DOCULABS

Digitization and Paperless Processing: What You Need to Know

A Doculabs White Paper

Table of Contents

Introduction

Many organizations are taking steps to reduce the amount of paper in their business processes. The trend is particularly strong in the financial services industry, where paper-intensive processes present stringent regulatory requirements for timely processing and for controlling the flow of the documents associated with these processes. But digitization is also a key aspect of electronic health records initiatives and a wide range of horizontal applications.

What can organizations hope to achieve by digitizing paper documents through imaging/capture and electronic forms technologies, and by using workflow and business process management technologies? Key drivers include:

- Reducing operational costs and improving the efficiency of core business processes
- Ensuring regulatory compliance
- Ensuring the availability of critical business documents for business continuity and disaster recovery
- Enabling opportunities for revenue enhancement, including the ability to communicate across multiple channels and potentially attract new business partners and customers
- Enabling new ways of doing business – such as making use of distributed processes and distributed workforces
- Integrating structured data with unstructured data by tying transaction records to their associated documentation.

In this white paper, Doculabs outlines why digitization is critical to new ways of doing business, the major options and models for organizations that are considering going paperless, and what's involved in rolling out a digitization initiative.

Drivers for Digitization Initiatives

Whether you call it digitization, imaging, capture, or paperless processing, there's been a sharp uptick in the number of organizations seeking to reduce the amount of paper in their business processes. It's true that companies have been considering and implementing digitization techniques for the past two decades. But combine digitization with a large penetration of broadband, along with virtualization and mobile technologies, and it's easy to see why the arguments in favor of digitization have become so much more compelling.

The trend is particularly notable in the financial services industry, long a bastion of document-intensive processes and subject to stringent requirements for controlling documents. But it's also a key aspect of electronic health records initiatives and a wide range of horizontal applications such as accounting (invoices, expense reports) or human resources (time records, change-of-address forms, vacation requests). Digitization also helps organizations ensure regulatory compliance, business continuity, and disaster recovery.

Organizations are also looking to digitization to improve the efficiency of core business processes. Capturing documents (via imaging) or capturing data (via electronic forms, or e-forms) at the point of origin or receipt gets the information into the process faster, enabling process workers to access this information far sooner.

Consider insurance or loan applications, or mortgage origination documents. Scanning these documents at agencies or branch offices can trigger processes sooner and allow faster completion through workflow routing, providing online document access to all process participants, regardless of location. Providing critical forms online allows faster population of data in business systems, particularly in processes such as invoice processing, insurance claims handling, credit applications, and other business processes that rely on forms to capture business-critical data. The result: faster processing, improved customer satisfaction, and potentially faster recognition of revenue.

