Lean Document Processes

Building a faster, more efficient, cost-effective flow of information

Introduction

Most manufacturers embrace lean principles for production processes *(Figure 1)* — yet these same companies usually fail to implement lean across the rest of their organizations. Two-thirds of manufacturers have made limited progress in applying their improvement approaches *(Figure 2)*, with just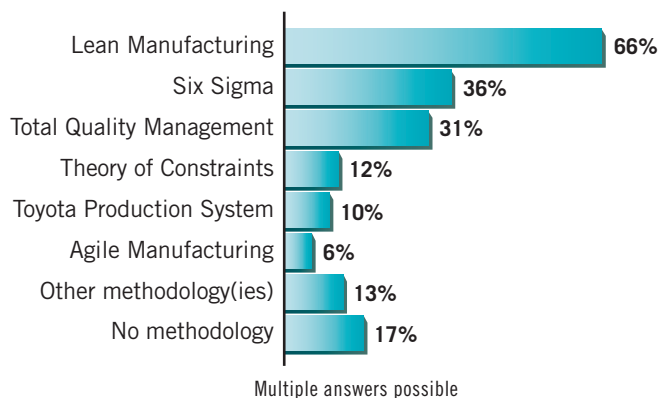 50 percent (median) of their employees fully engaged. Even among lean manufacturers, only 58 percent enjoy extensive or complete adoption of lean, with just 60 percent of their employees fully engaged.[1] In terms of lean document processes for manufacturers, there is still plenty of opportunity to improve.

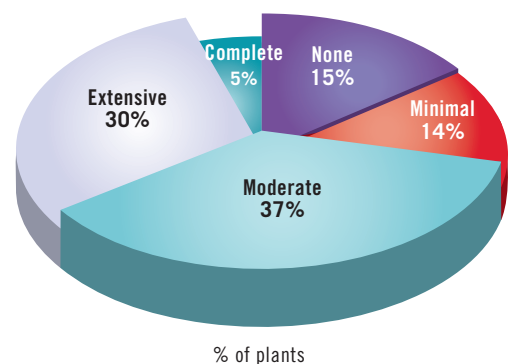Lean began on the plant floor, but savvy leaders are implementing it in processes throughout their organizations, in departments ranging from finance to sales to customer service. These executives know that inefficient administrative processes can be just as damaging as poor manufacturing practices — and that bridging the "lean gap" throughout their organizations can deliver major improvements in productivity, customer service, and profitability.

This lean gap is particularly striking in document workflows — the seemingly routine process of creating, processing, and archiving the papers, forms, and digital archives that underpin most business transactions. Companies that don't adopt lean document processes hamstring productivity and put corporate knowledge at risk. They also fail to take advantage of lean improvements in safeguarding documents, making workflows more efficient, and lowering document-management costs.

Figure 1. Improvement Methodologies Followed

Methodology	%
Lean Manufacturing	66%
Six Sigma	36%
Total Quality Management	31%
Theory of Constraints	12%
Toyota Production System	10%
Agile Manufacturing	6%
Other methodology(ies)	13%
No methodology	17%

Multiple answers possible

Figure 2. Depth and breadth of improvement methodology adoption

Complete 5%
None 15%
Minimal 14%
Extensive 30%
Moderate 37%

% of plants

[1] 2014 MPI Manufacturing Study, The MPI Group, January 2015.

Unmanaged Data and Documents Damage the Bottom Line

The volume of data available in a modern manufacturing corporation is without precedent and continues to expand — and threatens to overwhelm the executives trying to manage it. IDC estimates the digital universe will grow 40% per year into the next decade.[2] Paper — once thought to be a legacy technology that would soon disappear — remains critical to most manufacturers. This means that many firms still find themselves buried by mountains of unstructured legacy documents even as they are trying to organize growing terabytes of information in digital folders.

Manufacturers have a particularly difficult time with document processes, wrestling with overflowing filing cabinets and growing databases full of product designs, trade secrets, personnel files, compliance audits, financial statements, and legal records. Yet unlike the efficient flow of goods on the plant floor, creating and sharing documents often involve a maze of bottlenecks that can bring business to a halt, including:

- Engineers unable to find customer specifications for a previous generation of product,

- Procurement personnel unable to see price quotes for all regions and facilities,

- Quality-control staff unable to locate proof of compliance for supplier materials,

- Logistics personnel unable to supply documentation required for customs,

- Human resources staff unable to rapidly disseminate policies and plans to specific groups of employees,

- Marketing teams uncertain if they're using the current version of a document — or a version that has been cleared by the legal department,

- Senior leaders unaware that documents need their review and approval, and

- Customer service representatives unaware if price lists have expired.

