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Best Practices: Distributed Output Services

by Craig Le Clair
for Information & Knowledge Management Professionals

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The Office: A Visible Target During Economic Uncertainty

by Craig Le Clair
with Kyle McNabb and Diana Levitt

EXECUTIVE SUMMARY

In most organizations, distributed output devices such as printers, fax machines, and scanners seem to magically multiply. Although enterprises often do not count the cost, the amount of money spent on distributed output is astounding, and it greatly taxes the environment. Through interviews with operations, facility, and IT professionals in enterprises, as well as vendors, our research uncovered best practices in distributed output services in four areas. Enterprises with central control of office assets, strong change management and governance plans, and a focus on linking office devices into mainstream business processes were the most successful at corralling distributed output costs. Application of these best practices, especially as we enter a period of economic uncertainty, can help information and knowledge managers, operations managers, and executive management cut costs, fill gaps in compliance and security, improve office workflow, and even help push green IT forward.

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NOTES & RESOURCES

Forrester interviewed three vendors and seven user companies, including eCopy, Hewlett-Packard (HP), Kofax, Oce, and Xerox.

Related Research Documents

"Give DOM Its Due"
October 24, 2007

"How To Save Money And Be A Greener Business: Shine A Light On Office Peripheral Management"
September 17, 2007

"Document Processing Services: Options For Information Managers Accelerate And Expand"
March 27, 2007

DISTRIBUTED OUTPUT SERVICES NEED REFORM

Distributed output services consist of printers, fax machines, and scanners used to support office workflows. Many enterprises have been slow to use these assets, mostly in anticipation of the paperless office finally emerging. Meanwhile, the cost of poorly planned office devices continues to mount, even though the costs may not be tracked or obvious to anyone. While many offices appear modern, they neglect to plan or manage their use of printers, faxes, copiers, and scanners, which contributes to significant areas of waste. However, enterprises can address this problem through the use of newer, cheaper, more secure, better connected, and cleaner devices: multi-functional printers (MFPs). A lack of centralized distributed output services accountability has led to:

- **Higher than necessary office costs.** In short, with nobody minding the store (in this case the office), costs have risen. Office document costs typically slip between the cracks of IT, facilities, and office administration. In addition, business units often bring in devices (printers, faxes, and copiers) without IT even knowing about them. Age and underutilization of equipment lead to higher spending than needed, but organizations have difficulty pinning down the actual costs without central management.

- **Underutilized equipment.** Most offices have a diverse assortment of desktop and network-connected devices. There may be a brand-new MFP, but many of the other devices exist in an aging fleet — 5.6 years old on average. Often, device allocation is too luxurious, with one printer for every two or three workers. Such low ratios lead to many of the devices being used sparingly — about 15 minutes out of a typical day.[1]

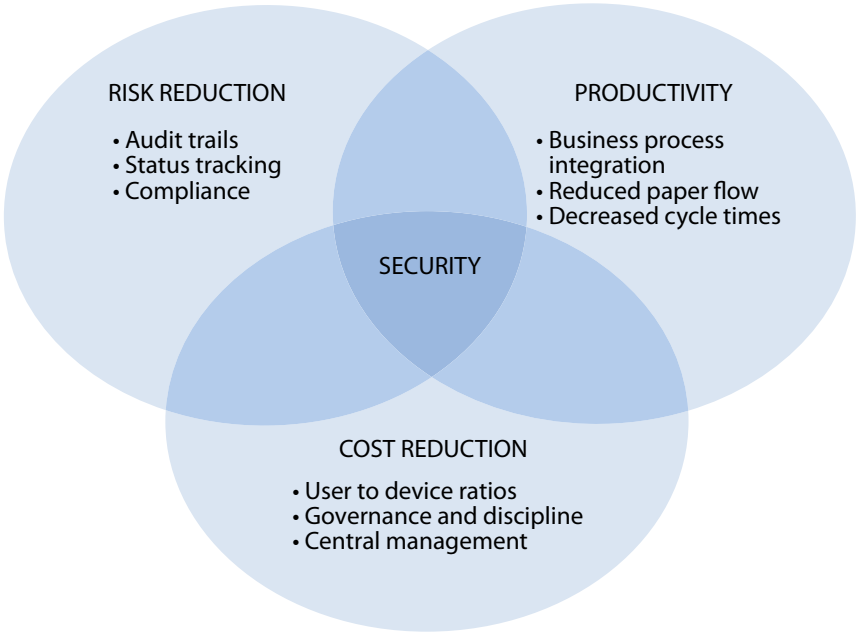
- **Lost productivity due to paper bottlenecks.** Paper slows a process down. Users will search, copy, manually route, file, and spend time tracking the status of paper documents. MFPs can remove paper from the middle of the business process, reducing cycle time and waste. Scanning expense reimbursement receipts and account opening forms are two of the more common office applications in which MFPs can kick off a business process.[2] MFPs also support end-of-process activities, such as printing packing slips and bills of lading on the loading dock. In addition, MFPs allow users to immediately scan vendor correspondence and send it to a repository to drive payables processes.