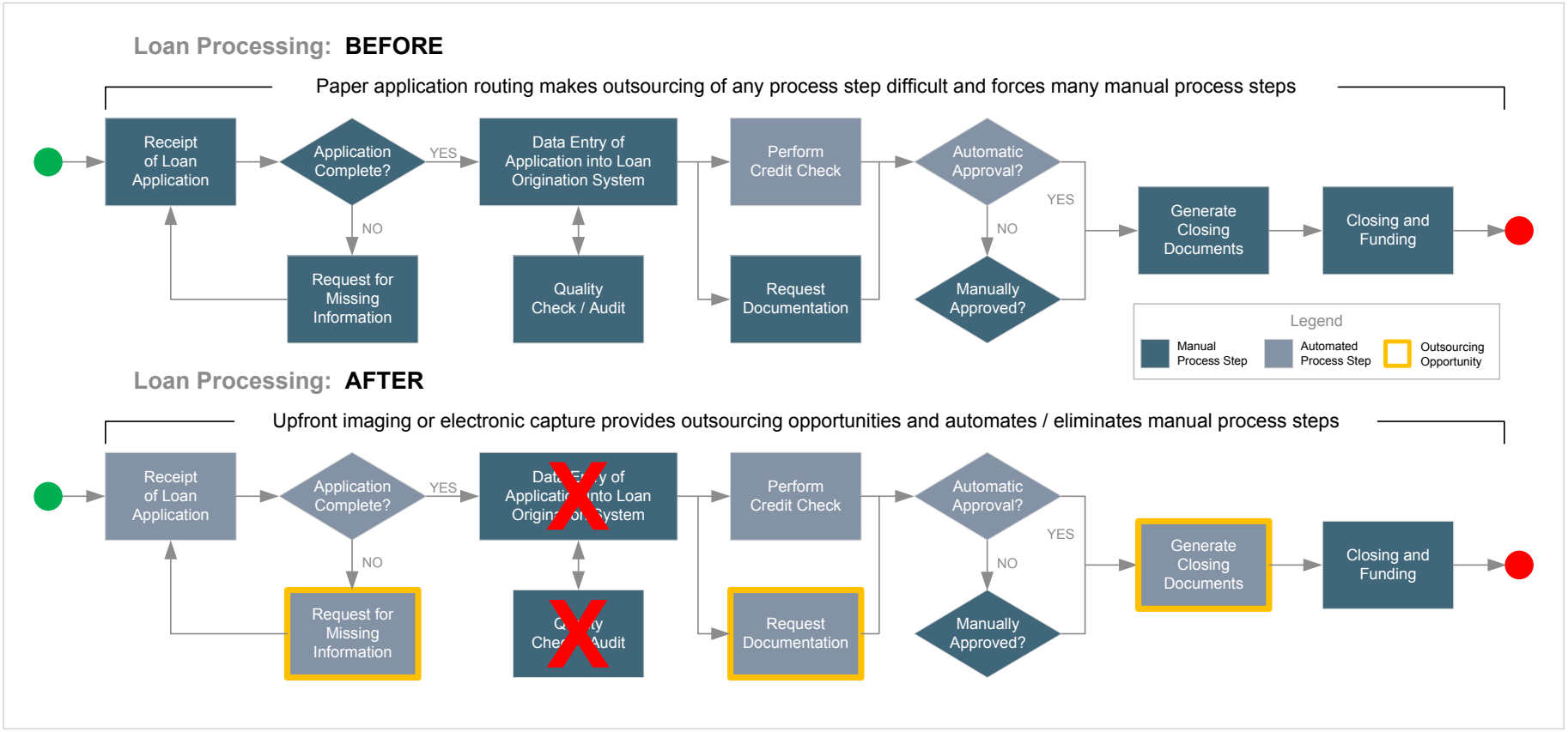
Many organizations are going paperless to pursue new ways of doing business and new opportunities to communicate across multiple channels and attract new partners, customers, and revenue. This is particularly significant for global organizations that are evolving toward centralized governance over distributed processes and workforces. To pursue a global, geographically-independent operating model, **digitization and automation are prerequisites to outsourcing,** and to achieving the projected cost savings from outsourcing.

But a good digitization strategy should consider not just conversion of information from paper to electronic format, but should also identify opportunities to eliminate paper as the vehicle for providing information at the source of origination. Technologies such as e-forms have a central role to in an organization's digitization strategy, with the objective of end-to-end electronic data capture. In an environment of global broadband availability, this information can now be shared and published securely in a matter of minutes via the Internet due to broadband availability globally – which further speeds processing times and revenue recognition, particularly for organizations that rely on distributed processes and workforces.

The figure below shows an example of how digitization can eliminate manual steps and enable outsourcing of steps in a loan process, through upfront imaging or electronic capture. But whether processes are insourced or outsourced, the greatest hard-dollar benefit of digitization is that it enables the streamlining and optimization of paper-intensive processes, thereby moving an organization closer to straight-through processing (STP).

Finally, one of the biggest advantages of digitization is that it **integrates structured data with unstructured data, providing an organization a 360-degree view of its data.** It provides the means for tying a transaction record from a line-of-business application (such as an ERP system) to a related document containing associated information that sits outside of the transaction repository of structure information. As such, it provides employees, suppliers, partners, and customers all the information, regardless of format.

Scanning a paper document moves unstructured data to semi-structured data. Capturing data at its point of origination via e-forms moves it from unstructured to structured. Taking in a holistic approach to digitization that incorporates both of these technologies can greatly improve decision-making within a business.



Why Organizations are Making the Move toward Digitization

While many organizations have deployed imaging and capture technologies in an effort to "go paperless," the vast majority of them started small. They deployed scanners to departmental or workgroup environments. Or they digitized in specialized or narrowly defined areas, such as check capture, agenda management, or bills of lading. Some organizations also began digitizing their documents at the back end of processes, just to reduce the volume of paper that would ultimately need to be stored. The result was an archive of the images of all the relevant documents, once the business process had been completed – but none of the benefits that can be achieved when those documents are made available as images at the start of the business process.

Many of these organizations initially relied on centrally located scanning operations – in a mailroom, for example, to capture incoming documents. But for certain applications, the biggest benefits come from distributed capture: digitizing the paper documents at the location where they originate and getting the information from the documents into the workflow for processing as quickly as possible.

Until recently, cost was a significant obstacle to any digitization initiative. But the emergence of multi-functional printers (MFPs), digital copiers, and other networkable capture devices have brought the technology into a price range that more organizations can afford.

