

Bringing Intelligence to your Accounts Payable Automation

Have you have considered automating your AP processes in the past, or are you currently examining options for "going digital?"

It's a common goal! The Institute for Finance and Management (IOFM) reports that between 70 and 80% of invoices in the United States are still paper-based, and about 70% of invoice processing costs are related to document handling and manual data entry. This reliance on paper leads to slow processes, lower overall accuracy rates, and higher costs.

In the past, many AP professionals were scared away from automation, because they believed it would be hard to learn the new technology. Previous investigations led them to believe it was too expensive, or it simply seemed like a big hassle. Occasionally, AP teams have been told that all of their suppliers would also have to issue e-invoices in the same standard format in order to become fully digital. My boss always says, he can't get all four members of his family to agree on what to have for dinner. So, what hope do we have of convincing hundreds or perhaps thousands or tens of thousands of suppliers to do what we ask? It's silly...

Anybody attempted automation in the past, only to be frustrated by staff reluctance (or outright rebellion)?

Judy Bicking, one of the Senior Trainers with IOFM, tells a hilarious story about change resistance she encountered during her tenure as Global Director of Shared Services for Johnson & Johnson. She was responsible for moving their processes to digital, and she once popped the Print screen keys off of dozens of keyboards in an attempt to help her staff transition to viewing electronic invoices instead of printing the invoices for processing.

Guess what! It doesn't have to be so hard!

You can help your staff manage the change, and e-invoices are simply no longer required. Though invoices may arrive in many different page layouts, file formats, and even in paper form, a System of Record can handle them all. Systems of Record will ingest almost any type of enterprise content and can then group similar items, like invoices, into categories that define processes and apply specialized security. Digital invoices ensure better control of information and are easier to retain in compliance with regulations.

Today's scanning and imaging technologies have simplified AP automation. Workflow capabilities then allow the electronic invoices to be sorted, processed, and paid much more quickly. In fact, with today's technologies, AP Automation can be accomplished with an eye toward five simple steps.

We've boiled AP automation down into these five simple steps. Let's examine each one, and I'll share an example of a real customer who is using technology to accomplish each one of these steps in their organization. My hope is that by learning about each step and then hearing how a real company did it, you'll walk away from this session empowered to begin your own transition to fully automated AP processing. Listen for the features and functions that each company purchased, so you know what you should add to your wish list for automation technology.

Step One: Scan

Step one in moving from paper-based invoicing to automated AP is to convert those invoices that you're still receiving on paper into digital files that are more secure and easier to work with. You'll do so by scanning the paper documents into digital files.

Once digital, they benefit from the same automatic security, retention, and routing as their electronic counterparts.

Are you already scanning invoices today? Do you scan after invoices are processed (sometimes called back file scanning), or up front as the invoices arrive?

Rather than scanning after invoices are processed, we recommend scanning upfront—upon receipt—so that natively digital and natively paper invoices follow the same process flow and are protected by the same security measures.

What product capabilities should you look for to implement scanning? Start with a scanner that is equipped with the speeds and features to meet your needs.

You'll also want to carefully consider which scanning software you want to run the scanner. May I suggest that you look for one that works with virtually any scanner at its full-rated speed, so you can change hardware when needed. Choose one that includes the ability to clean-up scanned images using image filters like despeckle and deskew, so you're getting the clearest possible digital images. We also suggest you choose an application that offers a quality control check that allows operators to quickly assess the quality of scanned images, so you're rescanning right away rather than discovering poor image quality as invoices move through reconciliation and remittance processes.

How does invoice scanning work in the real world?

Located in Ankeny, IA, Industrial Refrigeration Services (IRS) specializes in commercial and industrial refrigeration. Their AP department receives approximately 2,000 invoices monthly, and they recently implemented AP automation technology to streamline processing. IRS converts all of the invoices they receive on paper into digital files by scanning them. Invoices are then uploaded to a cloud-based system of record for management and retention. After eliminating their paper invoices as they are received and automating their AP process, IRS saves more than 500 employee hours per year, and they believe 100% of invoices are now secure from loss, theft or damage. "We use [a system of record] for just about anything you can imagine, including AP processing," explained Pat Myers. "We're on our way to being completely paperless."



