

Scanner White Paper



# Document Scanning in the Office

The Quest for Improved Productivity through Managed Organization, Sharing,  
and Protection of Paper-based Information

**FUJITSU**

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## Advanced recording techniques

This white paper explores how document scanning can improve productivity, protect information, and create opportunities to lower operational costs in front office environments. It cites independent research conducted with individuals from 180 organizations representing a cross section of small, medium, and global businesses representing manufacturing, high technology, financial services, retail, health care, transportation, real estate, and professional service industries. In addition, public sector organizations representing utilities, educational institutions, State, local, and federal government agencies also participated in the research. The conclusions summarized in this white paper show that the scanning of documents will accelerate in the front office as paper documents continue to be the lifeblood of everyday work processes.

## Executive Summary

Document scanning has evolved from the traditional, monolithic “back-office” production-level systems for capturing documents to the current de-centralized model where information is captured “at the point of need.” Like traditional scanning applications, these de-centralized operations focus mainly on documents whose value has been predetermined to be critical to a particular line of business. However, a new need has emerged where all types of business documents will be scanned regardless of their known value to the organization. The realization that all documents can increase in their value once digitized will drive much of the new market for document scanning. This new frontier for scanning will be focused on “front office” environments where information workers interact with customers, partners, and each other.

The need for digitizing paper documents to enhance productivity, security, compliance and data protection has extended beyond specific line-of-business applications to include every document type, at every level of the organization, across government and industry; in small, medium, and large enterprises.

This white paper is divided into seven sections:

- ▶ Section one provides an introduction to the paper problems facing today’s business professional and an overview of the research conducted in support of this document
- ▶ Sections two through six analyze research findings related to paper filing, storage, and retrieval, the emergence of Adobe PDF as the ideal container for scanned images, security and disaster recovery, and information distribution.
- ▶ Section seven provides a summary and conclusion.



## Section One: Today's Document Scanning Challenges

### New Millennium – More Paper

We hear a lot about the desire for the “paperless office” from businesses and government agencies and the technology providers who target business processes for this outcome. The reality is that the use of paper continues to be an integral part of commerce, government bureaucracy, and individual communications. Many areas of business and government require paper documents to complete transactions. Even as the number of “paperless” electronic transactions continues to grow many of these files are printed, annotated, copied, communicated, or otherwise repurposed as paper documents.

There is a problem confronting business professionals in the office today. Valuable information that is written, printed, copied, and faxed - driving much of our productivity - is kept in piles on our desk, stuffed in folders in our file cabinets, or hidden away in locations around the office. Our paper-based information resources are not being managed in a way that can improve individual productivity. This inevitably results in increased operating costs, diminished productivity, and in some cases, lost opportunity.

### Today's Solutions Touch the Tip of the Iceberg

There are a plethora of document imaging solutions available today that target these issues, but most are costly, complex, and require special software and training to operate. These solutions are monolithic in their implementation; they automate lines of business rather than address the generalized scanning needs of the business professional. Further, while there continues to be a growing market for this type of solution, the larger impact has been less than full penetration of document scanning, especially among small businesses and those medium and large businesses with limited resources.

Vendors targeting front office environments have attempted to address this need by adding paper management software and automatic document feeding capabilities to flatbed scanning and multi-function products. These solutions have enjoyed marginal success in providing true value to document processes due to complexity, paper handling, application integration, footprint, and performance issues.

This gap in capability leaves business professionals to resort to primitive methods of manually filing, retrieving, copying, and faxing documents in order to process basic transactions. This practice creates two conflicting worlds in the office: one for paper-based information, another for electronic. To those who have good organizational skills this may not appear to be an issue. However, the lack of connection between these two worlds often leads to inefficiencies and redundancies in business practices that can negatively impact all areas of productivity. The results are clear: valuable knowledge assets contained in paper are not being effectively organized, referenced, shared, or protected.

### Regulatory Compliance Demands Better Organization

In addition, regulatory legislation (Sarbanes-Oxley, HIPAA, Paperwork Reduction Act, etc.) has placed record retention and security requirements on certain industries and government agencies to keep detailed records of transactions in order to maintain compliance with government standards. The prospect of maintaining regulatory compliance via a paper-based filing system is prohibitively expensive and burdensome for individuals and businesses. This is especially true of small and medium sized businesses that do not have resources to adequately protect this information.