And there were questions about the maturity of the technology. We're pleased to report that the vendors have put considerable effort into both the hardware and software products – a key development toward allowing organizations to take full advantage of the benefits of digitization. On the imaging /capture side, recent advances have made significant impact on throughput, extensibility, and scalability, and mixed document scan capabilities are far more reliable, as are features such as intelligent document recognition (IDR) and auto-indexing, which speed the capture process and help get critical documents into business processes faster. And enterprise content management (ECM) products are now much better at ingesting images. On the e-forms side, the maturity of the solutions has speeded the adoption of solutions for electronic data capture.

Finally, as more organizations implement workflow and business process management (BPM) technologies within their environments, they are looking for ways to get the most value from their investment and more fully automate their business processes for straight-through processing. The result is a stronger imperative to digitize inbound paper documents upfront, to allow them to enter these newly automated processes. This automation in turn allows for automated distribution of work at processing centers, as well as improved production management, performance monitoring, and instant reporting of workflow status – all of which offer real hard-dollar savings over tasks that are largely manual in paper-intensive environments.

Digitization via Document Imaging and Capture: The Technologies and the Stages

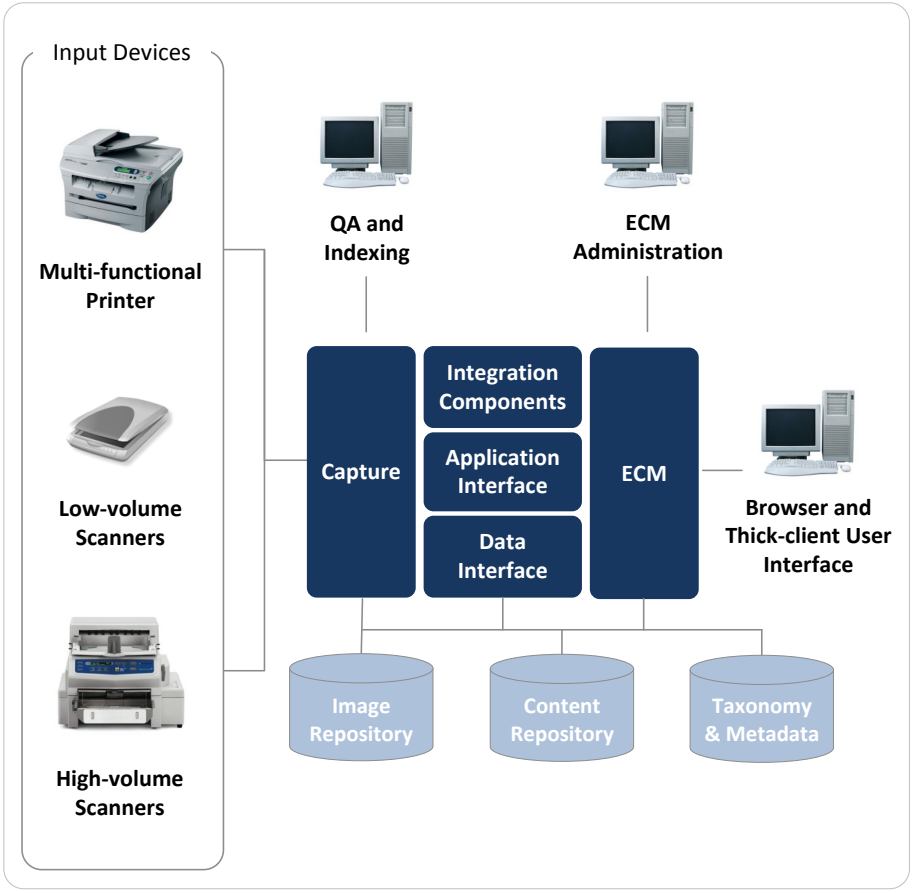
The technologies involved in digitization include:

Scanning hardware – input devices to convert the paper documents to images. Products range from low-volume desktop scanners to MFPs with scanning capabilities, to high-volume scanners.

Capture software – the set of tools used to take an image from a hardware scanner and turn it into a manageable information asset. Features include quality assurance (QA) checks and rescan support, barcode reading, optical character recognition (OCR) processing, and automatic and interactive indexing on scanned documents. Capture software products typically have their own image repositories, but also can be integrated with the repository of an ECM system (see below).

Enterprise content management software – provides the capabilities to manage the images for more complex applications, supplementing the functional capabilities of the image repositories provided by capture solutions.

Workflow and business process management (BPM) software – technologies that allow the routing of the imaged documents as part of a business process.



Digitization of paper documents via imaging and capture involves a fairly standard flow that uses several different technologies. The major stages are as follows:

Document preparation – the steps required to prepare documents for scanning, such as unfolding, removal of staples and paper clips, sorting by document size, insertion of separator sheets.

