



Solving the Paper Problem

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How manufacturing companies can recapture up to 6% of their annual revenue

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Documents are at the heart of every business process. No matter the market or the industry, documents drive the business functions that make any company run. Manufacturing organizations are no exception. Invoices, purchase orders, packing lists, engineering change notifications – these are just a few of the many documents that support daily operations, facilitate production and drive revenue. Indeed, without documents manufacturing businesses would simply see no business at all.

The cost of document mismanagement

Research shows that over 30 billion documents are used each year in the United States.¹ Despite the promise of the “paperless office,” companies continue to consume paper at an alarming rate – over 46 million tons annually.² If this number is not astounding enough, consider that over an entire year the United States Post Office will handle approximately 300 million pieces of first class mail.³ Clearly, paper remains a primary player in everyday business.

Analysts estimate that the average manufacturing company spends approximately six percent of their annual revenue on office documents.⁴ Organizations must therefore work for the first 16 days of every year to pay for this expense. Postage is another burden on the balance sheet; the cost of first-class mail has risen 24 percent in just the past eight years.⁵ There is hope, however, with research showing that most companies could trim their document-related expenditures by 10 to 30 percent with more thoughtful strategies.⁶

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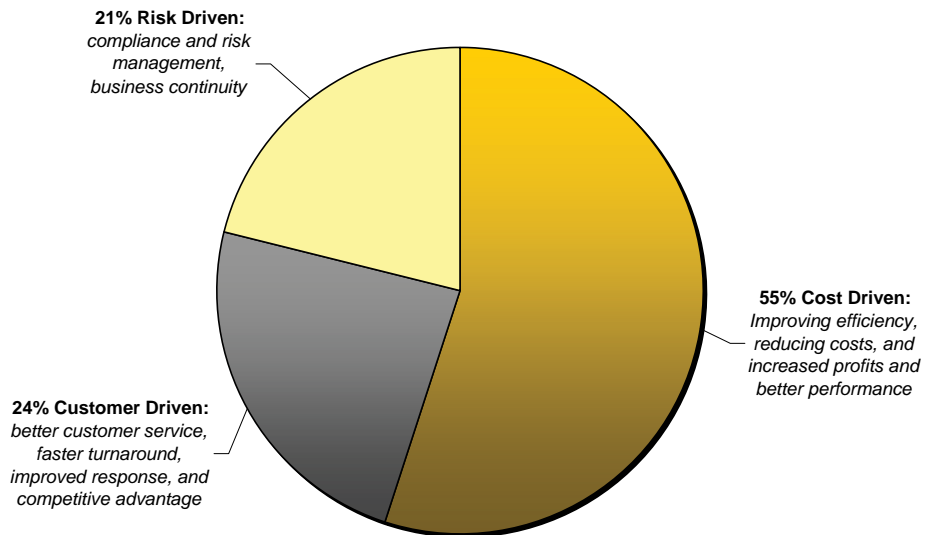
For every dollar that a company spends for a final document, 10 dollars are spent to manage the process.



Finding a solution to the paper problem, however, is not a principal concern for many manufacturing organizations...but it should be. Despite significant advances in digital document technology, most manufacturing firms continue to conduct business with “plain old paper” and struggle to control the inherent costs and inefficiencies as a result.

According to a recent study conducted by AIIM, the enterprise content management association, over half of the manufacturing CFO and C-level executives surveyed cited cost savings and improved efficiency as the top business drivers behind adopting document management. About a quarter of the executives viewed improvements in customer service and more agile response as competitive advantages, while 21 percent felt compliance and risk management are key benefits of document management.⁷

Manufacturing C-level executives sight the following business drivers behind document management strategies:



Source - AIIM Industry Watch: State of the ECM Industry

While most organizations consider documents solely as a “printing cost,” the hard costs of documents are only part of the equation. Inefficiencies, rework and error are expensive in terms of lost productivity and ineffective customer service. Documents claim up to 60 percent of office worker’s time and account for up to 45 percent of labor costs.⁸ Studies show that 85 percent of documents filed are never retrieved, 50 percent are duplicates, and 60 percent are obsolete. The bottom line is that for every dollar that a company spends for a final document, 10 dollars are spent to manage the process.⁹

If document-reliant processes are flawed and inefficient the overall performance of your organization may be greatly impacted. Since documents have a direct influence on the performance of key aspects of business operation, it makes sense that document management receive the same strategic importance and focus given other essential strategies and systems. By examining how documents serve – or fail to serve – key business processes, manufacturing companies can make substantial work process improvements and significantly reduce document-related expense.

