White Paper:
Achieving The Paperless Office

An Efficient Technology Inc White Paper

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FOREWORD

This white paper discusses the concepts and methods for achieving a paperless office by automating and eliminating paper forms and applications from the processes that currently require such documents to be completed.

INTRODUCTION

The term paperless was first introduced in a 1975 Newsweek article called "The Office Of The Future" published June 30, 1975 which touted the concept of a fully automated office without paper. It seems that instead of eliminating paper we actually have more of it. The promise of a paperless office has only been partially realized and much more can be done to fully do away with paper right now.

Efficient Technology Inc (ETI) has several solutions that focus on eliminating paperwork and forms-based processes. This paper does not intend to promote ETI's specific products, rather to discuss the methods, concepts and options available for achieving a paperless office with tools available today.

Assumptions

Readers of this white paper should have a basic understanding of their business processes that depend on paper forms, applications and/or surveys. The technology concepts discussed in this paper do not require a technology background and should appeal to any and all readers.

THE CURRENT STATE OF PAPERLESS

What Paperless Means

There are many definitions of 'paperless' but the implied meaning is for a given process or function to be able to function without relying on paper as an input or output. Paper is used to capture data (in the form of forms, applications, surveys, contracts, etc.) in order to transport the data to a person operating the process that relies on the data. Paper is also used to output data, reports and charts to share with people who make decisions in regards to the process.

Being truly paperless is to operate without any paper. A prime example of a paperless office is the many outsourcing companies in India that perform work without printing a single sheet of paper. The operator is simply given a terminal computer to work on. While the result of being paperless in this example eliminates waste, their primary reason for being paperless is to

reduce security risks and limit how much information an operator can take out the front door.

It is unrealistic to operate a business without any paper whatsoever, but virtually every document that is used to capture data or is generated as an output from the process should be eliminated. People by their very nature need tactile experiences with information and will therefore continue to use paper to take notes, convey messages and marketing, draft ideas and design solutions, and work with companies who are not paperless and still require paper.

Alternative Definitions of Paperless

The term paperless is often used to refer to scanning and storing existing documents electronically. Imaging, storing and managing documents is an important aspect of going paperless since legacy documents that only exist on paper must still be stored, handled, searched and archived. Eliminating legacy paper stores is an essential part of going paperless, but this aspect alone will not make a company paperless. The only way to become paperless is to eliminate the paper in the first place. Document imaging solutions are necessary to manage the existing paper and the paper given to you by others (i.e. vendors, partners, customers, etc.).

Why The Paperless Office Doesn't Exist Yet

In many ways we are already paperless. Think about the number of software programs and systems commonly used by businesses today that eliminated paper:

- Financial systems replaced general ledgers
- Databases replaced rolodexes and index cards
- Email replaced traditional letters and faxes
- Electronic calendars replaced day planners and desktop calendars
- Internet is replacing encyclopedias, phone books, and much more

With the advent of computers, a perfect world without paper can exist. Businesses could operate without paper if every process was designed to exclude paper and every user became accustomed to viewing and reading online or in a paper-like reading interface (e.g. Amazon Kindle, Sony E-Book). Unfortunately, this concept has been unrealistic for several reasons:

Efficiency Creates Capacity For More Paper Production

If the goal of every business is to be profitable, then at least one of the goals of a company's operation is to become more efficient. While efficiency is essential to lowering costs and improving profits, what it's really doing is

increasing capacity to perform more tasks or the same tasks more frequently.

For example, if you manage a chain of two hundred stores and your budget analysis takes two weeks to generate, you would greatly benefit from reducing that process down to just a few minutes. Now if you could perform that budget analysis in 2 minutes what would you do with the remaining time? In addition to tackling other problems, you might also perform the budget analysis daily instead of every two weeks. In this case, a bi-product of producing the analysis is a printout. That means instead of printing the budget twice per month, it may now be printed 20 times per month.

In many cases the reason we're not paperless is because our efficiency has allowed us to create more paper. While email eliminated writing letters and sending them via the US Post, we now write many more messages than before and some people print emails in larger quantity than they ever printed standard letters. The result of email is possibly more paper, not less.