Scanning and document capture – the use of devices to digitize inbound paper documents and convert them into an electronic image. Types of devices that can create image files include scanners and MFPs that combine scan, fax, and copier functionality.

Image cleanup – processes performed on the images, such as de-skewing, de-speckling, etc. Such capabilities are sometimes available within the capture devices, and they also available from third-party capture software vendors.

Recognition and indexing – processes that recognize an image and information it contains, associating the data or metadata with the image. Most capture software provides or supports automated recognition and indexing techniques such as barcode recognition and OCR. In addition, most capture software products provide the ability for operators to perform manual indexing of an image. Some distributed capture operations include an additional quality assurance step, in which images are routed to another workstation for final review of the image quality and data accuracy.

Export to a content management system or other repository – the value of distributed capture is greatly enhanced if images and index data can be imported into a content management system or other repository. Options include digital sending technology that can electronically deliver images to multiple destinations (file systems, content repositories, email addresses, etc.), or capture software that provides export or "release" modules designed to migrate the information directly into a destination content management system.

Typically, the activities that incur the highest costs are those which involve the most labor: document preparation, rescanning following quality assurance, exception handling, and post-recognition (except release). The actual scanning and the release activities tend to be lowest in cost. Depending on the types of documents being scanned, the recognition/indexing stage can be either high or low in cost.

A key consideration for any digitization application is the concept of throughput. Throughput involves factors such as the speed and image quality required for an application, as well as the usability of the final images and the reliability of the hardware and software. Effective throughput is critical for scenarios involving time-dependent documents (e.g. new account origination documents), as well as for high-volume scenarios (e.g. insurance claims).

Further considerations from a throughput standpoint include the functional extensibility and scalability of the operation. Will your organization likely start small, with applications that are less complex, and in the future expand its digitization capabilities to documents that present more complex requirements? If so, your hardware and software should have the functional extensibility to accommodate the more complex applications. Likewise, factor in future needs for scalability. You may start off with low-volume applications, but should plan ahead for the possibility of higher volumes – either from expansion to higher-volume applications or from changes in the business – as the result business growth from a merger or acquisition, for instance.

Which Capture Model: Distributed vs. Centralized?

The question for many organizations is which model makes sense for their business needs: a distributed capture operation, in which multiple parties scan documents from multiple locations; or a centralized model, in which documents are scanned at a single, central location. Then there is the middle ground: departmental, or moderately distributed, scanning.

Centralized Model

In the centralized model, business operational mail items, meaning items addressed to departments or generic roles (e.g. "claims administrator") are all opened, prepped, and scanned at a single location (generally the central mailroom or mail center) and then are delivered electronically through either the capture system or the ECM solution. Originals are either filed or destroyed, depending on company policy for such items.

This shared-services model is typically deployed in large-scale mail centers handling millions of pieces of mail per year. For organizations that receive large volumes of inbound documents, such as insurance companies, it may make sense to outsource the mail center scanning operation. In this approach, all inbound mail for all departments and business lines is delivered to a central location. At the mail center, staff (contractors) open the mail, sort, remove staples, then feed the items into high-volume scanners, and perform quality checks. Generally, actual employees of the organization take over for the indexing of images, which requires more business knowledge.

Departmental Model

In this "moderately decentralized" model, individual business units act as centralized scanning centers for their own operations. Each department typically has one or two staff members who are responsible for receiving inbound mail, and who perform scanning, indexing, and distribution for all members of the department. This solution occupies a middle ground between centralized and distributed capture; as such, it presents higher hardware costs because it requires a larger number of scanners across the various business units. The advantage is greater quality control, as departments in general tend to accurately index their own documents if done at a group level.

Distributed Model

In the distributed model, scanners are deployed to the end users, scanning mail at the point of use rather than centrally. In this model, imaging and indexing is fully distributed among individuals, who scan items according to their role. This is accomplished with extensive use of personal scanners or dedicated MFPs. This method offers the most individual control of documents, but also loses some amount of organization at a high level, because of the number of different people assigning index keys to documents. In addition, this solution requires a higher per-employee technology cost because of the scanners required.

The following table provides a summary comparison of these models.