Step Two: Index

Now you've gotten rid of your paper invoices and you've got a bunch of digital invoice files. What do you do with them? Well, Step two is to index the new digital invoices so you can find them again using keyword search.

Once scanned or ingested, digital invoices should be labeled with identifying information. Indexes are sometimes also referred to as tags or metadata. Are your AP staff hand-keying invoice information into

accounting applications today? This is one of the reasons AP processing is so expensive, and why so many companies are looking to make a switch to automation.

Many available solutions include the ability for your staff to hand-key this information. but eliminating manual effort is critical during this step, because paying employees to hand-key data is expensive! Some hints on what to look for in an indexing solution:

- Start with applications that will sort invoices into categories automatically. Essentially, this means that your staff who opens the paper invoices, simply throws them all onto the scanner and the scanner software will identify things about the invoices that are similar in order to sort them into piles.
- Second, do not settle for applications that will not extract critical data for you and use it to automatically populate not only the indexes for each scanned document, but also export that data into your accounting application.

It doesn't make sense to eliminate manual data entry on the scanning side, if you don't also eliminate it in your accounting application as much as possible! Your application should automatically extract any business information you choose including invoice amount, date, vendor information, and even line item details. Once scanned and indexed, invoice images are loaded into the system of record.

We'll talk more about how the system of record works as we discuss step five which has to do with records retention. For now, just know that it becomes the home of your digital invoices.

Critical capabilities to put on your shopping list include the ability to automatically classify invoices into categories without manually sorting them before scanning, and the extraction of invoice information to automatically populate those index values.

Don't forget to ensure that the software you choose already includes the ability to export to your accounting application. You don't want to pay for or experience the hassle of developing a custom integration!

Before we go on, and in the interest of full disclosure, I should spend a minute to let you know that two of these capabilities I just mentioned are not commonplace. While most scanning applications allow you to hand-key index information, very few will categorize invoices and extract the data for you automatically. Digitech Systems recently released a patented artificial intelligence engine called PaperVision Forms Magic that sits inside of our scanning software, PaperVision Capture. It is this AI engine that allows our application to do things others cannot, including automatically classifying invoices during scanning and extracting the invoice details to eliminate manual data entry.

I'd like to speak just a bit about artificial intelligence and how it is beginning to impact the AP automation tools that are available for your use today. Though many still think of the computer on Star Trek that could answer Captain Kirk's questions, or picture robot cops running amuck, the algorithms classified as AI are now available in practical business applications, particularly those that help companies get control of information.

Three key trends are converging to create an environment that makes AI computing an attractive area for research and development, resulting in these breakthrough business applications.

The first driver is the rapid increase in the amount of data.

The explosion of data in all its forms has consumers and businesses scrambling to find cost-effective solutions that enable them to intelligently find the critical data they need to make smart decisions. We hear about this a lot, so I did some research to help you understand just how big is "big."

- IDC estimates that between 2009 and 2020, the data we need to keep track of is doubling in size every two years! Think about how many invoices your organization receives monthly today. Now assume that in 2020, you'll be getting twice as many, and by 2022, four times more... every month!
- If this data growth were represented by the memory in a stack of tablets, in 2013 it would have reached 2/3 of the way to the moon. By 2020, there would be 6.6 stacks of tablets from the Earth to the Moon!

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Two, economic lessons we learned during the recent Great Recession linger in the minds of business decision-makers, and are affecting our hiring practices still today. Though our consumers demand ever greater process efficiency and cost savings, we work in an environment in which there are fewer bodies to do the work and more intense information security standards prevail.

