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# Document Output Analysis

*While companies continue to examine corporate expenditures in the effort to remain operationally lean, document production infrastructures continue to slip under the radar, resulting in millions of dollars in lost profit annually.*

## White Paper

### written by

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As the size and scope of information systems and content continue to grow within an enterprise, so does the need for a cohesive document management and output (DMO) strategy to effectively control costs and optimize document production infrastructures. According to a recent report from analyst firm Gartner, a document is copied, either physically or electronically, an average of nine to 11 times at a cost of about \$18.<sup>1</sup> In addition, output equipment fleets (copiers, printers, facsimiles, scanners, and associated supplies) continue to be among the most undermanaged and costly assets for many companies, resulting in an approximate 1 to 3 percent profit loss per year.<sup>2</sup>

Despite the millions of dollars companies lose to poorly managed document production infrastructures and the financial impact these costs have on bottom-line performance, DMO is frequently neglected by most senior-level executives. Today, while leading companies have generally devised and implemented strategies to optimize their IT infrastructure, corporate management of DMO is widely distributed.

In addition, as document production has moved from the copier to the printer, a single-function asset that is generally undermanaged, costly, and difficult to control, corporate output expenditures have exponentially increased. According to analyst sources, the cost to print a single black-and-white page averages nearly 5 cents per page. In a company that prints 250,000 pages per day, the costs of supplies alone can total a staggering \$3.2 million per year.

Despite the growing acceptance of multifunction products (MFPs) that combine capabilities traditionally offered in separate copiers, printers, facsimiles, and scanners into one device, many offices continue to be overstocked with separate devices that are outdated.

Additionally, inefficient processes governing the way documents are created, managed, distributed, and organized continue to mire companies in labor-intensive procedures that monopolize valuable employee time and resources. While a myriad of collaboration software tools are available today to automate and streamline internal reviews and

approvals, a vast majority of companies continue to manually process documents.

The combined effect of these factors has created an elusive realm called the document production infrastructure and has clouded the ability of senior-level management to gain full visibility to effectively initiate a strategy that puts adequate control mechanisms in place. Yet, there is a significant opportunity for organizations to regain control of their document production environments, improve business productivity and efficiency, and uncover a wealth of hidden cost-saving opportunities. By implementing a comprehensive DMO analysis and strategy, companies can positively impact bottom-line performance by closing the loop between document production, management, and output.

## **DMO Analysis – Demystifying Document Production, Management, and Output**

An expert DMO analysis is an essential first step in devising and implementing a successful DMO strategy. The DMO analysis consists of a broad measurement and assessment of a company's total document production infrastructure including hardware (equipment fleets), document management software, and business processes that drive document production, distribution, and organization.

With the assistance of trained consultants, companies are engaged in a fact-finding mission that often includes five primary steps to analyze their total document production infrastructure, capture accurate and timely data, and devise a cohesive DMO strategy.

## **The DMO Analysis Process – Key Components**

### **Phase 1 – Project Definition**

Defining the project scope and outlining a company's document infrastructure, production, and management goals and objectives are the primary steps to initiating a comprehensive and successful DMO analysis. During project definition, project leaders, including both internal and external

personnel, are identified and a targeted project timeline is established, ensuring milestones can be reasonably achieved.

### Phase 2 – Data Collection and Measurement

Through in-depth data collection mechanisms, including employee interviews, process mapping, and print-tracking software, consultants can help companies identify problem areas that are most primed for improvement and provide the most immediate cost savings. Data collection efforts may be scaled as time and budget permit to involve a relatively small sample, such as a specific department, floor, or building, or a broader sample, such as a headquarters location or regional or satellite offices.

To provide an accurate assessment of the current document production infrastructure, a DMO analysis will consist of a thorough examination of four key areas that drive document output expenditures, as well as critical or costly document workflows:

- **Fleet utilization:** Identifies the number and physical location of equipment assets enterprise-wide and reviews current usage and technology, integration with legacy operating systems, device-to-employee ratios, usage patterns, and user satisfaction;
- **Operational and labor costs:** Reviews current lease and contract agreements, number of invoices, transaction, procurement and outsourcing costs, document output monthly and expected volumes, IT, and support staff requirements;
- **Document lifecycle costs:** Examines the creation, storage, retrieval, distribution, and disposal of documents. These include processes for creating/revising content, bottlenecks, manual labor and outsourcing costs, hard copy and electronic document filing systems, records retention/disposal policies, government regulatory requirements, enterprise-wide document search and retrieval capabilities and requirements, offsite and onsite disposal/storage usage and costs, disaster recovery requirements and current security goals; and
- **Strategic consideration:** Identifies records and secure storage and recovery capabilities and requirements in the event of a natural or man-made disaster.