Options	Advantages	Limitations	Barriers
Centralized	• More enterprise control • More enterprise consistency • Focused training with a smaller team • Leverages technical expertise and resource pool of centralized function	• Loss of business-unit control • Larger space requirement in centralized area • May not meet quality requirements because of lack of specialized content expertise	• Business-unit issues (political, control issues) • Potential legal and compliance issues • May lack sufficient space for a scanning area • More staff required – imaging specialists, indexing
Departmental	• More business-unit control (workflow contained in one environment) • Leverages specialized content expertise within each unit • Customized processes for each business unit according to their rules • Space needs are more scattered; smaller scanners distributed into multiple areas	• Potential inconsistent application of processes, indexing, etc., from department to department; less enterprise control and potential QA issues • May require more equipment (lower efficiencies of usage) • Duplication of (limited) technical expertise among business units	• Requires staff training at departmental level • Equipment – using machines for dedicated scanning blocks their usage for copying, printing, and faxing • Risk of insufficient technical expertise to distribute across all areas
Distributed	• Most individual control; desktop capture allows for most customization at the individual level • Enables remote scanning at distributed work sites	• Consistency, training issues; may have more challenges with consistent indexing • Potential issues in attaining acceptable levels of participation and quality • Employees will lack advanced technical expertise; to be successful, this model likely requires some departmental or centralized resources	• Same barriers as Departmental, but to a larger degree • Impacts work by assigning new tasks on top of current duties • Typically fails to adequately address the dual (but conflicting) requirements of participation and quality (usually of indexing)

The following tables list the segments that represent the various permutations of these factors, with examples of common applications for each.

Segment	Characteristics	Examples
Small, Simple, Distributed	• Business drivers: reducing paper and manual processing of mail, shipping, or fax • Distributed contributors, each capturing low volumes • Minimal indexing or other processing and minimal incorporation into downstream business processes	• Capture to file systems, email folders, or a repository for simple search and retrieval • Employee expense receipt and report processing • Correspondence management, meeting agenda management
Small, Simple, Centralized	• Business driver: paper reduction within workgroup or departmental deployment • Minimal indexing or incorporation into downstream business processes • Requires incorporation of low- and mid-volume capture devices and demonstrated reliable software capacity to handle (albeit modest) volumes	• Capture to file systems, email folders, or a repository for simple search and retrieval for compliance, customer service
Small, Complex, Distributed	• Business driver: quickly incorporate critical information into complex high-value business applications • Requires significant processing and incorporation into downstream business processes • Typically requires manual indexing by experts, visual QA, filtering to designated workflows, and notification or confirmation upon delivery of images to downstream systems	• Invoice processing for Accounts Payable (AP) • Transportation and distribution (shipping documents) • Customer service, customer enrollment, claims processing, mortgage loan processing at branch offices
Small, Complex, Centralized	• Business driver: quickly incorporate critical information into complex high-value business applications • Requires significant processing • Requires low- and mid-volume capture devices and demonstrated reliable software capacity to handle (relatively modest) volumes • May involve release into an ECM system repository	• Invoice processing and related document processing for AP

So which model is right for your application's needs? The key factors to consider are as follows:

- Scale of deployment (in terms of the number of contributors)
- Application complexity (simple vs. complex)
- Location of scanning capabilities (distributed vs. centralized)

Segment	Characteristics	Examples
Large Simple Distributed	• Business driver: reducing paper and manual processing of mail, shipping, or fax • Requires minimal indexing or other processing and minimal incorporation into downstream business processes • Key characteristic is volume: a large number of capture sites, with a high volume of documents to be (minimally) processed and routed	• Similar to Small/ Simple, but on larger (typically large enterprise) scale: capture to file systems, e-mail folders, or a repository for simple search and retrieval for compliance and customer service
Large Simple Centralized	• Business driver: production departmental or enterprise capture, focused on reducing paper and manual processing of mail, shipping, or fax • Requires minimal indexing or other processing and minimal incorporation into downstream business processes • Key characteristic is volume: a large number of capture sites, with a high volume of documents to be (minimally) processed and routed; requires reliable performance in high-volume hardware and software	• Similar to Small/ Simple, but on larger (typically large enterprise) scale: capture to file systems, e-mail folders, or a repository for simple search and retrieval for compliance and customer service
Large Complex Distributed	• Business driver: speed of incorporating critical information contained in documents into complex, high-value business applications • Requires significant indexing or other processing and incorporation into downstream business processes; typically requires manual indexing by experts, visual QA, filtering to designated workflows, and notification or confirmation upon delivery of images to downstream systems • Key characteristics are high total volume of documents of several different types and complexity of capture, and differential processing, and routing	• Many applications superficially similar to the small complex applications, including customer service, customer enrollment, claims processing, and mortgage loan processing, but differ significantly in both scale and complexity of application
Large Complex Centralized	• Business driver: speed of incorporating critical information contained in documents into complex, high-value business applications • Requires significant indexing or other processing and incorporation into downstream business processes; typically requires manual indexing by experts, visual QA, filtering to designated workflows, and notification or confirmation upon delivery of images to downstream systems • Key characteristics are high total volume of documents of several different types and complexity of capture, and differential processing, and routing • Critical factors include the value of the information for the business process and the overall value of the business process itself • Usually involves release into ECM repository, often with capture subsystem	• Most mailroom processing, where documents to be processed originate from external senders: applications, enrollments, claims, mortgage loan processing