Here are the numbers:

- IDC explains that while data doubles in size every two years, our investment in IT will grow by only 40% between 2012 and 2020. That means our investment will drop from about \$2.00 to about \$0.20 per gigabyte!
- They go on to explain that while the amount of data being managed by enterprises will grow by a factor of 14, the number of IT professionals worldwide will only increase 1.5 times.

We've all learned to make do with fewer AP resources, and we know that technological breakthroughs are one of the things that makes today's leaner AP organizations possible.

And three, until recently, there simply wasn't enough computer power to allow developers to execute older theoretical AI algorithms, which limited learning and progress.

Did you know that since 2000, a \$1000 investment in computer hardware has grown from offering the brainpower of a mouse to today being almost the equivalent of a single human brain? By 2050, experts estimate that we'll actually be able to buy the composite brainpower of the planet for that same \$1000 investment!

These factors are strong enough that market research firm, Research and Markets, estimates the market size for AI systems in enterprise applications will grow from just \$202 million in 2015 to more than \$11 Billion by 2024, making it one of the fastest growing segments of any industry today.

Quite simply, though we've been able to theorize AI processes in the past, these market developments are now allowing AI experts to build and test their ideas in the real world. They have access to huge amounts of data thanks, in part, to the internet. And, independent AI test labs can now afford the computing capability required to test and retest AI algorithms in order to hone and refine until they get the best results possible.

How many are worried that your team or organization might be a little afraid of artificial intelligence?

I'm not surprised there are a few who are concerned, thanks to the portrayals of AI we've seen from Hollywood over the last 30 years! I was surprised to learn that a recent study by Narrative Science, found that 80% of workers believe AI will improve their performance and create jobs. It seems that they are looking for AI to solve problems they can't get through on their own.

So, how does artificial intelligence fit into our story of AP automation? Well, these technologies can dramatically simplify the process of sorting AP documentation and can eliminate the expense associated with hand-keying index values. Let's look at a real story to better understand how this works.

AI is helping an ordinary small manufacturer to more quickly and accurately index their invoices as part of their automated AP processes.

Based in Cedar Rapids, IA, MSI Mold Builders produces manufacturing molds for customers in a variety of industries including medical, automotive, and recreation. Though they have used lean manufacturing techniques for years to produce high quality molds, their AP processes were struggling to keep up with more than 1200 monthly invoices.



Mold Builders chose PaperVision Capture to address their AP challenge. Capture included PaperVision Forms Magic, the AI engine I've mentioned, which ingests new invoices as they arrive, classifies them by type, and extracts the critical accounting details such as invoice number and amount, line items and totals, and vendor information.

At Mold Builders, the system also sends invoices into an electronic process for payment, resulting in a fully automated AP function.

The organization has shortened time-to-payment with initial users of the new system reporting **reduced invoice processing time by 75%**.

How would your AP process would be better, if you could cut $\frac{3}{4}$ of the time it takes you to process each of your invoices?

In addition, Mold Builders achieved a **90 percent classification accuracy rate**, which means fewer errors and far less manual handling. And, they lowered the processing cost per invoice from about \$63 to less than \$16, **saving the company more than \$676,000 annually**.

All of this was made possible by the AI-assist in the technology they chose to address the digitization of their AP. Invoices are active right away—the moment they are received—which streamlines their entire accounting function.

Step Three: Reconcile

So now we have scanned images of our paper invoices that have been tagged with index information so we can easily find them again. What's next? Well, step three in our automated AP process is to reconcile invoices against supporting documentation.

Once received, invoices are typically compared to purchase orders and goods received records to cross-check line items and totals. This process is known as a **three-way match**, and it is a critical step in invoice processing, because it is so important to validate invoice accuracy before cutting a check!

A system of record allows AP clerks and accountants to view documents side-by-side to verify purchase order, invoice, and delivery information, satisfying three-way match requirements. Best of all, identifying index values make searching for related documents painless and quick.

What should you look for in your reconciliation capabilities?

Two things are important here and that is the ability to view multiple documents side-by-side, and to integrate the system with other line-of-business applications such as inventory management and accounting software, so you can run a single search for all related information from multiple systems that returns records and information to a single interface for comparison.