These document-workflow failures generate enormous wastes and unnecessary cost — but that's not the worst of it.

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[2] Vernon Turner, *The Digital Universe of Opportunities,* IDC, April 2014.

Figure 3. 21st Century Document Challenges

Challenges	Outcomes
Limited or missing authorizations	Insecure intellectual property
Non-standard document processes	Delays and lost productivity
Mixed file formats	High costs and excessive digitization resources
Inconsistent document creation/revision practices	Lost productivity and errors
Lack of organization	Delays, compliance problems, lost productivity
Print-everything mentality	Paper overload and environmental waste

Of even greater concern is that most documents simply aren't safe — whether sitting on desks or held on unsecure smartphones and laptops. Most executives are unaware of just how easy it is for others to gain unauthorized access to their trade secrets, strategic plans, and internal communications. A recent study found that the typical organization loses 5 percent of its revenues due to occupational fraud, with a median loss of $145,000. Some 22% of cases involved losses of $1 million or more.[3]

The unstructured nature of document workflows at most manufacturers — few policies, inefficient processes, lack of standardization, limited monitoring, etc. — puts sensitive information, and these companies' survival, at risk *(Figure 3)*.

There is a better way.

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[3] *Report to the Nation on Occupational Fraud and Abuse: 2014 Global Fraud Study,* Association of Certified Fraud Examiners.

A Better Way — Lean Document Processes

Lean document processes — supported by leading edge technology — offers opportunities for dramatic improvement. Instead of chaotic, risky document practices, imagine an organization in which *lean* document processes:

- Improve workflow with standardized practices and processes,

- Boost performance thanks to increased productivity,

- Utilize staff and systems more efficiently, freeing up capacity for growth without additional expenses,

- Increase transparency and collaboration across the organization, and

- Heighten information security with policies that require authorized access to documents.

How can your organization seize these benefits? By focusing on the pillars of a lean document process: protected

Lean-Document-Process Pillars
- Protected documents
- Workforce productivity and performance
- Cost management

documents, productivity and workforce performance, and cost management.

Protected documents

Lean document processes start with safeguarding confidential documents and protecting vital information. This requires authorization for document access, usage tracking, and automated alerts of unauthorized access. Leading companies establish security protocols that bring transparency to document usage *(Figure 4)*.

A typical protocol might require that employees use multifunction printers (MFPs) on which they can be validated

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Figure 4. Document Security Protocols

Who **accesses documents** — legitimate company employee or contractor?

What **information is being sought** — applicable, confidential, proprietary?

Why **are employees accessing documents** — information appropriate per role and responsibilities?

How **are documents accessed** — via secure devices or freely available?

When **are documents accessed** — during business hours or after?

Where **are documents accessed, scanned, copied or printed** — authorized printing and scanning locations?

Protocols also can protect against information leaks caused by inattention.

as authorized users — and confirm their permission for access. This step triggers a document-workflow capability to monitor access and printing and helps to block unauthorized use.

An ability to log the activity of each user by device and usage — scanning, printing, copying, faxing, sending documents — and to monitor that usage can help to safeguard critical documents. For example, inspecting document usage for key words or phrases can alert IT of a possible information breach and also records forensic evidence in the event of unauthorized access.

A company's document processes should also incorporate the ability to track transfers of digital documents to unauthorized storage devices. This is critical in a time when a single unscrupulous employee can steal thousands of documents on a thumb drive or via file-sharing. Some 81 percent of employees access documents from outside of the workplace; 72 percent of employees don't have authorization from their IT departments to use consumer-based file-sharing

applications with company documents; and 62 percent of knowledge workers use their personal devices for work.[4]

Protocols also can protect against information leaks caused by inattention. Lean document processes hold employees accountable for everything they print by making sure that documents aren't left unattended. This is easily accomplished by directing print jobs to a secure MFP for authorized pickup or by routing jobs to a MFP that only functions when a user is logged in.

Productivity and workforce performance

Lean eliminates bottlenecks that slow work and waste resources, primarily by standardizing processes. Document workflows can be standardized as well — increasing the speed and accuracy of document dissemination. For example, one-touch automated distribution from MFPs can route printing to precise locations and workgroups and help to eliminate unsecure sending, downloading, and printing.