E-forms for Upfront Data Capture

As the cost of manually processing forms continues to increase, more organizations are considering making the move from paper forms to e-forms. Then there are the other business benefits: e-forms get information into a business process faster, more efficiently, and with greater accuracy than manual data entry from paper forms. At a time when customers – both internal and external – are demanding instant access to information, the business driver for e-forms couldn't be clearer.

E-forms applications range from the relatively simple to the very complex. In general, however, they can be divided into three levels of complexity:

1. Applications that electronically deliver forms, usually via the web, for printing and completion. Within this category are two further levels: applications that provide the ability to print, fill by hand, and submit the form by mail or fax; and applications that provide the ability to fill the form electronically, validate, print, and then submit the form by mail or fax.

2. Applications that display forms for completion online, in order to replace online operators and paper forms; ideally, the forms are displayed via the web, providing the ability to pre-fill, validate, save the file locally, digitally sign, and submit the form electronically.

3. Applications that manage and route forms and data, which add intelligent, "process-able" data to static images. These applications primarily address the processing costs of forms, using a dynamic pre-fill form or wizard interface to fill the form, and allowing the user to validate, save the file locally, sign digitally, and submit the form electronically.

Many organizations have already implemented the first level of e-forms, by posting the forms as PDFs on their web sites or intranets, or on a shared network drive. For these organizations, the challenge is to find ways of achieving greater efficiency in the processing of the completed form. One approach is to establish a centralized location for receiving the mailed or faxed forms, and use scanning and OCR technology to capture the data from the completed forms. An alternative is to decentralize the capture of the data from the forms by scanning at the point of receipt – for example, a local office or field agent, or by capturing the data at the point of origin, either through fax or scanner or an MFP. These decentralized approaches provide the added advantage of eliminating shipping costs and getting the completed forms into the workflow that much faster.

Organizations that seek to implement more complex e-forms applications (Levels 2 or 3, above) will require products with deeper electronic forms capabilities. Several of the major platform vendors now provide e-forms capabilities; in addition, the leading vendors in the ECM market space offer e-forms capabilities. As an organization considers which e-forms solution to implement, Doculabs believes that the primary considerations should be 1) the functional/technical adequacy of the solution for your particular application or enterprise, 2) the business requirements you expect your e-forms solution to meet, and 3) vendor viability.

Critical Success Factors for Digitization Initiatives

Doculabs has advised many clients concerning best practices for digitization initiatives, helping them define their requirements for both imaging/capture solutions and e-forms solutions. The following are some best practices to be aware of, before and during the rollout process, to mitigate risks and manage the changes that result from applying digitization to business processes.

- **Take a holistic approach to digitization.** Many organizations look at their business processes too atomically, seeking to convert paper to digital format via imaging rather than looking at opportunities to eliminate paper and capture data through the use of e-forms. Too many digitization strategies don't include steps toward elimination of paper by electronic capture through *all* potential methods. This is most critical for organizations seeking to implement the technologies for structural business model changes such as global sourcing, and for applications such as health records that, to date, have relied heavily on paper.

- **Understand which capture model makes sense for your organization.** The previous discussion on centralized, departmental, and distributed scanning models should help you make some decisions. But also keep in mind the business drivers behind your digitization initiative, and use them to prioritize potential opportunities for capture applications. Understand the document volumes, the numbers of contributors, and the complexities of each application, and where the opportunities lie for using the imaged documents as part of a workflow or a process automated by BPM technology.

- **Moving from centralized capture to decentralized capture is often a better recipe for success than starting from scratch with distributed capture.** Organizations that already have experience with document capture and imaging will have established sound capture processes and solid metrics around the process; their end users will already be familiar with interfacing with the central scanning center. Starting from scratch with distributed capture is often more difficult, because good capture processes have not yet been established, and savings are much more difficult for the organization to measure. The education and training requirements should not be underestimated.

- **Determine how broadly to distribute the capture function.** Organizations that succeed with distributed capture are pragmatic about just how widely they distribute the capture function. Two typical scenarios are: 1) Moderately decentralized capture, moving the function to individual departments or workgroups where just a few individuals have responsibility for capture within those locations. This approach makes the most sense for capturing documents that are heading into downstream line-of-business processes, where quality and accuracy are more critical. 2) Radically distributed, down to the individual user. In this case, nearly every individual in the organization has the ability to capture documents, typically using scanners or MFPs in a desktop environment.