Processes Initially Depend Upon and Require Paper

If you have ever performed a process that was not automated by any machine then you most likely used pen, paper and the tools of your trade. The cheapest and most effective way to design and start using a process is to rely on paper to capture and/or transport data.

For example, opening an account with a financial institution requires someone to fill out a paper form to capture the investor's contact information. This form is then processed by someone who inputs the data into the account system that creates the new account. Finally, a paper statement and/or confirmation is printed to give the investor their account information.

Unless processes are designed to operate without paper from the very beginning most companies will rely on paper when they first start using a process. If and when the process is automated with computer systems and machinery, about 80% of the process will be automated for roughly 20% of the cost of automating 100%. In other words, automating the last 20% of a process will cost four times as much as the first 80% did. Since most of the paper used by a process is in the 20% not automated, the paper is not eliminated.

People Prefer To Read Paper

Although much of the traditional media (newspapers, magazines, trade journals, etc) is going digital and reducing the amount of paper they print,

people still prefer to hold and read physical paper. This natural tendency is due to familiarity with paper (only the younger generations have grown up with a computer screen and treat it as normal), technology limitations (viewable page size, screen glare, unnatural lighting, etc) and even a sense of security for some (paper doesn't require electricity or a computer to be seen), and other reasons.

In the workplace, it is often easier for individuals to print documents or work with pre-printed documents than it is to seek a computer-based alternative. Ultimately, users need incentive to be paperless.

THE FUTURE IMAGINED… WHY GO PAPERLESS

In the future imagined back in 1975, we would have computer screens that allow us to read our mail, interact with people and systems, access reports and run processes. The result, it was thought, was that paper would go away. Although it hasn't happened yet, it can and should. Not only would eliminating the reliance on paper have a positive effect on trees, landfills and identity theft, the cost savings are enormous.

Digital Signatures

One of the largest impediments to going paperless is the need for ink or 'wet' signatures on paper. A wet signature has been ingrained in our society and culture for hundreds of years as the way to verify that someone is committed to the transaction written on the paper. Actually we've been performing digital signatures for a long time. Electronic contracts were being accepted electronically over 100 years ago via morse code and gained wider adoption in the 80's when business began being conducted via fax.

Although electronic and digital signatures were approved with the ESIGN Act by US President Bill Clinton on June 30, 2000 (25 years after "paperless office" was coined), many people continue to view electronic signatures with reluctance. By law, electronic signatures must be accepted:

> **ESIGN Act Definition**
>
> "A contract relating to such transaction may not be denied legal effect, validity, or enforceability solely because an electronic signature or electronic record was used in its formation."

Electronic signatures are possible to use directly with electronic documents in multiple forms including signatures that resemble physical signatures, encrypted keys that represent a specific person and trust authorities who host public key infrastructures (PKI). It's not important to understand all the different signature technologies, rather, it is more important to understand that signatures can be obtained electronically and the paper form can be

eliminated altogether. Digital signatures were the last legal hurdle to going paperless and that obstacle was overcome in the year 2000.

The benefit of electronic and digital signatures is the speed in which a transaction can now be accomplished. Instead of waiting days for physical documents to ship, documents can be signed online and returned immediately.

Cost Savings

Have you heard that it costs $25,000 to fill a filing cabinet and $2,100 per year to maintain it? Did you know that rejecting a document based on poor penmanship, missing information or missing pages costs an average of $75? Or that filling out just 5 pages of forms per day costs an average of $12,000 per year (at $25 per hour or $40,000 salary)?

Sure automating 80% of a process probably saves a company hundreds of thousands of dollars per year, but the remaining 20% may be hiding even higher costs depending on the number of people who are still filling out the forms. Even 10 people filling out forms could be costing a company $120,000 or more per year in labor costs alone.

Revenue Enhancements

What would you do with 10% to 30% more time? What would your sales team, service team, operations staff, etc. do with that much more time? Ultimately, your company could spend more time generating revenue (or lower other costs and improve profit). A 10% to 30% increase in revenue would improve every business while simultaneously lowering costs and improving moral with those who fill out forms.

Estimating Your Revenue Enhancement

You can quickly estimate what this is worth to your company by dividing your total revenue by the number of people in your firm to get your average revenue per employee. Then multiply that number times 10% to get the amount of revenue you'll generate for each person who fills out forms in your company.