[4] *Workforce Mobilization,* Workshare, November 2013.

Workflow improvements also apply to scanning, and can improve efficiency by indexing PDFs in secure databases. Users direct scanned documents to private folders, which can be tracked by user, time, and date for audit purposes.

Technology advances offer even more flexibility in scanning, including the ability to merge, modify, and then send reformatted documents to specific business applications throughout the enterprise. This is critical because users of corporate documents — including customers, suppliers, and regulators — require digitized information that integrates with *their* systems, so that they can find documents in application-specific formats. For example, an R&D engineer can find a design specification and diagram within her document management system — while a member of the legal department can access the same information from their document application.

It's important to note that these improvements require responsive databases to develop, capture, and transform content. A modern content-management infrastructure also boosts quality and speed by ensuring that information is updated as changes occur, and by deleting outdated documents — whether on the corporate network or on an employee device. The costs of poor data quality can be as much as 10 percent to 25 percent of a company's operating budget.[5]

Cost management

Whenever employees think they need a document, they're likely to print it — over and over again, often making copies just in case. U.S. workers print thousands of pages per year, many of which are never used — wasting resources and ruining any claim to environmental stewardship. Active print management initiatives, on the other hand, can cut office print costs by 10 percent to 30 percent.[6]

Lean document processes will control printing over networked devices with rules and policies, minimizing redundant costs. They also can eliminate other wastes — color printing instead of black and white, duplex vs. simplex — and reduce supply costs of printers. Driving this form of cost-management is transparency and accountability. With the ability to track users, usage, and devices to specific print jobs, internal costs can be allocated by department, cost center, and project code.

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[5] Larry English, "Data quality trends, with expert Larry English," *TechTarget*.
[6] Sharon McNee, Ken Weilerstein, Tomoko Mitani, "Cost-Cutting Initiatives for Office Printing," Gartner, July 2013.
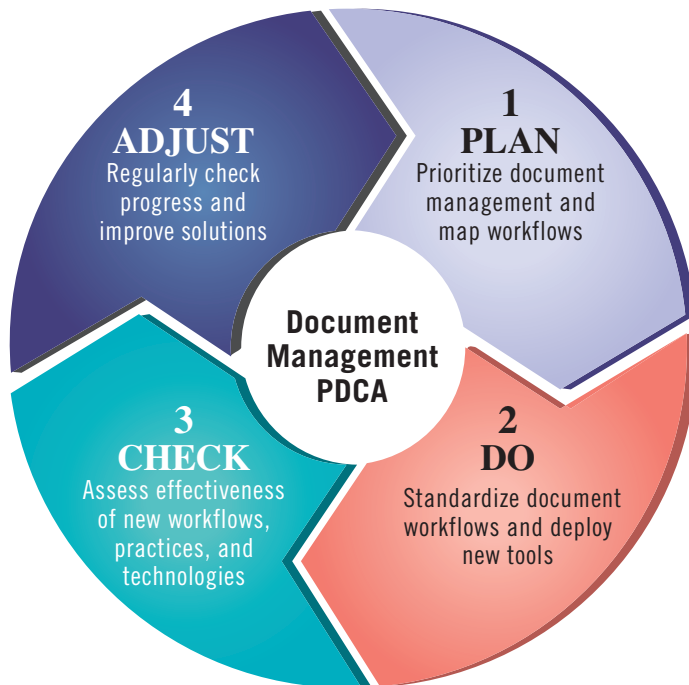
Get Started with Lean Document Processes

Lean document processes improve enterprise-wide collaboration and allow everyone in the organization to leverage existing knowledge. This creates opportunities for improved problem-solving, including the ability to:

- Facilitate regulatory compliance,

- Expand product or process design options,

- Speed customer and supplier communications, and

- Create a more sustainable organization.

How do you start on *your* journey toward lean document processes? By focusing on lean's familiar PDCA cycle *(Figure 5)*:

- *Plan:* Prioritize your document needs. These will likely include improved security (ability to monitor usage) and productivity enhancements (removal of bottlenecks). Map the workflow of documents — how and why they're originated, where they travel, and how they're used and stored. These maps will highlight your biggest problems — and opportunities.