How does this work in the real world?

Since 1915, Commercial Metals Company has manufactured, recycled, and marketed steel and metal products worldwide. They are a \$7 billion enterprise with 120 facilities in more than 12 countries.



Tasked with centralizing AP processes across the company's 40 US-based recycling yards, Alberto Centeno quickly realized the only way to effectively reconcile purchase orders, invoices, and shipping receipts in this distributed model was to move to digital processes. Supporting documentation was so hard to find in the existing paper-based system, that during a bad month, it would take maintenance supervisors at each yard almost 200 hours to process just 250 purchase orders.

They implemented a cloud-based system of record for electronic invoices that includes the ability to automatically route digital invoices through reconciliation and approval processes. The business benefits are impressive:

- CMC reduced the time it takes to complete three-way match for each purchase order by 33%, saving each yard 125 hours monthly, a total productivity gain of around 60,000 hours every year!
- The ability of the system to automatically flag duplicate invoices is saving the company more than \$1 million annually.
- And they have reduced their cost per invoice processed, which is **saving the company more than \$2.6 million annually.**

Step Four: Remit

Here we arrive at step four in our AP automation process: remitting payment.

Invoices that are received must get paid, and often suppliers have negotiated discount terms that offer companies incentives if they pay invoices early. Streamlining invoice processing times by routing invoices through approval processes electronically dramatically reduces the time spent processing each invoice enabling the company to take advantage of more early payment discounts. IOFM explains that a 2% early payment discount is the equivalent of a 36% reduction in annual interest rate—huge savings for the average business.

Electronic routing is accomplished with applications known as workflow or business process management (BPM), and they dramatically speed and simplify your entire AP process! You may even find these capabilities included as a module in the system of record you choose.

In workflow, you will setup rules that designate which approval process each invoice flows into. These can be based on virtually any criteria including dollar amount, vendor, or type of purchase.

As invoices travel through the workflow, each step notifies a user that an invoice in the system needs attention. They can quickly view not only the invoice, but also any supporting documentation, so they're able to authorize the payment and move the invoice into remittance much more quickly.

Even more important, automated processes can help to ensure internal controls are followed with every invoice from the moment it is received to the moment the payment is sent, ensuring compliance with regulations and minimizing any opportunity for fraud.

What goes on your workflow shopping list?

Start with automatic routing of documents, and the ability to search for all related documents from one screen. It is also nice to have the ability to apply electronic signatures to documents as required.



Terrus Real Estate Group offers a nice example of what happens when invoices get routed electronically through an AP process.

Founded in 2000, Terrus offers strategic real estate planning and real estate brokerage to commercial construction and property management companies. The firm manages 1,300 leases and accompanying documentation and receives about 20,000 invoices annually.

Prior to the implementation of AP automation these were all processed by hand. Employees had to enter information twice—once into the accounting program and again into the document management system. Paper documents were passed by hand for review and approval, and managers spent up to five minutes verifying and approving each invoice. Occasionally, invoices were simply lost during the process, and staff members would spend hours tracking information down when vendors called. Multiple copies of leases (and lease revisions) were kept in onsite filing cabinets and offsite storage and were often impossible to keep up-to-date.

In 2006, Terrus began searching for an AP Automation system that would allow them to route invoices through standard processes, expedite approvals, and that would integrate with their accounting software. As they learned more about available products, it became important to them that their document management software offer a fully integrated workflow function, which would allow them to define custom process steps for different types of documents and then automatically route electronic files through those processes. Finally, Terrus determined that they wanted a cloud-based system of record, so that they could avoid the hassle and expense of implementing software on their corporate network.

Terrus worked with a local scanning bureau, to scan and index 21,000 pages of lease documentation from their existing files, and then began actively scanning their own incoming paper files in December 2006. The scanned documents are automatically uploaded to their document management system, which kicks

off the workflow engine to identify document types and send them through the appropriate approval processes.