## Detailed Research

PFU Limited, a Fujitsu Company, and worldwide leader in document scanning, conducted interviews with individuals from 180 organizations from a cross section of small, medium, and global businesses representing manufacturing, high technology, financial services, retail, health care, transportation, real estate, and professional service industries. In addition, public sector organizations representing utilities, educational institutions, State, local, and federal government agencies also participated. The research was conducted in order to learn more about their needs and requirements for scanning in office environments. This research has revealed that while most organizations recognize the value that scanning brings to work processes and individual productivity; barriers remain that prevent scanning from becoming pervasive in the office. Among those barriers: cost, complexity, document handling, and application integration. The following sections summarize responses and provide an analysis of the research.

*“Our customer service group relies on information stored in hundreds of file cabinets. Searching for information has to be done manually and can take time. Scanning these documents will improve the timeliness of our customer service and lower space utilization costs since the paper files can then be sent to off-site storage.” — (Financial Services Company)*

## Section Two: Paper Filing, Storage, and Retrieval


Survey participants were asked which departments had the most paper intensive processes. The departments considered to be the most paper-intensive included:

- ▶ Accounting
- ▶ Records management
- ▶ Human Resources
- ▶ Sales/Marketing/Communications
- ▶ Operations
- ▶ Legal
- ▶ Customer Service

When asked if the organization had ever considered purchasing a scanning solution to help with office documents 75% said they had. This was surprising rate of response given that only 30% reported having a document imaging system installed. More revealing, however, was the response to the follow-up question when asked if they had chosen not to implement a solution, what the reason was:

- ▶ 47% indicated other priorities prevented them from moving forward
- ▶ 28% said the solution considered was too expensive
- ▶ 14% said the solution was too complex to implement

These responses indicate that seeking a solution to the paper problem is not the primary concern of many organizations. It also suggests that solutions evaluated are too expensive, too complex, or ill-suited to the task.



Participants were asked about the frequency of filing. The results showed a clear preference to keep paper close at hand:

- ▶ 65% file documents at their desk or personal workspace
- ▶ 45% keep documents in departmental filing cabinets
- ▶ 27% store documents in a central location
- ▶ Less than 5% use off-site storage for documents

The participants were then asked how many paper documents do they, or an administrative assistant file per week in their desk or personal workspace. On average, the number of documents filed per week was 40. When the question was expanded to include departmental or company filing locations the number grew to 400 documents per week. What this response shows is that in spite of preponderance of electronic sources and transactions, paper documents abound in the office.


#### Typical “Office” Documents for Scanning

Survey participants were asked to categorize the documents they are filing. The results showed that there are myriad document types that need to be scanned in the office:

- ▶ 62% have multiple sheets of paper
- ▶ 40% are forms with structured information
- ▶ 38% have signatures
- ▶ 32% have handwritten information on them excluding signatures
- ▶ 20% have color images and graphics
- ▶ 19% are two-sided
- ▶ 13% are bound

The types of documents that meet these criteria include:

- ▶ Customer correspondence
- ▶ Invoices
- ▶ Resumes
- ▶ Receipts
- ▶ Brochures
- ▶ Contracts
- ▶ Business cards
- ▶ Hard cards (driver’s licenses, insurance cards, etc.)
- ▶ Hand-written meeting notes
- ▶ Forms
- ▶ Fax copies
- ▶ Financial documents/records
- ▶ Medical/Patient records
- ▶ Work orders
- ▶ Technical documentation
- ▶ Hand drawings



How is this different from traditional document imaging systems? Document imaging systems are generally built around document types that are well-known and understood, e.g. claim forms, loan applications, order forms, material safety data sheets, etc. The systems that will be used to process the scanned images know what to expect. Documents that do not fit the criteria are simply not scanned. Not so in the front office. In the front office environment one can expect multiple document types to cross the desk of a knowledge worker from business cards to color brochures, from invoices to hand-written meeting notes, and from legal contracts to articles.