Information and knowledge management (I&KM) professionals can help in correcting these issues by involving efficiency initiatives, such as Six Sigma, acquiring discovery, assessment, and central management capabilities, or by bringing in a managed service provider.

OPTIMIZING THE OFFICE IS HARDER THAN IT LOOKS

Organizations find it hard to optimize the office environment because three — sometimes competing — goals need to be balanced (see Figure 1). In previous years, controlling the cost of the infrastructure, or fleet optimization, was the dominant focus. Today, enterprises must lower costs, reduce risk, and improve office workflows with people who often don't see that a problem even exists.

Figure 1 Primary Pain Points For Distributed Output Services



43962 Source: Forrester Research, Inc.

Business Process Integration Gets Overlooked

Enterprises understand that using paper inevitably introduces bottlenecks and increases process cycle time.[3] Many mainframe applications, enterprise apps, Microsoft Office apps, and ECM systems can greatly benefit from communication and integration with office devices — either by turning paper to digital formats or the reverse.

- **Visible opportunity that's difficult to tackle.** The opportunity to integrate MFPs with office workflows is clear to the enterprises we surveyed — but they struggle with how to do it. According to one financial services company:

  "Our service delivery platform has initiated the distributed image capture project to provide front office staff and clients with the capability to submit documents, client applications, forms, etc. to fulfillment processing centers electronically via our multi-function print/scan/fax machines located at branches across North America. The objective of the program is to provide faster, more efficient routing of documents to departments in the back office, thereby reducing cycle time for end-to-end fulfillment of client documents. We expect reduction in duplicate submissions, lost documents, and reduced rework, ultimately reducing our costs while improving the customer experience. Yet, we are struggling with how to integrate these devices without building something ourselves." (VP, large diversified financial services provider)

- **Immature office fleet and business process integration.** Maturity varies widely for integrating the office fleet with business processes — many are just getting started.

> "We now need to support email attachments, faxes, and scanned images at our branches. We are disappointed by the high amount of work or license costs required to integrate remote capture into our account opening process. We are not sure whether to integrate point solutions ourselves or go with the fuller tool kits by the major capture vendors that really haven't delivered the promised 'Web-services' type integration." (Senior IT executive, leading wealth management broker)

- **No consideration for integration with business processes.** Some enterprises did not even contemplate integration with business processes, and only brought it up during reflection on a project.

> "Integration with business processes was only an afterthought to the project. We realized that in 40 offices, staff had dedicated devices for scanning invoices, which then matched up to our accounts payable system. We soon realized that these could be replaced." (Manager of IT infrastructure, major food processor)

Enterprises Find Central Management Tools Difficult To Implement

Compared with infrastructure management tools that IT uses to manage computing infrastructure, for example server configuration management, those used for office devices are nascent. Standards for interacting with the device have not taken hold, and have inhibited development of strong central management tools. The major service providers like HP and Xerox have kept the high-level technology in-house, including discovery, assessment, monitoring, billing, optimization, and reporting features far richer than the tools available in the general market. Frustration of IT staff with available tools is clear:

> "I can't get the level of detail I need from the hardware provider's 'freeware' tool. We have looked at HP's WebJet version 10 and the Lexmark tool. But I want to know how much a particular user is printing, so I can bill them and help them be more efficient. I also want to aggregate the data for billing and reporting. These tools are geared to fleet deployment and problem resolution, but don't give me what I need to manage the fleet." (VP, major health care provider)

Enterprises Struggle With Change Management

Enterprise fleet consolidation projects consistently underestimate push back from businesspeople. Many of the companies we interviewed shared the feedback we received from this multinational company:

> "For many of our users, the change was significant. They would give up that printer in their office, and then there were territorial issues when devices were shared by two or more departments. Prior to the project, most users had dedicated devices for faxes, printers, and copiers. They knew how to use them — knew where they were. Now, they had this new MFP which did everything, but was more complicated — and further away. We had no formal training plan, and no promotion of effort, so when they went to work, they started with the wrong attitude and then ran into problems." (Manager of IT Infrastructure, major food processor)

In some cases, staff unfamiliar with projects requiring strong user support were significantly affected:

> "We did no formal promotion of the effort at all. It would have helped a lot to gain more 'buy-in' early on. We could have used a reserve of support when we experienced technical and training issues during implementation. The staff originally assigned did not have experience with projects that altered user behavior — so no communication with affected user groups took place." (Manager of IT Infrastructure, major food processor)

