Process Definition Document

**Name of process**

Commissioned by ...

Development by ...

Date: Date of latest update

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| --- |
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# Objective

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### 1.1. Business Objectives and Benefits

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| --- | --- |
| **Objectives** | **Expected Benefits** |
| **Reduce manual data entry by 80%** | Decrease processing time from 15 minutes to 3 minutes per invoice |
| **Eliminate human errors in data extraction** | Improve accuracy rate from 92% to 99.5% |
| **Accelerate approval workflow** | Reduce approval cycle from 5 days to 2 days |
| **Enable 24/7 processing capability** | Process invoices outside business hours |
| **Free up FTE resources for value-added activities** | Reassign 1.5 FTE to strategic financial analysis |

# Current Process

### 2.1. Process Overview

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The current invoice processing involves receiving vendor invoices via email, manually extracting key information (vendor details, invoice number, amount, line items), validating against purchase orders in the ERP system, entering data manually into SAP, and routing for multi-level approvals. The process is entirely manual and requires significant human intervention at each step.

### 2.2. Standard of Metrics

General information about the process selected for RPA, prior to automation:

|  |  |
| --- | --- |
| Process name | Vendor Invoice processing |
| Function | Accounts Payable |
| Department | Finance |
| Process short description | End-to-end processing of vendor invoices from receipt to payment approval |
| Process schedule | Monday-Friday, 8:00 AM - 5:00 PM |
| #of items process/month | 1200 invoices |
| Average cycle time | 5 days, including approvals |
| Average handling time | 15 mins per invoice |
| Peak period(s) | Month-end (last 5 business days) – 40% increase in volume |
| # of FTE supporting this activity | 2.5 FTE |
| Input Data | PDF invoices, email attachments, vendor data |
| Output Data | Posted entries in SAP, approval notifications, payment files |
| Return on investment | Expected 18-month ROI with $150,000 annual savings |

### 2.3. Volume of data

|  |  |  |
| --- | --- | --- |
| **Activity** | **Time taken per month (hours)** | **Volume of data to be processed** |
| Email monitoring and invoice extraction | 40 hours | 1200 email attachments |
| Data entry into SAP | 180 hours | 1200 invoice records |
| PO matching and validation | 60 hours | 900 purchase orders (75% of invoices) |
| Exception handling | 50 hours | 120 exceptions (10% error rate) |
| Approval routing and follow up | 30 hours | 1200 approval workflows |
| Report generation | 20 hours | 25 management reports |

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|  |  |  |
| --- | --- | --- |
| **BR#** | **Requirement** | **Additional Information** |
| BR001 | All invoices must have valid vendor ID in system | Reject if vendor not in data |
| BR002 | Invoice amount must match PO within 5% tolerance | Escalate exceptions to supervisor |
| BR003 | Invoices > 10000$ require additional approval level | Route to finance Director |
| BR004 | Duplicate invoice check based on invoice number and vendor | Block processing and send alert |
| BR005 | Three-way matching required for PO-based invoices | PO, receipt and invoice must align |

# Detailed Process Steps – AS IS

Step 1: Finance clerk monitors shared inbox for vendor invoices (manual check every 30 minutes)

Step 2: Download PDF attachments and save to network folder with naming convention

Step 3: Open PDF and extract manually key data (vendor, invoice, date, amount, line items)

Step 4: search SAP for matching purchase order using PO number from invoice

Step 5: Validate invoice details against PO (quantities, prices, vendor information)

Step 6: if validation passes, create invoice entry in SAP FB transaction

Step 7: Enter all line item details manually including GL accounts and cost centers

Step 8: Route invoice for approval based on amount thresholds via email

Step 9: follow up on pending approvals and handle rejections

Step 10: Generate weekly status reports for management review

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# To-be Pre-process steps (Proposed solution)

Step 1: RPA bot monitors shared inbox continuously and downloads invoice attachments automatically