### Filing Need Increases Over Time

When asked what percentage of important documents is needed to be kept on file for different periods of time the response indicated clearly that physical storage is, or will become an issue for many companies:

- ▶ 49% need to keep documents on file more than three years
- ▶ 20% keep documents on file between one and three years
- ▶ 16% keep document between six months to one year
- ▶ 15% keep documents under six months

When asked where documents kept more than three years are stored the response indicated that space utilization and security could become issues over time:

- ▶ 43% file their documents long-term in cabinets in the department location
- ▶ 42% file their documents long-term in a central filing location
- ▶ 33% file their documents long-term in an off-site location

### Space Utilization


The research attempted to understand how much space was being devoted to filing locations (individual office, departmental, centralized) within the organization. Participants were asked how many filing cabinets were currently at their location. The mean average response was 71.3 filing cabinets per participant location.

The survey then went on to ask participants if they felt the space could be used more efficiently if replaced by an electronic filing system 77% said that the space could be better utilized. When asked if they could achieve time, cost savings, or productivity gains if they could access these archived files electronically instead of hard copy, 87% confirmed they would. Depending on the location of the office, the cost per square foot expense allocated to filing cabinets can be fairly significant.

### Retrieval

Few office activities can generate more frustration than a lost document or a missing file folder. In a study conducted by international consulting firm PricewaterhouseCoopers LLC it was found that for every 12 filing cabinets in an organization one additional employee is required to maintain them. Further, while business professionals spend only 5% to 15% of the time reading information, they spend up to 50% of their time looking for it.

Participants were asked a number of questions regarding the retrieval of documents. As expected, the responses indicated that the numbers of retrievals are in direct correlation to the proximity of the document filed.



When asked how they would categorize their experience with locating documents filed in their desk or personal workspace, the response suggested that having files located close by does not make them easier to find:

- ▶ 60% said that locating documents in a departmental or centralized location is sometimes a problem, requiring extra time for searching and sometimes requiring assistance
- ▶ 20% said it is often a problem, creating a time consuming and frustrating process
- ▶ 18% said it is never a problem to locate document in departmental or central locations
- ▶ 2% said it is usually a problem, a significant drain on productivity

When asked how they would categorize their experience finding documents that are filed in departmental or centralized locations the response indicated the difficulty increased in relationship to physical distance:

- ▶ 56% say that locating documents is sometimes a problem, requiring them to look for a while or ask some for assistance
- ▶ 29% said that locating their filed document is never a problem
- ▶ 15% said that locating documents is often a problem, resulting in a time consuming and frustrating process

*“PDF is now the company standard for documents we publish electronically. We are planning to implement the same standard for documents we scan.” — (Professional Services Company)*

### **Section Three: The Increasing Importance of Adobe Portable Document Format (PDF)**

When asked which format they would prefer to store images, 87% of survey participants chose Adobe Acrobat PDF. This overwhelming rate of preference is astounding when considering the cross-section of industry, business size, and government agency that responded to the survey. It suggests that PDF has become firm entrenched as the primary method for document exchange and archiving. It is becoming increasingly clear that the market values PDF for the range of capabilities and consistency it provides to those creating PDF files and their recipients who access them.

Government agencies, financial services companies, and the health care industry have moved quickly to adopt PDF as the standard platform for document exchange. It has quickly spread to other industries, especially those with close ties to these organizations. Its support for an array of compression formats, cross-platform support, security, search-ability, and no-cost viewing have allowed it to gradually become standard for electronic document exchange.

It is of little surprise that these same organizations would show a preference to store scanned images in the same format. This level of consistency is one of the major factors why PDF will likely supercede TIFF (Tagged Image File Format) as the primary storage format for scanned document images in the not-too-distant future.



## The Ideal Container for Images

Why is PDF better for images than other formats? First, it is important to understand that PDF in and of itself is not an image format like TIFF or JPEG. PDF has the ability to encapsulate other compression formats including LZW and CCITT group 4 used in TIFF, and JPEG. It is application independent, i.e. it does not require the application to view the file (like a Word document or Image Editing application would). PDF files have the ability to embed metadata, or data about the data which can include information that verifies the authenticity of the file. And unlike many proprietary applications, PDF is an open specification. Preserving both paper-based and electronic records in a consistent format makes PDF ideal for long-term archiving of documents, data, and images. PDF files retain the look and feel of the original regardless of the viewing client station. This is not true for TIFF and other file formats.