### Phase 3 – Analysis and Reporting

Critical to the DMO analysis is a detailed assessment of the data and measurements captured and the creation and delivery of a comprehensive DMO report. A DMO analysis report presents findings, recommendations, and custom solutions, as well as serves as a systematic, targeted blueprint to enable companies to successfully attain key optimization objectives and realize significant costs savings. Most often, a DMO analysis report will culminate in a bound report delivered in an onsite presentation.



*The cost to print a single black-and-white page averages nearly 5 cents per page. In a company that prints 250,000 pages per day, the costs of supplies alone can total a staggering \$3.2 million per year.*

### Phase 4 – Implementation and Improvement

Among the deliverables of the DMO analysis is a recommendation for document-production-infrastructure optimization. While each case is unique, cost-containment is often the foremost priority. Implementation strategies will often encompass time-phased initiatives, targeting low-hanging fruit for immediate action and the development of change-management strategies for long-term, continuous improvement.

Strategies for improving a company's document-production-infrastructure improvement strategies can vary, but typically incorporate one or more of the following:

- Right-size output equipment fleets with high-volume MFPs that combine functions traditionally offered in separate copiers, printers, facsimiles, and scanners into one device, and consolidate vendors/invoices by reducing the number of devices within the fleet;
- Redirect copy/print jobs to the most capable and efficient devices and improve the physical mapping of equipment fleets on the organization floor for enhanced document production efficiencies;
- Decrease costs and foster environmentally friendly corporate practices by reducing the number of pages printed enterprise-wide through print rationalization; and

- Re-engineer digital document workflows and incorporate emerging document management software technologies to reduce network bottlenecks, improve employee productivity, and lower costs.

In addition, a comprehensive DMO analysis offering will include strategies to account for other spectrums of the document lifecycle with document management software. Research has demonstrated that the hard costs of copiers, printers, MFPs, paper, and supplies make up only

10 percent of the total cost of a company's output. The other 90 percent is largely attributed to document management processes involving a company's most valuable asset: its workforce.<sup>3</sup>

The integration of document management software into the DMO analysis action plan enables companies to automate day-to-day processes. Software solutions of this nature not only can reduce manual labor costs per document, but they also enable companies to more-effectively organize, distribute, and share information, as well as improve business decision-making and customer response times.

### Phase 5 – Control

With a DMO analysis, companies gain unprecedented control of document infrastructures with the ability to sustain improvement initiatives for long-term success and profitability. In addition to regular account reviews, consultants work with companies to implement a variety of control mechanisms that include benchmarking, as well as print-tracking deployment and management software, to

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### The Document Infrastructure Makeover

Optimization Objectives per 100 Employees

	Typical Enterprise Document Infrastructure	Optimized Document Infrastructure
Equipment assets (copiers, printers, and faxes)	29.41	18.75
Fully burdened cost per page <sup>1</sup>	\$.50 - \$.70	\$.30 - \$.42
Number of unique devices	10.29	6.0
Number of unique supply items	21.52	9.5

<sup>1</sup> ©1995-2003 ALL ASSOCIATES GROUP

**figure 1** Comparative review of a typical document production infrastructure pre- and post-DMO analysis.

help ensure that cost and control parameters established during the improvement phase are adhered to.

Typically, a print control program allows companies to establish internal costs per page for each printer and then to track and allocate costs to users based on actual consumption. Furthermore, specific print jobs can be routed to certain printers based on pre-determined characteristics such as page length or finishing requirements.