Invoices and accounting records are also managed electronically, and the workflow system automatically initiates approval processes and reports on progress. Invoices are never lost, and managers can leave electronic comments on invoice files using annotations or textual notes that might explain any reason for delay in approval processes. This process improvement has saved management 1,150 hours annually and has resulted in a 30% productivity improvement for staff.

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Step Five: Retain

We've cut and sent the check, process complete, right? Hold on. Once paid, the active life of most invoices is over, but financial records are subject to particular retention schedules that require businesses to keep copies for years, which leads us to step number five: retain.

Electronic records are easier and more cost-effective to retain than mountains of paper invoices filling up filing cabinets and offsite storage. In addition, some systems include the ability to setup retention schedules as financial records are received. These schedules can notify administrators when documents are due for destruction, and can prevent records from being destroyed without proper authorization.

What should you be looking for to meet your retention needs?

Only work with a vendor who offers the ability to store your files either onsite on your own corporate network or in the cloud at your discretion. You should be able to switch from one to the other without much hassle, since you don't know how your needs may change over time. In addition, choose an application that helps by applying automatic retention timeframes to every document, that allows you to require management authorization prior to record deletion, and that give you the ability to hold documents past retention deadlines as needed.

Just by way of information, IOFM offers these general guidelines for financial records retention:

- Correspondence - 2 years
- Invoices, payment records, employee expense reports, and credit memos - 7 years
- General ledgers, payroll journals, audit reports - forever

This is one of my favorite customer stories to tell, because I love these ladies, and they are saving a bundle on their AP records retention!

As the #1 specialty tea company in the United States, R.C. Bigelow Inc., makers of Bigelow Tea, have been relying for decades on automation in their processing factories, but they did not begin to convert AP processes to digital until about ten years ago. Their AP automation journey began, because of the difficulty of storing and retaining financial records in compliance with tax guidelines. They were saving five years of paper-based information at their headquarters in Fairfield, CT and at the end of each year, a temporary employee was brought in to sort files for offsite storage where they would be held for another two to three years.



They chose a cloud-based system of record, to retain their financial records because it was easier to get started and did not require IT involvement to setup. In fact, Noreen Clough and Melanie McElroy, the two ladies who oversee all of the financial functions for Bigelow setup and modify the system largely by themselves.

After automating their AP processes, they generated the following results:

Overall AP employee productivity has improved by more than 5%, saving thousands of hours annually and eliminating the need for part-time and contract employees to prepare for audits.

Nucleus Research, an independent analyst organization that specializes in the financial return on technology investments, recognized RC Bigelow as a Technology ROI Award winner and calculated their project ROI at 813% with full project payback in less than two months. The analysts stated, "Bigelow Tea was able to yield such significant return, because many of the company's manual paper-based processes were eliminated..." Imagine bringing that kind of return to your organization simply by going digital!

One fun part about this story, is that the effort to go digital in AP has become the model across the organization. RC Bigelow is well known for their environmental commitment to green initiatives. In fact, CT Governor Jodi Rell chose to sign the Connecticut Energy Efficiency Bill at the company's headquarters in 2007. Dubbed "sustainabili-tea" the same cloud-based system of record that has assisted AP for more than a decade is now used by all major departments of the company. Almost 100% of company reports are electronic only, and all departments report on paper use and efforts to reduce as part of their monthly statements.

As organizations move toward AP automation, they experience significant time and money savings.

IOFM reports that moving from paper-based to digital reduces the average cost to process each invoice from \$11.76 to just \$5.46 (a 53% cost reduction).

And, a simple improvement in the number of early discounts you're able to earn can result in huge savings that go directly to the company's bottom line. IOFM reports that a 2% early payment discount is the equivalent of a 36% reduction in annual interest rate!

Don't be intimidated by thought of AP Automation. Times and technologies have changed to make it as simple as scan, index, reconcile, remit, retain.

[Contact us today!](#)