Document Management Compliance And Governance Don't Embrace The Office

From a security and document management perspective, organizations have focused on highly predictable, structured parts of business processes, such as claims processing, accounts payable invoicing, or underwriting. Enterprises rarely give office activities that generate output from desktop applications the same scrutiny as these structured business processes, and many holes exist as a result. Organizations leave fax transmissions open to hackers through unprotected analog phone lines, employees leave sensitive patient or employee information on a device's output tray, or thieves can steal data right off the MFP's hard drive. According to one I&KM professional:

> "HIPAA [Health Insurance Portability and Accountability Act] requires data to be protected, but when I tour any hospital, there are hundreds of fax machines that are not compliant." (VP operations, major health payment organization)

Little things can create big holes. A "date stamp" on incoming documents may be required for compliance with the Sarbanes-Oxley Act (SOX), but this feature may not be available on all office equipment. Key documents — potentially discoverable under the Federal Rules of Civil Procedure (FRCP) or containing confidential information — can end up on unmanaged file systems.

Few enterprises we spoke with had incorporated office security into an overall governance framework. MFPs perform many functions, but they also introduce new security challenges as servers networked into the corporate environment, introduce new opportunities for intruders. Governance for office security would guide staff on what type of device to use at the right time and for what purpose. However, few enterprises seem ready for the increasing complexity of these new devices.

BEST PRACTICES TO FOLLOW WHEN PURSUING DISTRIBUTED OUTPUT SERVICES

Compared with other infrastructure areas in IT — network and telecommunication, desktop and server, and help desk — office output receives little management attention.[4] But as we potentially move toward a cost-containment period, today's focus may shift to office output. We interviewed operations, facility, and IT professionals in enterprises, and spoke with vendors to find out how successful office infrastructure went. Like all good ideas, the four best practices that we identified sound quite simple, but many of the leading enterprises we interviewed have spent years working toward these goals (see Figure 2). The enterprises that have successfully implemented these practices constantly struggle to maintain the ground they've gained.

- **Get control of office assets.** Common drivers for office infrastructure consolidation are poor device allocation, aging equipment, and decentralized management with inadequate cost controls. Getting control of these assets is a crucial first step.

- **Develop a change management plan.** View office consolidation as a strategic program, not just operational activities revolving around device upgrades. A change management plan will let you start off on the right foot.

- **Develop a governance framework.** Office consolidation programs change staff responsibilities and people's behavior. Because of this broad impact, they require a governance framework to establish project clarity and keep the project on the right track.

Figure 2 Best And Next Practices In Distributed Output Services

Best practices	Next practices
• **Get control of office assets.** Conduct assessment to discover inventory, and estimate user/device allocations for current and future states. Develop metrics, process, and reporting tools to monitor and continuously improve the office environment. • **Develop a change management plan.** Invest upfront in training, testing, and a strong awareness and promotional effort. Tie in higher-level corporate goals, such as paper reduction and green IT. • **Develop a governance framework.** Develop a governance framework for office asset usage, department sharing, security, and exception purchases. Involve key stakeholders in governance and development. • **Focus on business process improvement.** Anticipate and identify opportunities to leverage a more modern office infrastructure and to reduce cycle times for business processes.	• **Apply goals to reduce paper and improve process cycle times.** Set goals for automation of paper flows for key business process, and assign an analyst to study and improve high-priority projects. • **Develop environmental practices and goals for the office that link with overall green initiatives.** Set realistic goals and achievable practices to achieve a greener office. • **Develop skills in MFP device connectivity.** Software tools for management and integration of office infrastructure devices is improving as standards evolve. Assign IT to evaluate and test these software capabilities.

43962 Source: Forrester Research, Inc.

- **Focus on business process improvement.** Office consolidation programs, when combined with business process improvements, can be a home run.

BEST PRACTICE NO. 1: GET CONTROL OF OFFICE ASSETS

Hallmarks of well-run office optimization projects include good discovery, inventory, and assessment of office assets. These projects found out what the assets cost, determined their lease commitments, calculated people-to-device ratios, and modeled a future state. Major equipment manufacturers, such as HP, Ricoh, and Xerox, have the tools to help with this process. Only with this information can you evaluate the benefits of an outside-managed service or in-house approach. The best-run projects did not take a traditional procurement approach to the problem, realizing that it's not only about consolidation and cheaper devices, but also developing a baseline of information to create sustainable control and discipline. Successful projects:

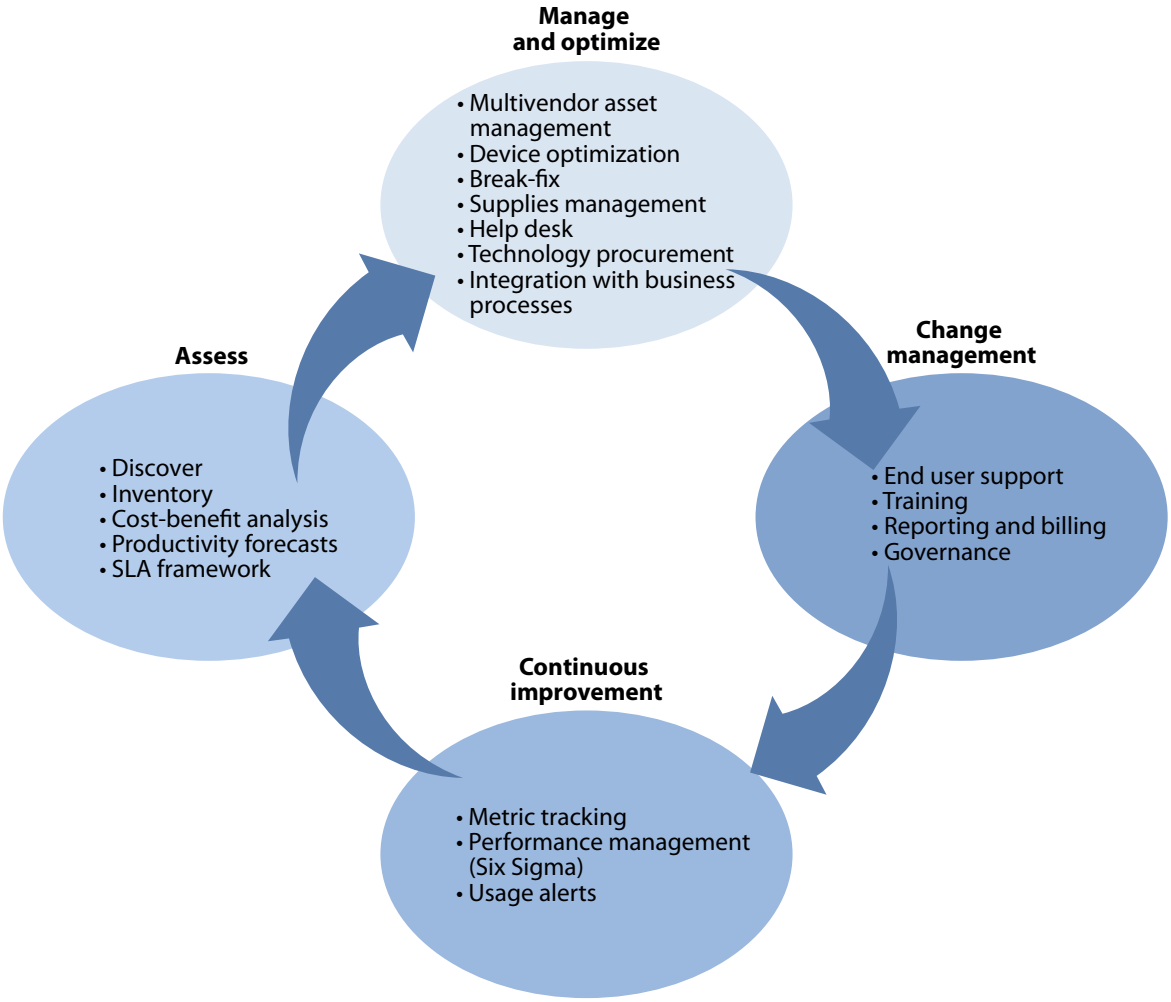
- **Centrally manage the fleet.** Fleet optimization requires central management. Despite challenges, successful projects understood that, over time, more savings would come from strong central management than from device consolidation. Central management, either through a managed service provider or in-house staff, helped drive success.

- **Objectively assess whether you have the tools, resources, and document expertise.** IT manages technology infrastructure for a living and, in one sense, can consider MFPs as just another server to manage. But these devices get used in varying ways, requiring high-quality management tools for the fleet that do not exist today. For example, HP's Web Jetadmin and Lexmark's MarkVision software can help manage these assets, but have better support for device configuration and trouble-shooting than management reporting. The advanced software management tools (not to mention the expertise) developed by the major services providers will not be made available to enterprises anytime soon. According to one globally managed service provider:

  > "We have invested millions in our tools. In fact, we start our customer presentation with a four hour demo of the functionality. There are no plans to release this to customers. And yes, there is lack of good tools for companies to do this really well themselves. Good tools are essential, but so is the right knowledge and experience. Sure, I'm biased, but I don't see this being done well over a long period — by most firms." (Senior VP, leading managed services provider)

- **Use outside resources to help when needed.** If you don't have the resources or expertise to get control of your fleet, office equipment providers such as HP, Ricoh, and Xerox can provide managed services, an ongoing contract to make the equipment run at a certain quality level, and keep software up-to-date. For office equipment, managed services include the equipment, consumables, technology, monitoring, and maintenance, provided on a pay-for-usage basis (see Figure 3).