By establishing a departmental print budget and accountability, research shows that employees develop greater discipline over their printing habits. Studies conducted by research firm IDC indicate that the implementation of a print tracking and control system alone can reduce printing costs by as much as 15 percent.<sup>4</sup>

### Benefits of a DMO Analysis

Companies can reduce output costs by up to 40 percent (see Figure 1). Additional benefits that increase the value proposition of a DMO analysis include:

- Reduction in output equipment investments, as well as consumables and operating costs, by replacing outdated equipment fleets with high-volume, functional MFPs;
- Reduced total cost of ownership with MFPs that deliver a full set of productivity features in one system compared to the purchase price of a separate copier, printer, facsimile; or scanner;

- Reduced burden on IT support staff and associated human labor costs with the consolidation of output equipment fleets;
- Improved business productivity and efficiency by streamlining document production, distribution, and management and by re-engineering document workflow, thus enabling employees to focus on higher-value activities;
- 20/20 visibility for consistent, long-term control over document output expenditures; and
- Enhanced business competitiveness through the integration of software that automates business processes and leverages information assets to enable companies to make quick, informed decisions and improve response times.

### The Right DMO Analysis Program

When sourcing the right DMO analysis, it is important to look for programs that not only account for hardware devices, but also provide in-depth analysis of enterprise-wide document and workflow processes. These world-class programs generate cost-savings opportunities – both in the short term through optimized fleet management and through long-term process improvements.

In addition, a world-class, disciplined DMO analysis program will effectively incorporate and align with the goals of senior-level executives, including the CEO and CIO, and provide a higher degree of change management.

To properly evaluate and consider the most qualified partner and appropriate solution, consider the following additional criteria:

- **Methodology:** Counter to ad hoc programs, a world-class DMO analysis program is based on a disciplined, well-defined methodology to ensure a consistent, proven, and established approach for achieving the highest level of quality and continual process improvements, as well as a greater degree of adaptability to meet evolving document infrastructure requirements;
- **Credentials:** Determine the credentials of the individual or team conducting the study and ensure they are trained in a specific problem-solving or quality-control methodology such as Six Sigma, as well as have extensive experience working with companies within your industry;
- **Tools:** Tools utilized for data collection and analysis should incorporate emerging technologies and should not be based on conventional spreadsheets or other inappropriate tools; and
- **Written reports:** Ask for a sample of a written report, consider the depth of analysis and the logic and clarity behind the recommendation and determine if the recommendations meet the objectives or are merely a means to sell additional products or services.

### Conclusion

Companies can no longer afford passive management of equipment fleets and document production infrastructures that contribute to millions of dollars in lost revenue. By engaging in an enterprise-wide DMO analysis and developing a cohesive document output and management strategy, companies can pave the way to enhanced business performance and productivity, positively impact bottom-line performance, and establish a stronger competitive foothold through long-term process improvements. ■

### Endnotes

- <sup>1</sup> D. Logan. Document Management: Assessing Costs and Benefits. *GartnerGroup*. Sept. 27, 2000.
- <sup>2</sup> J. Lundy. Rightsizing Output Fleets: The Hidden Gold Mine. *GartnerGroup*. March 19, 2001.
- <sup>3</sup> All Associates Group, 2003
- <sup>4</sup> Keith Kmetz. The Expanding Role of Document Accounting Systems. *IDC*. May 2001.

# Toshiba: End-to-End Document Output Management, Software, And Imaging Solutions

Toshiba America Business Solutions (TABS) is an independent operating company of Toshiba Corporation, a global Six Sigma corporation and one of the leading technology companies in the world. With a technological heritage that dates back more than a century, Toshiba delivers leading-edge document management and document imaging solutions. From analysis tools that provide companies 20/20 visibility and command of their document production environments and software solutions that enable more effective distribution, management, and organization of intellectual and digital assets, to award-winning multifunction products (MFPs) that provide all-in-one copy, print, fax, and scan capabilities, Toshiba delivers breakthrough solutions engineered to drive better performance, streamline business processes, and effectively reduce costs.

## Bottom-Line Performance And Document Production, Management, and Output

Understanding your document production infrastructure can no longer remain a goal within your company – it must become top priority. In the face of an unpredictable economic environment, companies must employ every method to improve financial performance and business productivity, as well as control expenditures. Unfortunately, many CFOs resort to standard cost-cutting activities, while their companies continue to lose millions of dollars due to poor management of their document production environments.