## Ubiquitous Viewing

Adobe PDF has become virtually ubiquitous to the computing world. Over 500 million copies of Acrobat Reader have been distributed globally to date. Over 9 million licenses of Adobe Acrobat have been installed worldwide.

There is no cost associated with the viewing, reading, and printing of PDF via the Acrobat Reader. Its cross-platform support allows PDF files to be viewed on virtually every major computing platform including MS Windows, Mac OS, and UNIX. This application and platform independence guarantees creators of PDF files that their recipients will have the ability to view the contents of a PDF file regardless of computing environment or originating application.

## Security

As the research clearly indicated, security and regulatory compliance have quickly risen to become priority issues for individuals, businesses, and government agencies. PDF improves the security of images through digital signatures and document encryption features that come as standard components of Adobe Acrobat. Creators of PDF images can add digital signatures to files authenticating their contents. They can also password protect files in order to limit access only to those authorized to view the contents on the PDF file.

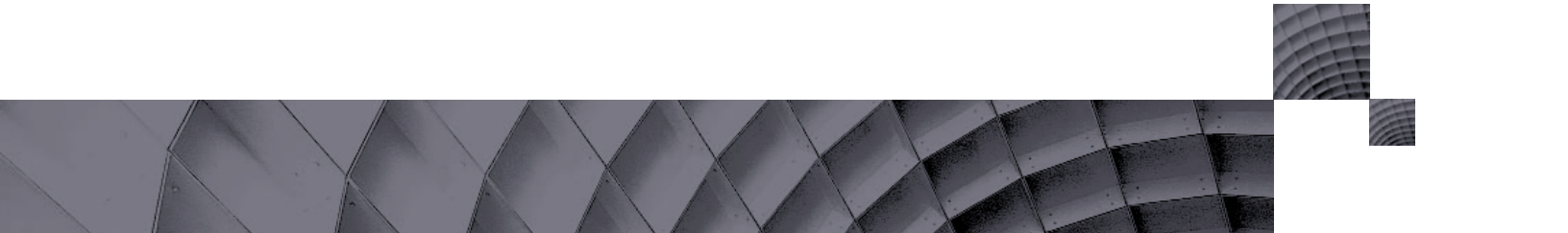
## Searchable Images

Time spent searching for information is one of the largest factors affecting productivity in the office. PDF addresses these issues through its ability to create and output image files that can be indexed and searched. Creating a searchable archive of images made from documents can save time that would otherwise be spent sifting through file cabinets and folders. PDF supports a number of output formats that scanned images can take advantage of including:

- ▶ PDF Image Only – In this most basic form the scanned image is encapsulated as a PDF file that can be viewed in either the Adobe Acrobat Reader or Adobe Acrobat.
- ▶ PDF Searchable Image – In this advanced form of PDF the image of the scanned page has been processed by OCR (Optical Character Recognition) producing a searchable bitmap that is hidden behind the image. The look and feel of the original image is preserved.

Indexing engines can import portions or all in the text available in the searchable image to support searching over a range of image documents.





*“We are revisiting all of our planned technology purchases to make certain they meet our new guidelines security and compliance.” — (Financial Services Company)*

## Section Four: Security and Government Compliance

### Storage Locations of Important Documents

Security has become increasingly important for regulatory purposes, as well for business continuity and employee well-being. Similarly, document security has become a challenge for organizations. The costs and physical space requirements associated with keeping paper documents secure, yet accessible in support of ongoing activities will drive many organizations to seek alternative, digital methods to support security and compliance requirements.