Step 2: OCR technology ectracts structured data from PDF invoice with 99% or more accuracy

Step 3: Bot validates extracted data against business rules and vendor data

Step 4: automated PO matching in SAP using invoce reference numbers

Step 5: Three-way matching validation performed automatically with exception reporting

Step 6: Bot creates SAP invoice entries with all reqiured fields

Step 7: automated workflow routing based on predefined approval matrix

Step 8: Exception handling with email notifications to appropriate personnel

Step 9: Real time dashboard updates and automated status reporting

Step 10: End to end processing completed within 3 minutes for standard invoices

# In Scope

The table below shows the high-level steps that are in scope for the automation.

|  |  |
| --- | --- |
| **Process step** | **Comments** |
| Email monitoring and invoice extraction | Full automation using email API integration |
| PDF data extraction using OCR | Automated using OCR with data validation |
| Vendor data validation | Automated lookup and validation against SAP vendor |
| Purchase order matching | Automated three way matching with exception handling |
| SAP invoice creation | Automated using SAP BAPI with all required fields |
| Approval workflow routing | Automated based on approval matrix configuration |
| Exception handling and notifications | Automated alerts with detailed exception reasons |
| Status reporting and dashboards | Real time automated reporting with KPI tracking |

# Out of Scope

These activities will be manual :

* Complex vendor onboarding and data creation
* Handling of nonstandard invoice formats requiring human judgment
* Resolution of significant PO/invoice discrepancies >10%
* Legal review of contract related building disputes
* Physical invoice handling (such as invoice papers)
* Vendor communication if there is any invoice rejections
* System maintenance and bot monitoring (handled by IT)

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# Non-process requirements

## 8.1. Systems

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **System** | **Usage** | | **Frequency** | | |
| Microsoft exchange | Email monitoring and attachment processing | | 24/7 | | |
| SAP ERP | Invoice creation, PO lookup, and posting | | per transaction | | |
| OCR engine | | PDF data extraction and validation | | Per invoice |
| Workflow management system | | aApproval routing and tracking | | per invoice |
| Power BI | | Reporting and dashboard creation | | Daily/weekly |

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## 8.2. Reporting

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Report name** | **Source** | | **Purpose** | | |
| Daily processing summary | RPA logs and SAP | | Track daily volume and processing status | | |
| Exception report | Bot exception handler | | Monitor failed transactions and errors | | |
| SLA compliance report | Workflow system | | measure processing times against targets | | |
| ROI Dashboard | | Combined system data | | Track automation benefits and cost saving |
|  | |  | |  |

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## 8.3. Archiving

All processed invoices and related documents will be archive in sharepoint with the retention policies.

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## 8.4. Security & data retention

- All data transmission encrypted using TLS.

- Bot credentials stored in enterprise password vault

- Acess logging for all system interactions

- compliance with SOX requirements for financial data

- Data retention aligned with corporate governance policies

- regular security audits and penetration testing

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# Appendix

Process flow diagrams, system screenshots and technical specifications will be maintained in the project repository. Integration specifications and API documentation available in separate technical documents.

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# Open Questions

|  |  |  |  |
| --- | --- | --- | --- |
| **Date written** | **Date of response** | **Question / comment** | **Response from reviewer** |
| 2024/08/15 | 2024/08/18 | Can we process invoices in multiple currencies? | Yes, SAP supports multi-currency with automatic conversion |
| 2024/08/20 | Pending | What is the backup plan if OCR accuracy drops? | Manual review queue will be implemented |

# Escalations

For immediate contacts for the process automation project, kindly contact the respective contact on the table below:

|  |  |  |
| --- | --- | --- |
| **Email Address** | **Roles** | **Responsibilities** |
| Project.mannager@abcfinancial.com | Project manager | Overall project coordination and timeline management |
| Finance.lead@abcfinancial.com | Finance process owner | Business requirements and process validation |
| It.lead@abcfinancial.com | IT | System integration and technical implementation |

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