According to analyst research, companies spend anywhere from 5 to 15 percent of annual revenues in document-related activities. Gartner Group reports that a document is copied, either physically or electronically, an average of nine to 11 times at a cost of about \$18. Companies cannot find 5 to 10 percent of their documents, resulting in search and replacement costs of \$120 per document.<sup>1</sup> Additionally, output equipment fleets (copiers, printers, facsimiles, scanners, and associated supplies) continue to be one of the most under-managed and costly assets within many companies, resulting in lost revenue of approximately 1 to 3 percent per year.<sup>2</sup>

Whether you're a CFO for a small to mid-sized company or a *Fortune* 500 global giant, you simply can't afford to ignore the effect the proliferation of paper-based and electronic documents can have on your company's bottom-line performance.

## Encompass – Closing the Loop Between Document Production, Management, and Output

To help companies regain control of their document production environments, improve productivity, and uncover a wealth of "hidden" cost-saving opportunities, Toshiba has developed a powerful new document management and output analysis (DMO) program named Encompass™.

Designed to demystify the complex area of DMO, Toshiba's Encompass program integrates Toshiba core competencies with the renowned Six Sigma DMAIC methodology (define, measure, analyze, improve, control) to clearly identify costly or underutilized output equipment fleets, inefficient processes, and other cost drivers (see Figure 1). By leveraging the Six Sigma DMAIC process, Toshiba expert consultants help companies analyze their total document infrastructure, capture accurate and timely data – and dramatically reduce their document output costs – by up to 40 percent.

Encompass enables companies to implement business process improvements to sustain long-term cost savings by providing a 360-degree view of document output expenditures in the areas of:

- **Equipment Fleet Utilization:** Asset/vendor inventory and usage, current technology, operating costs, leases and invoices, transaction costs, support, procurement and outsourcing costs, and user satisfaction;
- **Document Lifecycle Costs:** Creation, storage, retrieval, distribution, and disposal, as well as workflows, bottlenecks, and processes impacting expenditures; and
- **Business Continuation and Compliance:** Disaster recovery and governmental regulatory issues.

## The Encompass Process

Taken as a whole, the Encompass process identifies the "as is" state, the desired "to be" state, as well as the



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Toshiba America Business Solutions, Inc. (TABS) is a leading provider of document output management, software, and digital imaging solutions. TABS manages product planning, marketing, sales, service support, and distribution of its products throughout the United States, Latin America, and the Caribbean. TABS is an independent operating company of Toshiba Corporation, the sixth-largest electronics/electrical equipment company and the world's 62nd-largest company in terms of sales.

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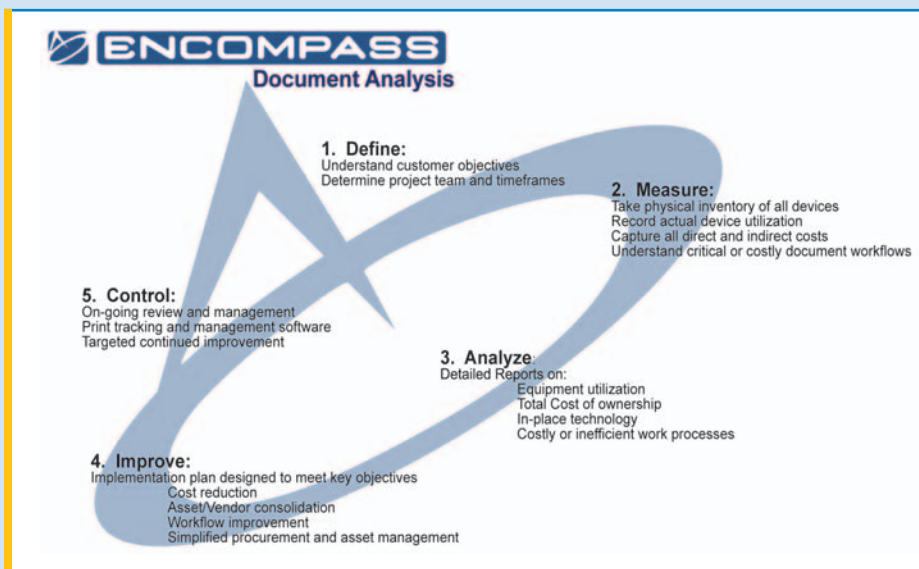
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**figure 1** *Encompass leverages Six Sigma methodology to systematically identify costly output equipment fleets, inefficient processes, and other cost drivers, and enable companies to implement a strategy to effectively manage their document production infrastructures.*

specific steps required to achieve the desired outcomes. The Encompass process includes:

### Define

During project definition, Toshiba consultants work with companies to understand and outline their document infrastructure goals and objectives, determine a project team, and establish a targeted timeline.

