



# The Value of Intelligent Capture in Accounts Payable Automation

## Contents

Executive Summary .....	2
Evolution of Capture in AP .....	2
Intelligent Capture for AP .....	3
Any Source or Format .....	3
Integration with Business Systems .....	3
Enhanced Capabilities.....	4
Keys to a Successful Implementation .....	5
Conclusion.....	6

## Executive Summary

Accurate data is the foundation for an efficient, effective Accounts Payable (AP) process. Intelligent capture software that includes document imaging, separation and classification of invoices, and data extraction and validation introduces integrity in the downstream AP processes. Captured early in the process, invoices are sent in the electronic format to the appropriate employees for review, discrepancy resolution, and approval. This helps to ensure that invoices are approved within a week, with security and controls embedded. Intelligent capture eliminates the tiresome work of manual data entry and its associated errors, driving the return on investment in AP automation.

## Evolution of Capture in AP

The first commercial applications of document imaging and capture software were pioneered over forty years ago. By integrating a scanner with optical character recognition (OCR) software, developers set out to “read” an image, identify its information and automate delivery of that information to other applications. The goal was to reduce the time, complexity, cost and errors of the manual process.

While capture software was evolving considerably, the ability to achieve low-touch processing of invoices has proven elusive. Invoices present specific challenges, among them: There is no standard format for an invoice; every vendor delivers information in their own way. Many other types of documents arrive with invoices, including memos and credit applications. Information must be validated against other enterprise data, including vendor identification, employee identification, purchase order information, and receipt information.

The industry expectations today are that intelligent capture software will:

- Read all document-based information
- Separate and classify different documents that have been received
- Extract invoice information
- Validate invoice information
- Exchange information with enterprise systems

The first generation of capture software enabled the reading of all information. The following evolution provided the ability to focus on a subset of the information essential for the transaction. This was initially build around the concept of fixed forms, or structured documents where the same information is always located in the same area of the page. The ability to separate and classify was added. The most elusive goals, the extraction and validation of invoice information, required two important developments:

The software was enhanced to “learn” about semi-structured or unstructured documents. This was initially directed at an operator reviewing a scanned document, identifying the information to be extracted and its precise location, and creating a template for the document. This information was stored and applied when a similarly looking document was scanned. This labor-intensive effort was further hampered by the need to review and modify the template whenever a change condition was identified. Inevitably, the proliferation of templates resulted in the degradation of the performance of the application. The desired data quality proved difficult to achieve.

This technology then evolved into “intelligent” capture — the ability to apply rules for finding the required data, tying it to surrounding keywords and other elements. Instead of memorizing its fixed location, today’s technology automatically finds

the data among varied layouts following a logic that is similar to human reasoning. Intelligent capture software delivers more accurate, clean data, reduces errors, and helps achieve the lowest cost by reducing entry time. It delivers an attractive return on investment – typically within a year.

## Intelligent Capture for AP

Intelligent capture technology for AP leverages a rules-centric and data-centric approach. This begins at system initiation, where general invoice settings, such as possible countries of origination, currencies, tax rates and business rules are entered into the system. Leading software typically provides a set of standard data fields that can be found and extracted, such as invoice number, date, amounts and purchase order information. Additional fields can be configured to address specific requirements. These are the rules that determine what information to capture and how to identify it.

Intelligent capture software references enterprise information, including vendor master data, business unit tables, purchase orders and other data. These are delivered to the application from the ERP or financial system in regularly scheduled updates.

A system based on intelligent capture “learns” about the organization’s invoices. A representative sample of invoices is captured first. Exceptions are reviewed and corrected; this is the learning process for the system. After learning to perfect the management of more complex invoices, the solution is ready for production.

## Any Source or Format

Invoices arrive on paper, in email as PDFs, images or other formats, and via fax. An intelligent capture system supports ingestion of invoices at different points of arrival and in different formats. Paper invoices are scanned on a production scanner, MFP, or all-in-one device. Faxes are processed on a fax server. Attachments are extracted from emails. Other invoices, sent in an EDI or XML format that is accepted by the financial system, can be imported in that system directly.

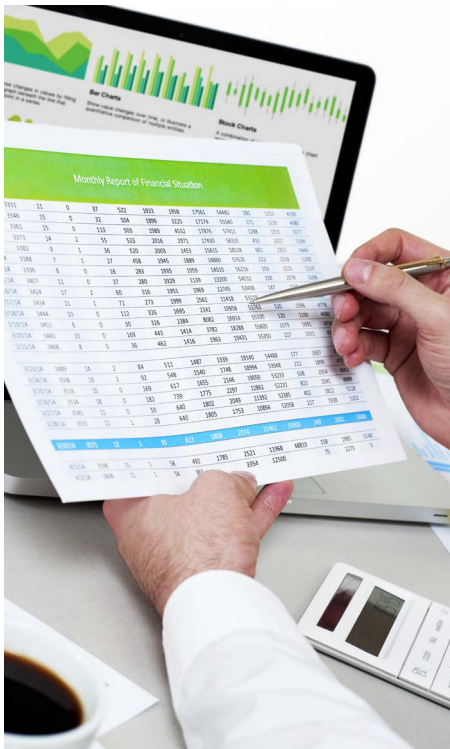
The intelligent capture system provides a single, consistent process for all sources and formats. After acquiring the invoice document, the system searches for the required fields of information (as identified in its configuration), extracts and validates the information against rules, logic, and enterprise data. Any missing or questionable data is reviewed and corrected by an operator; the corrections can also update the internal logic, enhancing the intelligence of the system. The data-centric approach does not suffer from the performance degradation because it is not based on fixed templates.