Figure 3 Managed Service Functions



43962 Source: Forrester Research, Inc.

Getting Control Of Office Assets — Pitfalls To Avoid

Organizations find that managing office assets is more difficult than it first appears. We learned that the most common pitfalls include:

- **Doing it yourself — without the right tools or expertise.** Management of the distributed output environment requires sustained management, expertise in output systems, resources, and sufficient tools. One enterprise, when asked whether it reviewed managed services, pointed to its success with hardware consolidation:

  "We did the hard part — and reduced the number of devices. So, why should we now pay the higher costs of a managed service?" (Senior enterprise architect, major medical provider)

Yet, in interviews with successful projects, the real cost savings came less from fewer devices and more from ongoing monitoring and management of device usage. Enterprises need to be sure they have the resources, expertise, and tools to sustain the optimization effort — and avoid scrambling to manage the environment after the fact, as was the case for the following project:

> "We really need to capture detailed printer, copier, and fax utilization, the number of prints run on a device, coverage ratio per page, duplexing volume, and any other pertinent information that will enable us to economically and efficiently manage the output of the equipment in the environment." (Enterprise architect, Highmark)

- **Providing inadequate assessment of and follow-up on fleet control.** Distributed output services projects must inventory what the enterprise has and map devices to populations of businesspeople. A poor understanding of the current state will affect the project over the long term. Optimizing the fleet may be the first step, but success requires ongoing fleet control. Often, insufficient planning on how to monitor and maintain device usage allows savings to erode.

- **Letting organizational barriers leave this area unmanaged.** Few organizations have "chief document officers," but the office area needs one. Most enterprises split responsibility for office assets among IT, facilities, and line-of-business owners. Often, this fragmented responsibility leads to exactly where you would expect — nowhere. Successful projects involve the corporate responsibility officer, the CFO, or other C-level champions to provide leadership for this strategic and transformational project. Don't let organizational barriers leave this area unmanaged any longer.

BEST PRACTICE NO. 2: DEVELOP A CHANGE MANAGEMENT PLAN

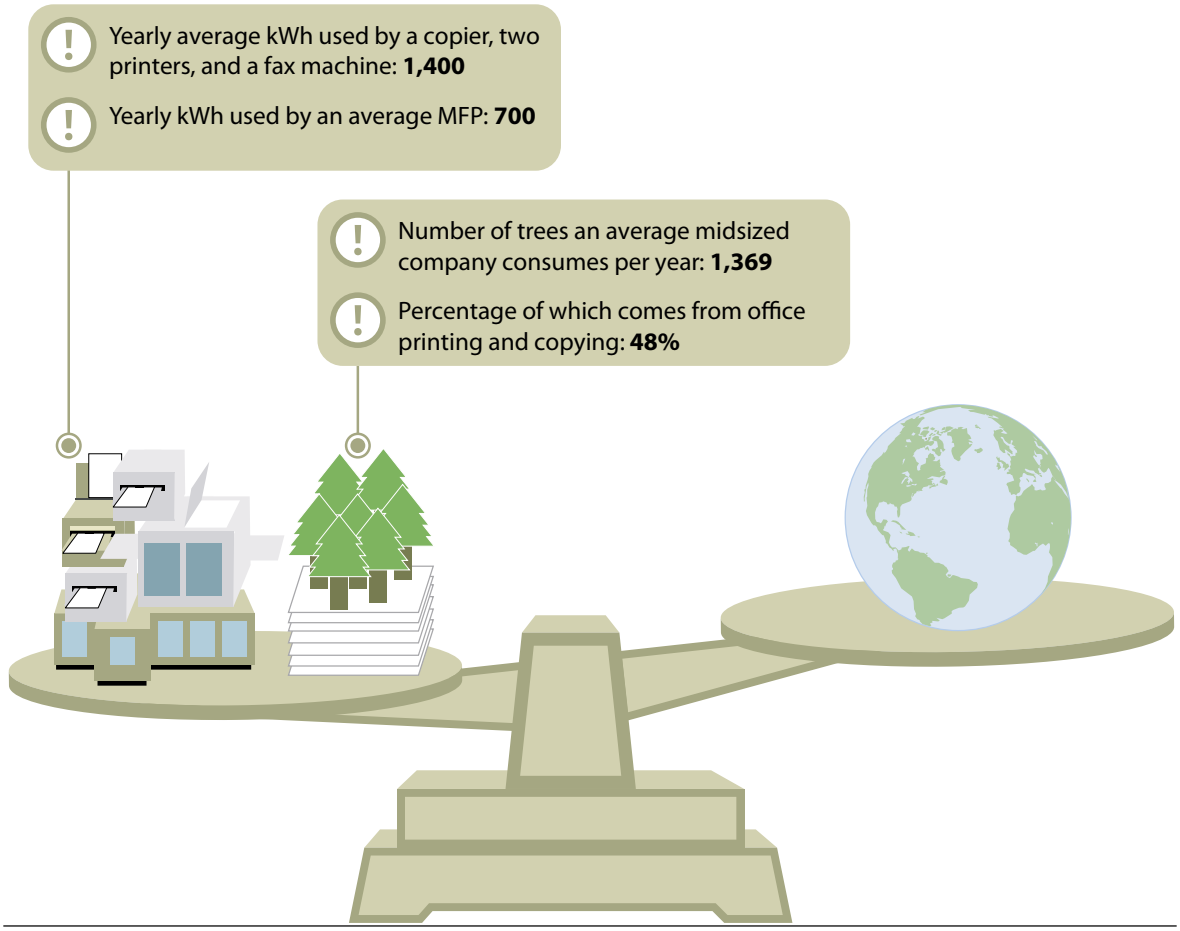
Let's be honest, there is pain in implementing a more efficient office. Many organizations have pushed device-to-people ratios to extremes, with just as many devices as people in some cases. These initiatives change people's behaviors, and only a wet baby doesn't mind change. The change management program should:

- **Develop an awareness campaign.** Even in successful fleet optimization initiatives, there was more resulting human change than anticipated. People react when they can't have a printer in the office and have to walk down the hall. Others resent more central authority in an area they did not perceive as a problem. You can reduce some of this resistance if project teams educate people about the project's goals, and don't just expose them to the pain. People that "walk up the mountain with you" to understand and appreciate the broader goals of workflow improvement, a greener office, and cost control will have better attitudes. Successful projects had a communications plan that outlined the project goals, and asked stakeholders to share the project's vision. The following experience was typical from cases reviewed:

> "When we started, we had no idea how many devices we had. In the end, we went from 3,000 devices for 9,000 users, to 1,000 devices for 10,000 users, but in going to the 'managed service,' we took autonomy away from the local level. There was a lot more resistance than we anticipated, both to the human change brought about by device consolidation and the loss of control." (Service leader for the Print, Scan, and Copy Program, large chemical company)

- **Emphasize the environment.** Each year, on average, every American uses 700 pounds of paper.[5] A midsized company with 1,000 employees and $100 million in revenue will cut down 1,369 trees per year for 30 million pages, 48% of which comes from office printing and copying.[6] Office devices are also quiet energy gluttons. A copier, two printers, and a fax machine consume 1,400 kWh of energy each year, but one MFP that performs all the same functions uses only 700 kWh annually (see Figure 4).[7] Multiply these savings across all of your company devices (assuming you know the number in your company), and you'll calculate the general amount of energy your company wastes each year. Make more efficient MFPs a part of your office-optimization plan, and link them to the carbon footprint goal for your company — if you have one.[8]

Figure 4 The Inconvenient Truth About The Office



43962 Source: Forrester Research, Inc.

Change Management Pitfalls To Avoid

Our research leads us to believe that change management efforts directly affect the success, or failure, of office optimization projects. Change management pitfalls include poor planning and implementation of training, testing, and employee outreach. We found other common pitfalls to avoid:

- **Inadequate focus on human and organizational issues of optimization.** Office optimization should blend new technology with human and organizational work patterns. A common pitfall in unsuccessful projects was poor balance between people and technology issues.

- **Dismissing broader goals of sustainability and workflow improvements.** A positive employee attitude leads to a successful project. Too much focus on cost sends the message: "We are going to make your work life more difficult so that we can save some money, and by the way, you are not likely to see any of it."

BEST PRACTICE NO. 3: DEVELOP A GOVERNANCE PLAN

A governance plan helps enterprises get much needed buy-in, which helps sustain the discipline needed for meeting projected ROI goals. A hallmark of successful projects is to have guidance (for proper use of office equipment) in place and agreed-to before implementation. Successful projects realized that governance should:

- **Have the right sponsor.** The corporate responsibility officer, the CFO, line-of-business executives, and other C-level champions make excellent candidates to help develop the governance framework. They can help shape and communicate policy, and lead by example.

- **Reinforce corporate goals.** In several cases, people in the office were unaware of the optimization program's goals, and developed negative attitudes as a result. A governance approach can help users understand the broader issues of sustainability, workflow improvement, and cost control.