### Measure

Key variables that affect the cost and performance of the document imaging fleet are recorded during the measure phase. Encompass captures more than 30 separate attributes on each individual asset. Additionally, critical and costly document workflows are identified.

### Analyze

Through a detailed analysis and assessment, Toshiba allows companies to see the whole picture of their document production environments and presents the findings, recommendations, and custom solutions in a comprehensive Encompass Document Analysis Report (DAR). The Encompass DAR provides a rich and detailed picture of current total cost of

ownership, equipment utilization, current technologies, and inefficient work processes.

### Improve

The Encompass analysis and report also establishes a blueprint for improving the current document production infrastructure and helps companies attain key optimization objectives for significant costs savings. Implementation of the recommendations is often time-phased, targeting low-hanging fruit for immediate action and developing change management strategies for long-term continuous improvement.

Encompass improvement strategies typically incorporate one or more of the following:

- **Fleet Optimization:** Reduce consumables and operating costs by “right-sizing” equipment fleets, consolidating vendors and invoices, redirecting copy/print jobs to the most efficient devices, and reducing the amount of IT support required;
- **Print Rationalization:** Increase control over the document production environment by reducing the number of pages printed enterprise-wide, and promote the most effective utilization of existing fleet equipment; and

- **Process Re-Engineering:** Establish a more effective digital document workflow and infrastructure to improve employee productivity and reduce network bottlenecks.

### Control

With Encompass, companies gain unprecedented control of document infrastructures with the ability to sustain improvement initiatives for long-term success and profitability. In addition to regular account reviews, Toshiba consultants work with companies to implement a variety of control mechanisms that include benchmarking, print-tracking deployment, and management software.

### Streamlined Business Processes and Workflows to Meet ROI Goals

Research has demonstrated that the hard costs of copiers, printers, MFPs, paper, and supplies make up only 10 percent of the total cost of a company’s output. The other 90 percent is almost entirely attributed to manual document management processes involving a company’s most valuable asset – its workforce (see Figure 2).

Toshiba offers document management software solutions that seamlessly combine Toshiba e-STUDIO MFPs with powerful software solutions to help companies effectively distribute, manage, and organize their documents. In addition, Toshiba software solutions enable companies to gain return-on-investment savings in a number of ways.

On a base level, they enable companies to implement simple and effective cost-saving measures. For example, a company initiates a Toshiba solution to electronically scan and archive years of historical information, effectively reducing the need for costly steel file storage cabinets and eliminating expensive office space.

In addition, Toshiba software solutions enable companies to establish and initiate business process improvements enterprise-wide, re-engineering document workflow to create a far-reaching impact on overall profitability. When the time it takes to execute daily business activities, such as filing volumes of paper documents, is reduced by half,

employees can dedicate more time to higher value business activities.

**Toshiba's e-STUDIO Line:  
State-of-the-Art Digital Document  
Imaging Technology**

Toshiba offers the award-winning e-STUDIO multifunction system – a sophisticated, high-performance digital imaging line that offers standard copying features integrated with an array of optional network print, fax, and scan capabilities, combined with industry-leading image quality.

The e-STUDIO line enhances overall business productivity and reduces costs with all-in-one features, such as scan once/copy many, scan-to-file, scan-to-email, walk-up, and network or Internet fax. By combining functions traditionally offered in separate copiers, printers, facsimiles, and scanners into one highly versatile device, the Toshiba e-STUDIO line enables companies to consolidate the number of output devices plaguing their production infrastructures and burdening networks, and reduce the size of output equipment investments. In addition, the

Toshiba e-STUDIO MFP line supports a number of operating systems.