- *Do:* Revise and standardize workflows by applying lean practices — minimizing distances or times for printing, adopting authentication procedures — and implementing technologies that support those practices. Think of the "Do" phase as a series of experiments that drive

Figure 5. Lean Document Processes PDCA

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improvements (i.e., not everything will work). Be sure to identify those employees who will monitor activities during the next stage and drive change and improvements.

- *Check:* Evaluate how well the application of practices and technologies is going: Did the document process change as planned? Does the plan require revisions or supporting technologies? The "Check" stage is not just about fixing problems; it's also about identifying the gains made in one process that can be extended throughout the organization.

- *Act/Adjust:* Regularly check progress (automated reports on usage trends and patterns help tremendously), adjust solutions, and continuously improve and upgrade your document processes.

Where are your document processes today in terms of security, efficiency, and costs? More importantly: Where do you want them to be tomorrow?

Canon Believes in Lean Document Processes

Canon U.S.A., Inc. is working hard to help manufacturers understand the advantage of adopting lean best practices combined with leveraging today's technolgy to optimize document business processes. Canon offers a portfolio of scalable hardware and software products and services aimed at safeguarding documents, automating manual processes, and reducing print waste that can help manufacturers improve document turnaround time and connect resources to strengthen information sharing.

Canon Can Help Manufacturers Improve Lean Document Processes by:

Protecting Information at MFPs

- Authenticate authorized users
- Secure printing
- Secure scanning and distribution
- Managing mobile printing
- Hard-drive data encryption and erase scheduler
- Logging users and document activity
- Alerts on information breaches

Organizing and Reducing Steps

- Simplified user interfaces
- Automated workflows to help with document processing for product development, supply chain management, production and compliance
- Document capture flexibility from MFPs, scanners, websites, or emails
- Indexing, previewing, and storing to help with regulatory compliance
- Manage approvals with digital signatures
- Bridge document silos
- Connect disparate systems

Minimizing Printing Waste

- Manage users, devices, and printing
- Manage roles-based access
- Enforce printing policies at the MFP and help with compliance
- Enable rules-based routing to the most efficient printing device
- Track, report, and allocate costs
- Managed document services

Protecting intellectual property, confidential documents, and trades secrets is important both in designing a Lean Document Process and in staying competitive as a manufacturer. Exposed documents, uncontrolled device access environments, and malicious behaviors can invite information theft or loss from misplacement of documents. By having enterprise systems that can manage authorized access and monitor document activity from all networked MFP devices, these internal threats can be reduced. With Canon's **uniFLOW and imageWARE Secure Audit Manager,** document visability can be monitored and restricted with Authorized Access, Secure Printing, and Secure Scanning features. Once documents are processed from the MFP, their activities – including copy, scan, print, fax, and send – can be logged and stored with image records of those activites. If needed, those logs and image records can be pulled for compliance audits or used as forensic backup if a document theft occurs.

Eliminating bottlenecks and standardizing lean workflows can be enhanced using **Therefore™, Canon's** information management software. **Therefore** enables the optimization of document business processes from capture devices to your backend systems and helps reduce multiple steps to create a Lean Document Process. With simplified user interfaces and organized document routing, **Therefore** can help reduce training time and streamline repetitive document workflows. Authorized users can be set up to gain access from almost anywhere – the office, plant, internet, or through select mobile devices and work smarter when they capture, index, store, and send information through a server or from certain cloud-based applications. Managers can monitor the progression of the workflow process, and administrators can view the entire system to identify potential choke points.

To help reduce print waste and allocate costs, **uniFLOW** can help manufacturers monitor printing devices, users, and usage, while offering intelligent controls to help save time, money, and improve operational performance. Print policies can be enforced across the company with rules-based routing, enabled printer defaults, and access restrictions to printing functions based on job roles. For making timely and knowledgable decisions around printing, uniFLOW Output Manager can help generate on demand reports for IT and Finance departments to see the big picture and allocate print costs by users and departments.

Our Canon Professional Services team works closely with manufacturers of all sizes to help analyze their document related business processes and makes recommendations based on best practices. We help our clients optimize their business workflows by utilizing outstanding document capture, output services and content management technologies. By combining Lean principles with these imaging technologies, Canon can help your business automate document workflows with secure capture, printing and waste reduction solutions based on your specific needs.

To learn more about Canon printing products and manufacturing vertical solutions, visit us at **www.usa.canon.com/advancedsolutionsformanufacturing**