- **Evaluate the scale and complexity of your capture applications; this will drive your solution decisions.** Organizations that succeed have a good understanding of both the scale or size of their capture applications and the complexity of the applications in areas such as the number and complexity of the indexes that need to be captured, as well as the complexity of the documents themselves (such as document size, one-sided or duplex, black-and-white or color, etc.). Evaluating these dimensions enables the organization to make the best decision on the hardware and software that will be most appropriate for its capture applications.

- **Consider insourcing certain steps of the capture process.** Even if the capture function is distributed, organizations will in some cases want to maintain centralized quality control and image export. This is especially true for business-critical applications, in which a centralized quality assurance process (for image quality and indexing) can further reduce errors before the images and data are committed to a back-end content management system or business system. Centralized commitment (release) helps to ensure reliability when committing large volumes of images.

- **User education and simplicity are critical to the success of distributed capture.** The idea is to maximize participation and accuracy, so intuitive interfaces and processes are critical (e.g. provide pick lists to minimize data entry). Capturing documents should be almost as simple for the user as copying a document or sending a fax – particularly important for mid-market organizations or smaller firms with limited IT resources.

- **For e-forms implementations, estimate the cost of conversion.** If you are pursuing enterprise e-forms, particularly from paper, you will need to determine which business units, processes, applications, and systems to move from the former, paper-based way of doing business to the new. Few organizations have a defined approach for making this migration to e-forms. We recommend you base your migration strategy primarily on how much effort the migration will require. Determine the cost of migration by application (beyond system costs), focusing on a comparison of both conversion costs of old forms and assets, and the costs of a day-forward-only initiative, in which old assets are converted as required or in response to new requests.

- **Understand the business requirements your organization seeks to address with e-forms – both now and in the future.** Are you deploying e-forms for operational efficiency, productivity, customer acquisition and/or retention, cross-selling, up-selling, customer servicing, and customer satisfaction? Or is your focus on considerations such as compliance, litigation, business continuity, and security? Or do you have requirements for IT resource consolidation, cost reduction, and strategic enabling for future strategic initiatives such as outsourcing or electronic health records? Define your organization's requirements for e-forms, and then rank them in priority. If you're pursuing e-forms for a relatively narrow set of applications, you probably have a clear understanding of the relative importance of your business requirements. If you're pursuing an enterprise e-forms strategy, however, the relative importance of these requirements may vary widely across business units and with time – so the selected solution should have maximum flexibility to meet all of your requirements.

Making the Business Case for Digitization

Just what kind of impact can digitization have on an organization's cost structure? Consider the following case studies:

- One global financial services organization estimated the annual cost savings gained from the digitization of its customer and support processes to be from $56 million to $80 million, with the largest opportunities in the digitization of paper-intensive processes requiring significant involvement of back-office staff, such as mortgage and transaction processes.
- Another global financial services organization sought to relocate the administration of insurance in a central area rather than in its branch offices. It used imaging to eliminate paper files and provide online access to information, with a portal to provide branch access to the documents. The company achieved 100 percent ROI in 8 months, and saved $3.6 million in paper and copying costs in 1 year. It also reduced the time spent handling claims and was able to provide faster response to customer inquiries.
- A property and casualty insurance provider sought to address long cycle times for paper-based processes. Deployment of a solution for capture, archive, and retrieval of images and documents helped the organization eliminate paper files, reducing the cost of issuing new policies by 33 percent and realizing an overall savings of $6 million a year.

Where is digitization having the highest impact? In financial services, the high-impact applications include:

- New account origination
- Loan processing
- Claims processing
- Branch automation
- Correspondence management
- Customer communications management
- Investment portfolio analysis
- Check imaging

But, as mentioned previously, digitization is central to electronic health records initiatives, and can also have large impacts on many horizontal applications such as accounting or human resources.

So how do you make the business case for digitization in your own organization?

First, consider your organization's vision and strategic objectives, and focus on demonstrating how a digitization initiative supports those objectives. Is the focus on productivity? The business case should show how digitization will simplify your business processes and reduce costs. Alternatively, is the focus on improving service? You'll need to demonstrate how digitization will allow your organization to better meet the needs of its clients and partners. Are governance concerns a major business priority? Then show how digitization will improve the management and retention of business-critical documentation and improve accuracy and data integrity.