Participants were asked where their organization keeps important or sensitive documents including legal contracts, invoices, and business correspondence:

- ▶ 61% store documents in file cabinets in the department
- ▶ 43% locate documents in file cabinets in a central location
- ▶ 21% are scanning documents and storing them electronically
- ▶ 16% use off-site storage facilities
- ▶ 16% use the drawers in people’s desks to store documents

Participants were then asked if they restricted access to these documents:

- ▶ 60% confirmed they were using locked offices and/or filing cabinets as a primary method of securing files
- ▶ said they have no formal security systems in place for document security
- ▶ 11% confirmed they were using extended security measures including security cards, coded entry, or scanning systems

Without formal security systems in place office document, many important documents containing confidential and proprietary information about the organization, its operations, employees, and clients is left exposed to unauthorized access. When asked is they had issues or events where unauthorized access took place 5% said yes, and another 40% said that though it had not happened (that they knew about), they remained concerned about future breakdowns in the security of documents.

*“We are in the process of removing all independent fax machines from around the company for security purposes. This is a compliance issue for us. We are now enabling employees to scan to the fax server or scan and send by e-mail. This way we have an audit trail of what has been sent, when, and by whom.” — (Financial Services Company)*



## Government Compliance

Participants were asked if their organization had any regulatory compliance standards associated with documents. The responses were surprising given the cross section of industries and size of organization among the participants:

- ▶ 67% confirmed they had regulatory compliance standards associated with the documents they worked with
- ▶ 23% said the documents they work are not associated with any compliance standards
- ▶ 10% said they did not know if the documents they work with came under regulatory compliance standards

*“We can improve turnaround times scanning customer files and sending them to the home office electronically rather than mailing copies or original documents.” — (Professional Services Company)*

## Section Five: Information Distribution

Increasingly, scanning is being used as much to distribute information as it is used for graphic editing, document management, workflow, and archiving. It is easy to understand how scanning and distribution via e-mail will quickly overtake fax as the dominant form of electronic document distribution. Fax technology’s poor image quality, lack of color support, consumption of paper and toner, and lack of security will relegate it to the junk heap of office technologies.

When participants were asked how they typically distributed information to clients, prospects, and other employees that is paper-based, the responses varied:

- ▶ 65% make hard copies and distributed the information by hand or mail service
- ▶ 45% send fax copies
- ▶ 42% summarize the information and send as e-mail
- ▶ 39% scan the information and distribute via e-mail attachment
- ▶ 21% use a document imaging application to distribute information

When asked how often they needed to distribute this type of information the responses indicated this activity occurred quite often:

- ▶ 41% distribute documents in hard copy daily
- ▶ 29% distribute documents weekly
- ▶ 11% conduct monthly distributions
- ▶ 20% distribute documents once in a while



## Section Six: Disaster Recovery

The survey identified issues with security and compliance associated with paper documents. When asked to describe their disaster recovery plans for paper-based documents in the office the response signaled yet another area of exposure:

- ▶ 55% confirmed they have no formal disaster recovery plan for information that is paper-based
- ▶ 30% were scanning documents and storing the images on the company network for back-up
- ▶ 17% were making hard copies of important paper files and sending them to an off-site location for storage
- ▶ 10% indicated they were scanning documents to their local PC and were routinely backed-up

The survey then posed a hypothetical disaster such as a fire and asked the participant what the impact would be to their organization:

- ▶ 41% indicated the disaster would pose a moderate problem; some documents are backed-up, but not most items, requiring some amount of time to recover
- ▶ 28% indicated a disaster would pose a minimal problem since they backed -up most documents electronically or in hard copy
- ▶ 24% said that a disaster would pose a major problem; no back-up of paper documents exists in their organization resulting in severe impact to their operations
- ▶ Only 7% said a disaster would pose a minimal problem because they have complete system in place to recover lost paper documents

*“Many of our agents work in small offices with limited budgets and no staff that can be dedicated to scanning documents. Cost, ease-of-use, paper-handling, and footprint will factor greatly into our buying decisions.” — (Insurance Company)*

## Section Seven: Summary and Conclusion

Our recent survey of businesses representing all sizes and industries and government organizations, as well as our experience as the worldwide leading provider of document scanning solutions provides a wealth of information from which we draw our conclusions.

The value of a document increases once it has been digitized.

Whether the goal is to archiving, document management, workflow, or simple distribution of information a digitized document can do much more than is possible in its original paper form. Organizations that recognize how scanning can help organize, share, and protect information contained in paper document will reap the benefits including lowered operational costs, improved security, individual productivity, and knowledge asset preservation.