**The e-STUDIO Value Proposition**

Compare the traditional model of document production and distribution in an ordinary corporate office with a new model made possible by an e-STUDIO MFP. A document is created and sent to an employee's email inbox. The employee launches the document and sends it to a desktop inkjet printer to be printed, but then takes the same document and places it on the copier to make 10 copies for everyone in the department. That same document is then placed on a fax machine to be sent to a satellite office in another city and then is filed in a manila folder for records. Wasteful processes such as this help drive the cost of document management and output to as high as 10 percent of a company's annual revenues.<sup>3</sup>

To reduce document production and processing times, associated human labor, and operating costs, companies can utilize a single, feature-rich e-STUDIO MFP. Unlike other legacy system printers, the e-STUDIO MFP can facilitate a myriad of document production and distribution activities. For example, an employee

can send a document directly to a network-connected MFP for printing, and at the same time scan and send the document to a designated list of email addresses throughout the company, fax an associate in London, and make copies. Documents sent to the e-STUDIO MFP also can be stored for copying, printing, faxing, or scanning at a later date.

By delivering a full set of productivity features in one system, the e-STUDIO line dramatically reduces the total cost of ownership compared to the purchase price of a separate copier, printer, facsimile, or scanner unit, as well as optimizes and streamlines document production and distribution.

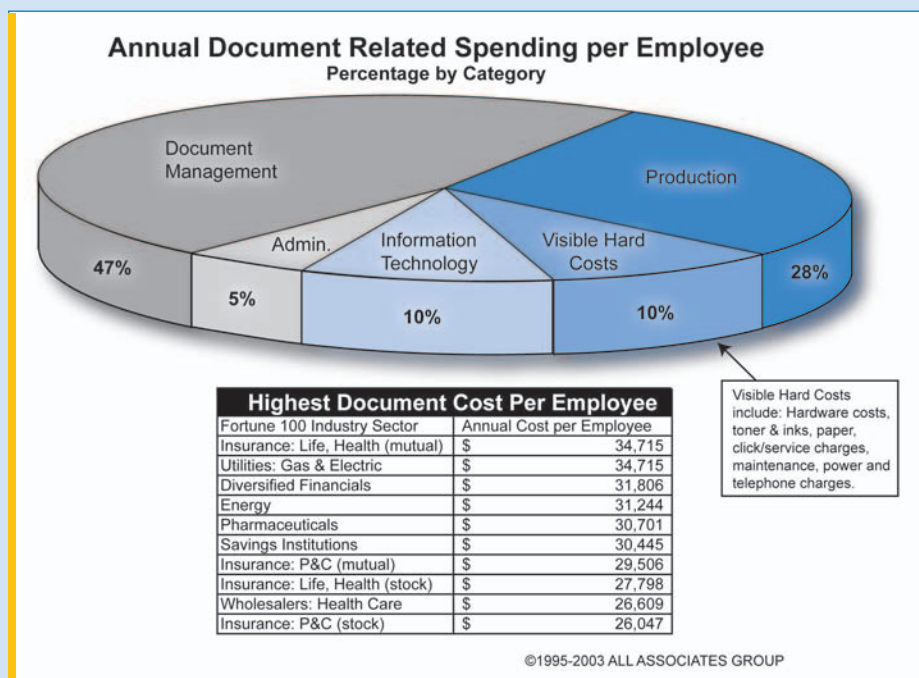
**"Don't Copy. Lead."**

"Don't Copy. Lead" is not just an advertising tag line; it's a corporate mantra at Toshiba. It is the statement behind the company's product innovations, which have garnered more than 150 industry awards and a commitment to quality that has enabled Toshiba Corporation to earn the distinguished recognition of being named one of *Fortune's* 2002 Global Most Admired Companies. Named the most favored manufacturer in seven of the past eight years by the Business Technology Association, Toshiba's entire product line, customer support, and marketing distribution policies are a marker for the industry. Among the many other awards garnered in recent years, Toshiba was named the Copier Manufacturer of the Year by the Marketing Research Consultants in 1997, 1998, 2001, and 2002, and received the *CIO* Web Business award for its leading-edge intranet site in 1998, 1999, and 2000.

From MRI technology, the world's most popular laptop computer to revolutionary document management and digital imaging solutions, Toshiba has been changing the way people live, work, and play for more than 125 years. ■

**Endnotes**

- 1 Logan, D. Document Management: Assessing Costs and Benefits. *GartnerGroup*. Sept 27, 2000.
- 2 Lundy, J. Rightsizing Output Fleets: The Hidden Gold Mine. *GartnerGroup*. March 19, 2001.
- 3 McNulty, Fledman. Minimizing Document Costs, Maximizing Efficiency. *IDC*. March 2003.



**figure 2** Manual document management processes make up approximately 90 percent of an average company's total output expenditures.

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