Then map out your existing paper-bound processes to understand where the challenges and areas of inefficiency lie and which areas present opportunities for improvement, whether by upfront imaging/capture or through data capture via e-forms. Mapping out your processes may also identify common usage patterns across business processes, as well as opportunities for rationalizing certain of your existing business processes and activities. If you need to estimate an ROI as part of your business case, collect cost information on your existing processes to quantify your current costs.

Next, map out the "to-be" state of those business processes and activities, showing where digitization enters each process and the process steps it modifies or eliminates. Identify the efficiencies that the future state enables (for example, by allowing multiple concurrent access to documents or remote access to documents, or by reducing processing time by automating the workflow of documents through a process). Quantify the hard-dollar savings of those efficiencies, where possible.

One option worth considering is outsourcing of distributed capture. Typically, organizations go with one of two options. The first option is entering into a facilities management arrangement, where third-party staff works in your offices. The second option is to have the capture done at vendor locations.

Calculate the costs of the future state environment: the upfront investment in hardware, software, implementation and training; the unit costs of each step of the digitization process. The following table lists the costs of steps of the imaging/capture process, based on the average of a number of for-profit and in-house providers using a "market basket" of various document types and capture requirements. (Note that the for-profit providers are leading national firms with revenues between $50 million and $500 million; the in-house providers have annual budgets ranging from $9 million to $37 million.)

Service	Unit	Cost
Mail Services		
Sort, open, prep	Per item	$0.05 to $0.10
Image capture		
Scanning	Per image	$0.02 to $0.04
Data entry		
Manual index (average of 5 fields, 50 keystrokes total)	Per document	$0.05 to $0.10
Total Cost per Item		**$0.12 to $0.24**

Finally, develop a long-term vision for your organization's future use of digitization – a vision that includes e-forms as well as imaging/capture technologies (particularly if your organization's business-critical processes are initiated via forms). Identify the near-term opportunities, showing how digitization of these applications will impact the achievement of corporate business objectives. Also show how the use of digitization will evolve and continue to help the organization achieve its strategic objectives.

Final Word

For sure it's taken some time, but digitization and paperless processing are now starting to become a reality in formerly paper-intensive environments. Costs have come down, the technology has matured, and the potential cost savings from end-to-end automation of document-intensive processes are leading many organizations to take a fresh look at digitization. Then, too, many organizations are looking for wider opportunities to leverage workflow or BPM technologies they've already deployed within their environments.

Cost reduction is certainly one major driver for digitization initiatives. But it's also a prerequisite for new ways of doing business, including the ability to communicate consistently across multiple channels and potentially attract new business partners and customers, or the ability to pursue a geographically independent operating model in the global marketplace. Digitization of business-critical documents also enhances compliance capabilities by making it easier to provide information to regulators. It digitization also improves an organization's business continuity and disaster recovery capabilities. And it allows an organization to integrate its structured data with its unstructured data, tying a transaction record to a related document from outside of the transaction repository of structure information and providing users a 360-degree view of the data.

Bottom line: The technology is mature, and the risks of undertaking a paperless initiative are far lower than they were even just 5 years ago. As a result, digitization has begun to change cost structures, particularly in the financial services sector, as more organizations adopt the technologies to digitize their processes – and to remain competitive. Expect to see similar results as digitization enters the health care arena for electronic health records applications in the very near future. Digitization is a critical part of these and many other structural changes in the ways organizations do business.

Where is the paper in your business today? Where does it originate? Take a good look, and the chances are you will also turn up a number of opportunities for digitization.

Develop a vision for digitization within your own organization

Doculabs is the recognized industry expert in capture, ECM, and BPM technologies. We've helped hundreds of organizations use technology to optimize their business processes.

To learn more about how a digitization initiative can impact your organization's corporate objectives, and what's involved in moving ahead with a digitization initiative, contact Doculabs at (312) 433-7793, or email us at info@doculabs.com.

About Doculabs

Doculabs is a consulting firm that helps organizations develop sound technology strategies for content- and process-related applications. Our engagements focus on helping clients leverage their existing enterprise content management (ECM) investments on a broader enterprise basis through objective analysis and in-depth market knowledge. This approach is based on our fundamental belief that in order to protect a client's long-term interest, technology advisors should not be implementers.

Doculabs helps clients deliver on their technology objectives through consulting engagements that address ECM opportunities such as strategic planning, center of excellence creation, taxonomy development, and maturity assessments. Through more than a thousand engagements for organizations facing technology-, compliance-, and process-related challenges, our proven approach has provided our clients the information and advice they need to make confident and well-informed decisions.

Hundreds of leading organizations in the Global 2000 and in state and local government have turned to Doculabs for assistance with their technology strategies.

For more information about Doculabs, visit our web site at www.doculabs.com or call (312) 433-7793.

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