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The paper burden costs manufacturing companies

Despite the growing digitization of the workplace in recent years, manufacturing organizations continue to rely on paper documents as the primary tool used to conduct business and communicate with customers, suppliers and contractors. As a result, firms continue to struggle under the burden of paper-bound business processes – purchase orders are printed and mailed to suppliers, customer invoices are stuffed, sealed, and sent via “snail mail,” and engineering change notices float from in-basket to in-basket across the organization. Encumbered by paper, many manufacturing firms find that documents are an expensive and time-consuming proposition.

When looking more closely at how documents are used throughout the company, manufacturing organizations discover conditions that frequently inhibit optimum cash flow, encourage overspending and hinder customer service. These shortcomings are often overlooked since “document management” is rarely found as an operating expense line item or included in the scope of strategic planning. As a result, paper-reliant processes continue to cost the company.



Paper-bound processes

Accounts Receivable

Any manufacturer depends on their accounts receivable process to remain in business. Clearly, without customer orders, products and payments, manufacturing companies would quickly fail. A variety of documents support this essential business function including purchase orders, pick tickets, bills of lading, and invoices. In most companies these documents continue to be produced and distributed the old fashioned way: on paper.

A close examination of the workflow associated with a common customer order is a compelling example of how the burden of paper-bound processes can encourage inefficiencies and overspending.

When a manufacturer receives an order for goods from a customer, an order acknowledgement form is created which must be returned to the end customer; typically via mail or fax. This process requires a variety of paper-bound tasks. First, employees enter order information into a line of business software and then, despite the data residing electronically, print an acknowledgement form. This requires that staff members leave their desk, walk to a printer, load the appropriate pre-printed forms, and then return to their desk to release the job. Once printed, employees must then return to the printer and collect the documents. This administrative "walk and wait" time represents a significant burden to labor costs over time.

Assuming everything printed correctly, the acknowledgement form must then be manually faxed or placed in the mail to the customer. Faxing requires further busy work; employees must create a cover page, dial the number, and wait several minutes for the fax to complete. Mailing also requires a great deal of manual intervention as well as the additional expense for envelopes, postage and processing. Finally, a copy of the acknowledgement form must be placed in the appropriate customer file and tucked away in a filing cabinet. As the inefficiencies of this process grow, so do the expenses to the company.

Once the order has been processed, a pick ticket is created so that warehouse personnel know what items to pull for shipment. Pick tickets are also paper-bound; printed and stacked in a warehouse in-basket where they wait to be manually filled out on the warehouse floor. Once completed, pick tickets are returned to a stack to eventually be routed to accounting clerk who must again manually enter the data in order to adjust the inventory. This process is both time consuming and error-prone.

Next, a bill of lading is created. Since a signature is required at delivery, bills of lading take form on paper as well. As a result, drivers are required to carry a binder of multi-part forms along their route, using the paper to collect a signature at each stop along the way. Bills of lading place drivers in the hot seat by requiring them to accumulate and account for each document. This process can become even more complex depending on the use of 3rd party carriers like UPS, etc.

Accumulated bills of lading are then routed to an administrative staff member or department where the stacks of statements must then be examined and processed by hand. Manually entering customer and product data often takes several days to complete, and since damaged and spoiled documents are common, data entry errors are an unavoidable side effect. Documents also become lost, and as a result the billing and payment process grinds to a halt while workarounds and problem solving take place. These conditions inhibit optimum cash flow and make ensuring customer satisfaction more difficult to achieve.

Finally, a customer invoice is printed and mailed at the conclusion of this lengthy process. Paper invoices are most often married with a copy of the signed bill of lading; again requiring addition manual intervention which lengthens the time a payment will remain outstanding.

Recent Postal Rate Hikes

Jan. 10, 1999	0.33
Jan. 7, 2001	0.34
June 30, 2002	0.37
Jan. 8, 2006	0.39
May 14, 2007	0.41
Proposed 2008	0.43

- US Postal Service



The paper burden does not end here, however. If a customer disputes a particular invoice, service representatives often struggle to resolve the issue in a timely manner. Agents must frequently conduct a physical search for the associated documents by pawing through filing cabinets, searching cluttered in-baskets, or by hunting down documents that remain in the warehouse. As a result, customers often wait several hours, if not days, to get an answer and may be required to call back several times before receiving a satisfactory resolution to their complaint.

Accounts Payable

Accounts payable is another key business function that suffers many of the same costly constraints and inefficiencies. However, while the accounts receivable process compels companies to issue a variety of outgoing documents, accounts payable requires manufacturers to struggle with the burden of incoming paper.

