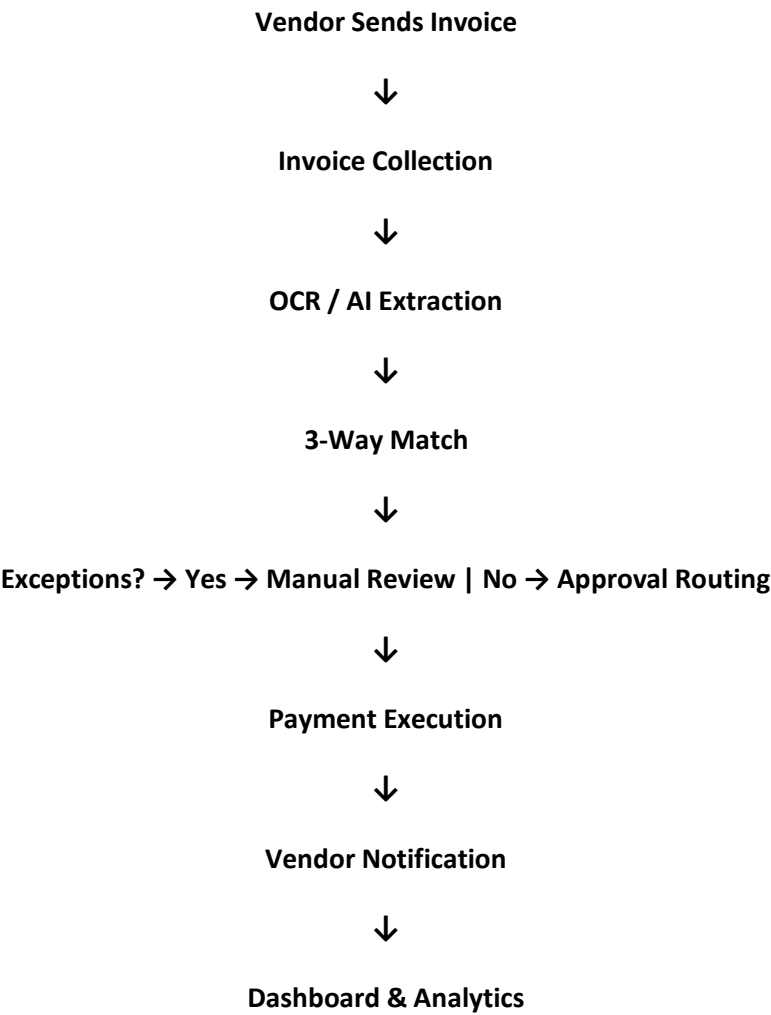
8. Security & Privacy

- Data Encryption:** TLS 1.2+ (in transit), AES-256 (at rest).
- Access Control (RBAC):** Role-based access for AP, Finance, IT.
- Audit Trail / Logging:** Immutable logs for compliance.
- Vendor / PII Protection:** Bank account, PAN/GST tokenized/masked.
- Compliance & Retention:** Data retention for 7 years, GST/VAT/PCI/GDPR compliance.
- Multi-Factor Authentication:** ERP/iPaaS/Bank portals.

9. Rollout Plan

Phase	Duration	Scope	Features	Goal
1	2–3 weeks	Top 2–3 vendors	Invoice capture + manual review	Test system & identify issues
2	4–6 weeks	All vendors	3-way match + approval routing	Reduce manual work
3	2–3 weeks	Bank integration	Automated payments + ERP posting	Timely payments
4	2 weeks	All invoices	Dashboard + analytics	Continuous improvement

10. Visual Workflow Diagram (Flowchart)



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