- **Help make decisions.** A governance framework should help I&KM, operations, facilities, procurement, line-of-business, C-level managers, and all affected employees make decisions. If the optimized "people-to-device" ratio presents too much pain to a department, there should be guidance on how to appeal that ratio. Make proper security practices for the office, if not already in a security policy, part of the plan as well.

- **Help reduce paper and help the environment.** Project teams will find it useful to provide guidance for tactical decisions, such as when to perform scan to email, two-sided copying, and color printing. Include policies to achieve a green office, which should help spur favorable responses from those affected.

Governance Strategy Pitfalls To Avoid

Many people associate governance with large and strategic initiatives — and the office should be viewed no differently. Projected ROI for projects rapidly erode without clear guidance for employees. The biggest pitfalls to avoid include:

- **Failing to have governance in place.** Successful office optimization depends on discipline, and the behavioral change that comes with it. Projects without policies in place saw discipline break down and savings erode. In one instance, an employee went so far as to hide his ink-jet printer under his desk.

- **Putting the wrong team together.** Several projects we reviewed left the implementation to tactical teams that did not have linkage to or support of senior management. Governance helps institutionalize senior leadership support.

BEST PRACTICE NO. 4: FOCUS ON BUSINESS PROCESS IMPROVEMENTS

The most successful projects had a balance of lowering costs and improving business processes. Those projects did not think of MFPs as merely printers or copiers, but as productivity tools. The best projects used MFPs to:

- **Scan to email for internal distribution or scan incoming customer documents.** In many enterprises, trolley carts loaded with paper still move down the halls as they did 50 years ago. Much of this content can be scanned to email at the mailroom or at a departmental MFP.

- **Capture documents for document-intensive business processes.** The most successful projects linked MFPs with core business processes. Examples include scanning expense reimbursement receipts, printing packing slips and bills of lading on the loading dock, or capturing vendor correspondence immediately and saving to a repository. Success for business process automation is on the rise, due to stronger enterprise focus and better business process management software.[9]

- **Connect to business processes in standard ways.** There are several ways to connect MFPs to ECM systems or enterprise apps. Device manufacturers have development kits that IT developers can build upon to integrate the device with software applications through standard application programming interfaces (APIs).[10] Alternately, you can use connectors available from third parties like eCopy or omTools to link devices to other systems. License fees for third-party connectors can run between $1,000 and $2,000 per device, but will insulate you from changes in the devices.

Business Process Improvement Pitfalls To Avoid

Business process improvement has led to real value, but too often gets overlooked in office optimization initiatives. Pitfalls that must be avoided include:

- **Focusing too much on device consolidation.** Several projects reviewed addressed business process improvements only after consolidation. These projects placed a great deal of importance on device consolidation, leading to adoption and rollout issues. Avoid these issues by tying initiatives to business processes to help demonstrate a broader benefit beyond device consolidation and cost savings.

- **Letting budget silos prevent workflow improvements.** In several cases, a business process improvement for a line-of-business application — claims processing — was not enacted. The office devices needed upgrades that were not budgeted in the line of business or in facilities. Paying attention to the business process will help uncover any additional requirements for devices.

FORRESTER'S NEXT PRACTICES: ATTACK OFFICE CYCLE TIMES

While our research uncovered a number of office optimization best practices, here are some next practices that I&KM pros should focus on once they've mastered the basics:

- **Apply goals to reduce paper and improve process cycle times.** Set goals for automation of paper flows for key business processes. For example, set a goal for the number of scans to email and see how this improves. Metrics that show progress allow for continuous improvement, and can help maintain a positive attitude about the project. Assign a business process analyst to study and propose high-priority projects.

- **Develop environmental practices and goals for the office that link with overall green initiatives.** Set realistic goals and achievable practices to achieve a greener office.

- **Develop skills in MFP device connectivity.** Today, to connect an MFP to the network, either the MFP manufacturer provides the connectivity, or you can buy it from third-party providers. Software tools for integration of office infrastructure devices will improve as standards and the use of Web services evolve.[11] Assign IT resources to evaluate and test these software capabilities. Ultimately, successful distributed output services will depend heavily on integration into core business processes.

IDENTIFYING YOUR CHALLENGES

Where should you start? Use this diagnostic tool to assess your current capabilities — and opportunities for improvement — and see how you stack up against your peers (see Figure 5). Scores will be calculated automatically for online readers. All scores are anonymous.

Figure 5 Self-Diagnostic Tool

Part 1: Get Control Of Office Assets

Common drivers for office infrastructure consolidation are poor device allocation, aging equipment, and decentralized management with poor cost controls. Getting control of these assets is a crucial first step. The following events are likely indicators that assessment is needed.