Manufacturers commonly receive supplier quotes via fax machines, or perhaps printed from an incoming e-mail. Supplier purchase orders are printed, faxed and mailed to various vendors and suppliers who then reciprocate by issuing order acknowledgement forms which must also be printed, processed and filed by hand.

Supplies and parts arrive at the manufacturer with a variety of shipping documents – again typically on paper – and invoices that must be manually routed, reviewed, copied and filed. Payments to suppliers take form on paper as well. Physical checks must be inserted into envelopes, with postage applied, and then processed for mailing.

In short, rather than being on the issuing end of all this paper – as is the case with accounts receivable – the accounts payable process requires organizations receive, manage, process and file a variety of paper documents. This is a daily burden and the larger the manufacturer the larger the problem. Indeed, upon closer inspection companies find that managing the paper, associating all of the corresponding documents and processing paper payments is surprisingly more costly and inefficient than they realize.

Human Resources

Manufacturing organizations typically maintain an extensive repository of paper documents associated with human resources. The paper burden consists of a wide variety of documents including applications, performance reviews, IRS forms, grievances, background checks, training documentation, and a host of other related information. Many of these documents must be signed, duplicated and maintained securely, sparking a variety of manual processes and administrative overhead not to mention the sheer physical space needed for storage.

HR files become larger over time with employee tenure; and as each new hire is brought on board the storage and administrative burden grows even larger. Even when employees leave the company the onus remains; companies are compelled to retain HR records for several years after the individual has been released from the organization.

The storage and protection of Human Resources archives quickly becomes a significant challenge, especially for large, multi-location manufacturing firms. Office real estate that could be used to more profitable ends is taken up by the ever-expanding banks of employee files. The turnover rate of blue collar workers experienced by most manufacturing organizations makes maintaining and administering HR archives additionally problematic and costly.

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Issues surrounding confidentiality, security and custodianship are additional concerns that are inherently challenging with HR documents especially if your organization has multiple sites and facilities. The legal exposure connected with confidential employee information is great, and as paper files are routed from one location to another manufacturer's face increased risk that sensitive information will be lost, stolen or illegally copied. Paper documents simply lack the secure portability found using electronic employee records.

ECN engineering change notice

An Engineering Change Notification (or ECN) is another key document in any manufacturing organization. When a customer requests a change to a part or a product, the changes requested must be thoroughly documented and the process requires the participation and approval of a variety of personnel throughout the organization. The importance of the data and the significance of the process bring great scope and importance to the ECN document.

In most manufacturing organizations a document control agent is at the hub of the ECN process. When a customer requests a modification to the specifications of a product the request is routed to a document control specialist who is responsible for collecting all of the details associated with the engineering change and facilitating the internal change process.

Once logged and verified by document control, the ECN is then distributed to the corresponding production engineers who make notes, add instructions and sign off on the request. This process is typically done using paper. Once complete, the ECN is then routed back to the document control person.

Paper-based documents continue to cost companies, not only in hard dollar expense, but also in terms of inefficiencies, inaccuracies and irrisolute customer care.

From here, document control then routes the ECN back out again for executive approval. The VP of Operations or VP of Procurement makes additional notations and comments before sending the ECN back, yet again, to document control.

This back-and-fourth process can include anywhere between five and 15 different individuals and take several days or weeks to complete. Each time the ECN document must go to the document control person as the central hub, out to the individual, and back again while the information accumulates at each step of the way.

In most manufacturing organizations the ECN routing and documentation process is entirely paper based. Every time a change or notification is made to the document it must be manually logged by the document control specialist. The overall process is lengthy and prone to error and rework. And since documents are routed via clerks and couriers, there is a latent risk that ECN documents will get lost, damaged or misfiled.

Industry Compliance

The process behind an ECN also illustrates the critical role that documents play in industry compliance. For example, any time a manufacturer changes a process, product or specification, complete documentation is required in order to maintain ISO compliance. Regulations mandate that companies keep and maintain this documentation and often the retention requirements can be quite lengthy; potentially forever. As we saw in the recent and tragic bridge collapse in Minnesota, the specifications, manufacture and installation of every part and piece of the failed bridge, constructed in 1956, are now exhaustively investigated over 50 years later. In this case, long term document storage and access is vital.

Human resources also presents a compliance challenge, as the privacy and protection of employee data becomes more and more vital for compliance with regulations like HIPPA. Accounts payable and accounts receivable documents are also part of the compliance picture; influenced by practices and standards outlined by the SEC and others financial regulators.