## Integration with Business Systems

An automated capture solution improves the efficiency of invoice processing typically in tandem with other systems. Its primary value is in feeding structured information to downstream applications, including the ERP, workflow systems and archival systems for image storage. It enhances those systems with business intelligence that accelerates decision-making.

On the other hand, the effectiveness of the capture process itself is ensured by validating invoice information against enterprise data residing in various business systems.





An intelligent capture system is typically integrated with the following business systems:

**Financial system** – Responsible for managing critical enterprise data, the financial system is the ultimate repository of invoice data, and the source of information required for efficient and effective automated capture.

**Vendor master data** – This increases the accuracy of vendor identification and the application of the vendor's payment or other contracted terms. Accurate vendor identification also improves capture quality; invoices from the same vendor typically look similar and the software learns which data to capture and where to find it for each particular vendor.

**Business units/purchasers** – The identification of cost centers, buyers, and approvers (for non-PO invoices) drives the efficiency of the discrepancy resolution and approval processes. For international organizations, this data can determine the country/region, language, currency and associated rules that should be applied.

**Purchase orders** – An intelligent capture system can compare the invoice to its purchase order. A complete match results in touchless approval and payment. Discrepancies, if occur, trigger review and an approval workflow.

**Workflow system** – Invoices can require discrepancy resolution and coding. Non-PO invoices require approval and sometimes multiple approvals if the invoice amount exceeds a threshold. Capture is the “front end” to workflow, feeding the financial information to the system and triggering the appropriate approval chain.

Integration with other systems for reporting, image archival and validation against delivery data can further enhance the process.

## Enhanced Capabilities

In addition to lowering the time, cost and error rate of processing an invoice, intelligent capture technology can further enhance the AP process in key areas:

**Contract compliance** – Organizations may configure custom rules that enable invoice validation to examine contract data including contract number, payment terms, expiration date, and prices for individual items. This data triggers the appropriate workflow, such as routing invoices for expired contracts to the appropriate person or expediting processing to achieve on-time payment.

**Purchase order line items** – Organizations should carefully examine the approach to vendor line items. Custom configuration to capture line items consistently will enhance automation. However, the efficient processing of invoices with large volumes or a high variation of line items may best be achieved by not automating line item capture and comparison, but through a visual comparison of purchase order and invoice data on a single screen with the operator determining further action.

**Duplicate invoices** – With the help of a capture system, the comparison can be performed of incoming invoice numbers with the numbers of all processed invoices. Potential duplicate invoices are identified for resolution.

**Invoice fraud** – As the capture system identifies vendor data, it can check the ID of the vendor's creator/approver. It can then compare the creator/approver ID to the person responsible for approving the invoice, and inform the workflow system of potential conflicts of segregation of duties.

## Keys to a Successful Implementation

How to make sure your implementation of an intelligent capture solution is successful? Below are a few key steps that will help you achieve a desirable return on investment.

1. The need to understand the process is paramount. Begin by documenting the current AP process. Metrics should include invoice-processing headcount, invoice volume, data-entry error rate, time required for each stage of the process, and the on-time payment rate.
2. Understand which systems are in place and the tasks they manage successfully. Are your requirements met with just a capture system, or is workflow required as well? Today's AP automation solutions range from end-to-end automation to separate capture, workflow systems and portals that enhance the existing environment. List the systems that will exchange information with the capture solution.
3. Identify your organization's invoice entry points. Who receives them and where? In which formats do they arrive? Distributed invoice receipt is difficult to control, and centralized processing is a best practice. If your receipt is distributed, create a centralization plan. What is the most efficient way to capture them as early as possible? Do you have scanning resources? A dedicated e-mail box for invoices? Are invoices received or scanned in batches? How frequently are non-invoice documents encountered in the batch?
4. You will need to define a process for the separation of documents. Intelligent separation of documents based on their contents can be performed; however, the most robust methods are still barcodes or separator sheets. If non-invoice documents are frequently encountered in the mix, you may need to consider a classification module that will identify each document type and inform the workflow system of the downstream processing requirements.
5. Identify the data fields for capture and validation. Focus on what is required to achieve your goals; additional "nice to have" fields will make the solution more expensive to maintain.
6. Identify where images will be stored and the policy for image retention.
7. Be prepared to provide a copy of your vendor master data and a representational set of a few hundred invoice images to the solution vendor. This will facilitate configuration and improve capture quality.
8. Create an implementation plan with the solution vendor. Minimize the disruption to AP staff and ensure that the implementation does not prevent them from meeting their daily responsibilities. Schedule appropriate training and plan for an adoption period with support resources (your staff or the solution provider's) to help them and promptly address their questions and arising issues.
9. Periodically measure the performance of the automated process and compare it to the pre-automation metrics. You should be pleased with the results! If you are not achieving your goals, work with the solution vendor to understand and address root causes.

Leveraging rules, data, and learning, intelligent capture software reduces costs, improves quality, speeds processing, and drives downstream systems including workflow and ERP



## Conclusion

Capture software has evolved to embrace the capabilities required for the automated capture of invoices. Leveraging rules, data, and learning, intelligent capture software reduces costs, improves quality, speeds processing, and drives downstream systems including workflow and ERP. However, the success of the capture automation initiative depends largely on careful planning and preparation. Consistent project management and enlisting the help of a competent vendor-partner will facilitate a quick return on investment.

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