PDF will become the standard format for document images.

The versatility, security, archiving capability, application independence, and outright market acceptance of this format as a document exchange standard will spill over into document scanning requiring solutions to output image file in PDF as the preferred file type of most businesses.

Security and compliance requirements will continue to drive the need for scanning at nearly every level of the organization.

Research participants repeated time and again how these issues were affecting nearly every technology purchase and work process. These issues will continue to drive the need for scanning to be accessible at all levels of the organization.

Office document scanning is the next logical step in the gradual decentralization of document scanning in corporate environments.

Several leading document imaging companies pioneered the move away from high-cost, centralized document scanning to more affordable, decentralized scanning operations since the late 1990s. Recently higher-end network multi-function devices have taken up the cause of decentralized scanning operations. Both markets will continue to grow; however, in order for document scanning to become truly pervasive solutions must focus on the needs of the individual. This new frontier requires solutions that are affordable, easy to install and use, exceptional document handling capabilities, and integrate seamlessly with the applications they work with on a daily basis. As cost and complexity issues are addressed, the opportunity for more scanning to take place will expand beyond line of business applications into the mainstream of technology deployment.

### Conclusion

Important business documents accumulate everywhere: in piles on our desks, in file cabinets in our office, in central filing locations, and in off-site storage. The problem is not the paper; it is how to integrate this information into our electronic environment. How we “office” is continuing to change into a highly mobile, connected digital workspace where all the information the business professional needs is at their fingertips. However, until improved methods are brought forth that convert the paper on the desk, or in folders in the filing cabinet into information that is instantly accessible anywhere, anytime organization will be forced to continue working in two separate worlds - paper and digital. There is an acute need for “arms reach” document scanning solutions that will allow the business professional to easily bridge the world from paper to digital giving them full access to knowledge and information regardless of its source.

Office document scanning fosters more timely interaction among employees, partner, and clients. Paper redundancies, i.e. making copies and sending faxes, can be substantially reduced or even eliminated. Time spent searching for information can be significantly reduced. Digitizing paper allows better record keeping and archiving, fast and efficient work processes, and more secure and regulatory compliant organization.

Through cost reductions, improved ease of use, paper-handling, image quality, and application integration, thousands of small and mid-sized businesses and government agencies previously left out of the document scanning revolution can now benefit from this technology to build solutions to common problems impacting individual and organizational performance.



### The Ideal Scanning Solution for the New Office

Fujitsu ScanSnap! is redefining productivity among scanning solutions designed for office use. Its one-step approach eliminates elaborate management applications and cumbersome driver interfaces. Instead, it provides the user with a simple method to convert paper to digital image files at the touch of a button. Its “always on” convenience, connectivity, and small footprint allow it to sit comfortably aside the individual business professional in the office.

Fujitsu ScanSnap! takes a new approach to integration by focusing on the applications that users interact with every day. Through its simplified user interface, integration the Windows file system, and PDF formatted output, Fujitsu ScanSnap! unites paper-based information with other data types users need to interact with each and every day. Fujitsu ScanSnap! connects the paper and digital worlds in a way that allows the individual business professional to consolidate information in one place.

Fujitsu ScanSnap! overcomes the cost, complexity, and ineffectiveness of many of today’s scanning solutions. Its simple, yet effective design can be relied upon for everyday use. Its color, duplex, speed, and paper-handling capabilities coupled with affordable price offers business users the opportunity to centralize the organization, sharing, and protection of their most valuable documents, making paperwork less time consuming and costly, and in the process become more efficient and productive.



Fujitsu Computer Products of America, Inc.  
[www.fcpa.fujitsu.com](http://www.fcpa.fujitsu.com)

2904 Orchard Parkway, San Jose, CA 95134-2009. (800) 626-4686 (408) 432-6333 [info@fcpa.fujitsu.com](mailto:info@fcpa.fujitsu.com)

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The Fujitsu logo, consisting of the word 'FUJITSU' in a bold, red, sans-serif font. Above the letter 'U' is a stylized red infinity symbol.

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