Customer service

Maintaining agile and accurate customer service is essential for any organization and manufacturing firms are no exception. With a paper-reliant process, however, first-call resolution is often impossible. Lost documents and long delays result in unhappy customers. To make amends, manufacturing companies often eat the cost in the form of write offs. Whether or not a company is in error, without physical evidence firms assume a “customer is always right” approach and absorb the costs in question in order to appease complaining customers.

Electronic Document Management - An alternative to relieve the paper burden

Electronic document management technology is now being adopted by many manufacturing organizations as a way to relieve the paper burden, reduce costs and build more efficient workflow. Once monolithic and complex, document management has become more intuitive and user-friendly, and no longer requires a staff of computer programmers to install and maintain. Perhaps more importantly, newly developed document management solutions are available at price points that won't break your bank account.

One reason manufacturing organizations hesitate to embrace electronic document management is the traditional reliance on paper to simply get the job done. Both familiar and dependable, paper documents are commonly described as “the way we've always done it.” But manufacturers need not eliminate paper altogether from their trusted workflow in order to gain substantial benefit from document management. Rather than strive for an entirely paperless system, a “less paper” approach will retain the ease and familiarity of paper where it makes sense, and make service of digital technology to trim costs and enable more efficient administrative workflow.

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Accounts Receivable - Improving the process

Electronic document management can ameliorate the paper burden in key operational processes. This improvement can be seen clearly by once again examining the accounts receivable process.

Using electronic document management sales representatives can eliminate the paper quote and issue an electronic document that is automatically distributed and stored as a new order file. When the customer order acknowledgement is received, the incoming fax is converted to an e-mail without touching paper. The e-mail then initiates a workflow that generates an electronic warehouse pick ticket.

Paper pick tickets are replaced as well, as outgoing inventory data is populated on a hand held device carried by warehouse personnel. As they remove items from the warehouse for shipment the changes are automatically reflected in the inventory system eliminating the need for manual intervention by accounting clerks. As this part of the process is completed the electronic workflow continues; pick tickets are automatically stored in a central repository and made immediately available to customer service representatives.



Since bills of lading require customer signatures, these forms may continue to be printed, but some organizations are taking steps to eliminate the physical bill of lading form altogether. In this scenario a line of business software creates a bill of lading electronically which is then sent to a specific hand-held device carried by the driver. These devices – similar to Blackberries, smart phones or pocket PC's – have become commonplace. Perhaps the best known example is the hand-held tablet used by UPS. From there, drivers upload (or fax) each bill of lading, including the customer signature, to the home office. If paper is still used, the signed bills of lading are scanned into an electronic repository. The process literally “captures” a digital image of each bill of lading form which can then be immediately accessed online. At the same time, key bits of information are gleaned from each document – customer name, account number, inventory items, or amount paid, for example – and fed directly into your line of business software or accounting system.

Whether scanned or electronically received from a hand held device, the information serves to immediately trigger the creation of customer invoices, which are then faxed or e-mailed to customers. This trims the payment cycle, in most cases by approximately three to five days, and eliminates both printing and postal expense.

Since a customer invoice and the original bill of lading are linked electronically, customer service agents can instantly access the documents they need in order to resolve customer concerns and billing disputes. The result is faster payment, increased customer satisfaction, decreased labor, and a significant reduction in write off expense. And by virtue of increased “information agility,” customer service representatives can more quickly resolve customer calls. Invoices are issued without delay; increasing the likelihood that customers will pay more quickly as well.

Electronic Workflow

Electronic document management can be applied successfully to other key processes and workflow as well. In the accounts payable process, for example, incoming faxes are converted to electronic files and routed throughout the company automatically. Physical documents – order acknowledgments, bills of lading, invoices, etc – are scanned, indexed and stored electronically as well. All of the documents associated with account reside together in a central repository and can be quickly accessed via the document management application making customer service and administration more efficient and effective.

Manufacturing firms need only “follow the money” to visualize how paper-based documents continue to cost the company.

By scanning and storing Human Resources documents companies can reclaim the space taken up by banks of filing cabinets and ensure the security of the sensitive employee information. Electronic routing of employee files is more secure and timely as well, especially for firms who have multiple locations and factories.

Using an electronic workflow the process supporting Engineering Change Notifications is made more efficient and less time consuming. Indeed, ECN documents may never take form on paper unless need be. Routing and approval is facilitated online reducing the risk that documents become lost or misfiled. Once completed a digital record is created and stored in a secure repository with retention that can easily span years or decades as needed.

Customer service can be greatly improved with document management integration. Document images can be presented online and tracking data fed to customer service agents who can then resolve questions more quickly. Missing documents can be resent directly to customers either by fax or e-mail, or scheduled for reprint either on a local printer or via production printers. Some companies choose to post documents on a secure Web site so that customers may satisfy their own requests without engaging live service agents; viewing statements and requesting reprints, for example, all performed transparently to a company's normal support hours.