	Yes	No
Have you completed discovery and assessment of the number of printers, copiers, and fax machines?		
Have you calculated a device-to-user ratio?		
Have the ages and number of models of equipment manufacturers been derived?		
Has a method been established to collect and process data for centralized control of costs?		
If management is in-house, do you have the central control that you need?		
Do you have a framework to determine the degree of outside help from managed service providers you need?		
Total		

Part 2: Develop A Change Management Plan

Office consolidation should be viewed as a strategic program, not just operational activities revolving around device upgrades. A change management plan will let you start off on the right foot. The following questions can help determine readiness.

	Yes	No
Do you have a change management strategy and plan in place?		
Have business stakeholders, from line-of-business heads, major business function heads, and financial heads, been identified and briefed on the rationale for an office optimization initiative?		
Does the awareness program include corporate goals other than cost savings, including office workflow efficiency, green IT, and paper reduction?		
Do you have a plan for training users on new devices?		
Total		

43962 Source: Forrester Research, Inc.

Figure 5 Self-Diagnostic Tool

Part 3: Develop A Governance Framework

Office consolidation programs change staff responsibilities and people's behavior. Because of this broad impact, they require a change management and governance framework to establish project clarity and keep the project on the right track.

	Yes	No
Are IT executive management and midlevel management committed to pursuing an office consolidation program?		
Do you have a governance policy with guidelines for device usage, security, and departmental asset purchase?		
Have you defined the metrics you will use to monitor the success of fleet consolidation? Have you defined the period for measuring/assessing progress for these goals?		
Have you developed a rigorous business case with realistic estimates for organization and process change activities?		
Total		

Part 4: Focus On Business Process Improvement

Office consolidation programs, when combined with business process integration, can be a home run.

	Yes	No
Is there an opportunity to improve office workflows?		
Have you reviewed and planned ways to incorporate new devices into line-of-business processes to off-load corporate print centers?		
Have you defined the performance and progress measures you will use to monitor the success of fleet integration with business processes?		
Do you have the resources to monitor and guide device behavior post-optimization?		
For any new MFP integration, is there an adequate test plan?		
Total		

43962 Source: Forrester Research, Inc.

SUPPLEMENTAL MATERIAL

Online Resource

The online version of Figure 5 is an interactive self-diagnostic tool that helps clients assess how their current practices stack up against those of their peers.

ENDNOTES

[1] Synthesizing information from its office document assessment database, Xerox compiled and published findings on the average age of devices, device allocation, and average device use in the office environment. Source: Jim Joyce, senior vice president, North American Office Services, Xerox Global Services, "Xerox Value Proposition," Xerox white paper, June 2007.

[2] This information is based on interviews with eCopy, HP, and other enterprises.

[3] Enterprises are investing in business process management, establishing internal expertise to improve business processes, and investing in BPMS suites to assist in designing, executing, simulating, and monitoring processes. For a review of BPMS drivers, see the July 9, 2007, "The Forrester Wave™: Business Process Management For Document Processes, Q3, 2007" report.

[4] Potential CIO investment to improve the office infrastructure did not make the top priority list for studies worldwide for IT-projected investment in IT services. At the top of the list were integration project work, network, help desk, and application services. For more information, see the July 12, 2007, "The State Of IT Services Adoption: 2007" report.

[5] Source: Technical Association of Pulp, Paper, and Converting Industry (TAPPI) (http://www.tappi.org/s_tappi/index.asp?pid=). TAPPI publishes a variety of educational materials that offer students insight into the history, manufacturing, and science of paper.

[6] We calculated this figure using the IKON Document Efficiency Analyzer (IDEA) (http://idea.ikon.com/IKON/customer.php).

[7] Source: "How Green is Your Office?" Xerox press release, April 16, 2003 (http://www.xerox.com/downloads/usa/en/e/EHS_Green_Office.pdf).

[8] The shift in consumer opinion and the creation of new government regulations in favor of protecting the environment have pushed green issues onto the boardroom agenda. For more information on Forrester's recommendations for European IT sourcing professionals who face these issues, see the April 5, 2007, "Why Green IT Should Feature In Sourcing Plans" report.

[9] Forrester recently surveyed enterprises that had undertaken business process automation projects with a high degree of success. See the July 9, 2007, "The Forrester Wave™: Business Process Management For Document Processes, Q3 2007" report.

[10] For example, Ricoh's Embedded Software Architecture SDK (SDK/J) allows in-house developers, independent software vendors (ISVs), and systems integrators (SIs) to deliver customized Java-based solutions hosted on Ricoh MFPs and LPs.

[11] Several manufacturers including HP (Open Extensibility Platform) and Xerox are developing Web services interfaces to their devices.

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