If Saving Trees Were The Only Benefit

It seems that every company wants to be more eco-friendly and reduce their carbon footprint. Going paperless can help in many ways:

1. **No more printing.** One tree yields 8,333 sheets of paper which means 10 people filling out 5 pages per day will save 1.5 trees per year.

2. **Less waste.** Less printing means less toner, ink and paper. It also means less transportation, fewer chemical bi-products in the production of toner and less material filling landfills.
3. **Less shipping.** If you eliminate paper by using electronic means to complete and sign the paperwork there is no longer a need to ship the document, saving fuel and labor costs.

How To Achieve A Paperless Office

Overview

The challenge with eliminating paperwork is two-fold. A) Most companies have found it difficult to assess the cost savings that can be recouped. B) The technology for automating paperwork is not obvious to most and often implemented poorly.

The solution to going paperless is three steps:

1) Recognize your cost savings and revenue gains from eliminating paper. Without the right incentive, no organization will choose to evolve.
2) Look for systems that can eliminate the paper or reduce the need for paper in the first place (e.g. customer relationship management – CRM, human resource systems, etc).
3) Partner with a company who can provide the infrastructure, technology and service to deliver on the promise of a paperless office.

As you approach implementing a plan to go paperless consider the methodologies and technologies discussed below.

Methodologies

Would you agree that if going paperless were easy everyone would have already done it? The tools and methods have been around for years but few people have built the expertise in using these tools and methods. More importantly, few companies have the resources to attempt automation with their own resources. There are three main methods to going paperless.

Systemic Approach

Any system that fully automates a process and displaces the paper originally used will take you paperless for that specific process. To ensure you remain fully paperless, also seek to eliminate the need to print documents that are output by the new system.

Forms Platform Approach

If your process requires print-perfect documents (even if you are not going to print them) then the best method for automating forms is to use a platform technology that integrates the data to and from your system with the forms in use. This approach is the most effective and easy to maintain when multiple documents need to be automated.

Forms Programming Approach

If you only have one form to automate, you can implement form-level programs that will make the form itself intelligent and fully-integrated with your system. This approach is the most costly to build and maintain if multiple forms must be integrated with your system.

Technologies

The best thing to happen to paper is the Adobe® PDF standard. PDF, which stands for Portable Document Format, has become the de-facto standard for displaying documents that display and print the same on virtually every computer. Since the early 1990's Adobe has evangelized the Adobe Reader product to ensure that the majority of computers have a PDF-reader on it. As a standard, PDF enables companies to secure their documents and enable features such as interactivity, form fields for data capture, dynamic links to external systems and digital signatures (plus many more features).

Leveraging PDF to display the documents, ETI has built the industry standard for how data moves to and from the PDF document, resulting in a platform for automation. The Quik! Field Definition allows virtually any system to communicate with a PDF form for the purpose of sending data to, receiving data from and managing a process that traditionally relies upon paper forms.

Quik! is the only SaaS (Software as a Service) model that enables companies to use an existing and hosted platform technology to go paperless. The Quik! service includes building and maintaining the documents, delivering the documents in real-time, enabling process-driven rules and delivery of the digitally signed and completed document.

The only other means to go paperless with paper-based forms and applications is to purchase PDF-manipulation tools and build a custom solution. While definitely possible, the cost of building a custom system is typically too expensive to justify with the savings that result from the paperless system (which is why the world still runs on paper).

CONCLUSION

Although a paperless office has been promised for over 30 years, it hasn't been delivered until now. With the past roadblocks of limited technology, signatures and expertise to implement, coupled with a return-on-investment that is now easy to understand, achieving a paperless office is completely possible.

ABOUT EFFICIENT TECHNOLOGY INC

Efficient Technology, Inc. (ETI) provides enterprise forms-based workflow automation solutions that accommodate dynamically changing business rules, forms and workflow. ETI is the developer of Quik!, the industry-leading forms management and forms-enablement solution. By improving business processes, increasing efficiency and saving time Efficient Technology Inc delivers on the promise of workflow automation. With over 60,000 end-users ETI's customers range from Fortune 500 to small businesses. Efficient Technology Inc is proud to be a carbon-negative company saving over 1,000 trees each year. Visit www.EfficientTech.com

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