Follow the money

Manufacturing firms need only “follow the money” to visualize how the workflow associated with paper-based documents continue to cost the company. The following are some constraints to consider, and questions to ask in your evaluation of document-related systems and workflow.

- **Multipart forms** – These outdated forms are costly to produce and necessitate the use of a third-party forms vendor. What does your company spend to produce the forms that support your billing, shipping and invoicing process?
- **Warehousing and inventory control** – Companies must keep an inventory of forms on hand and ensure that adequate supply is available. How many hours are spent by your staff to perform these functions? What is the cost of this inventory in terms of warehouse space, obsolescence and wasted inventory?
- **Paper invoicing** – Issuing a paper invoice costs not only in terms of paper, but also for printer supplies and service. Manual intervention is required to match bills of lading to invoices. What do you spend to print your invoices? How much staff time is required to match invoices and bills of lading before they are mailed?
- **Postage and mailing costs** – Postage is by far the highest cost of paper-based document processing. Rates are continually on the rise and the expense associated with envelopes and supplies is often overlooked. The labor and effort required is also an expensive ongoing expense. How much does it cost your company to process and mail invoices each month?
- **Administrative time** – Administrative staff and customer service representatives typically spend half their time searching for, filing and using documents. This figure increases substantially when the documents they need are located in various file cabinets, desks and in-baskets throughout the company. How much staff time is wasted searching for documents and information? What does this represent in terms of labor expense on your balance sheet?
- **Customer satisfaction** – When customers have a question about or dispute an invoice, an immediate and accurate resolution is needed in order to maintain their satisfaction. If bill of lading and invoice information is not readily available, customer service agents struggle to keep clients happy. How often do your service representatives put off customers while they search for documents and information? Are customers required to make multiple calls in order to get the attention they need? Does paper-bound processing and filing prevent you from ensuring customer satisfaction?
- **Write off costs** – Without fluent access to information and documents, many food distribution organizations absorb the costs of disputed customer invoices in order to maintain customer goodwill. These expenses can be significant. What does your company spend each year on write offs? How can this expense be reduced or eliminated?

The benefits of a strategic approach to documents

The time has come to regard documents as a strategic, rather than tactical activity. As we see by examining the constraints and opportunities associated with these common documents, manufacturing companies are in position to make substantial improvements overall by approaching document management with a “less-paper” mindset. Electronic document management can enable manufacturing organizations to decrease costs, increase efficiencies, mitigate risk, bolster compliance, increase customer satisfaction and reduce write offs.

Take Action With Cornerstone Communications

Once regarded as too expensive and complex, electronic document management systems now provide manufacturers with a viable and proven way to transform their documents from high-cost liabilities to high-value assets. But when it comes to document management, no “one size” fits all. What is needed is a clear methodology to determine the total cost of ownership of your documents and point your way during the decision process. Cornerstone has processes and procedures to dig in and understand the value and benefits of document management as it relates to your particular organization and situation.

We invite you to visit the Cornerstone website at www.cstoneindy.com. There you will find a useful cost and benefit calculator that will provide you with the opportunity to plug in your own numbers and data, and get a quick feel for the hard and soft costs associated with your documents.



If you would like to more closely examine the benefits that that may be available by adopting document management we encourage you to contact Cornerstone to schedule a brief 20 minute consultation where we will create a personalized and value-driven document scorecard. This information will provide you with a detailed picture of the improvements and savings that may be possible for your organization.

In any case, the time has come to consider the alternatives to plain old paper and design common sense electronic document strategies that will result in real world, bottom line benefits. Cornerstone has the experience and expertise needed to make this goal a reality.

About the Author

Kevin Craine is the author of the book “Designing a Document Strategy,” which has sold in over 30 countries and is required reading at universities in the U.S., Canada, Europe and Australia. With over 25 years “in the trenches” as a corporate executive and document technology consultant, Kevin has managed document distribution organizations in the health insurance, aerospace and pharmaceutical industries and is the founding editor of “Document” magazine. He holds an MBA in the Management of Science and Technology and is currently the founder and managing director of Craine Communications Group, an independent writing and document strategy consulting firm.

For more information visit:

www.Document-Strategy.com

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About Cornerstone Communications

Cornerstone Communications specializes in risk management with a focus on document expense reduction. Cornerstone provides proven document management solutions with a strategic focus on the entire life cycle of a business document. Cornerstone minimizes the hard and soft costs associated with creating, distributing and storing business documents.



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