

For Affiliates of the Printing Industry Center at RIT

Strategic Alliances in the Printing Industry

U.S. printing companies are increasingly forming inter-firm relationships in order to survive or strengthen their positions. This month's eReview synopsis is on Strategic Alliances in the Printing Industry, a master's degree thesis prepared by RIT's School of Print Media graduate student Nattawan Techavichien.

Defining Terms

Authors Michael Yoshino and SrinivasaRangan define strategic alliance in a 1995 book of the same title published by Harvard Business School Press as "a joint effort by two or more companies linked together in the supply chain to reduce the total cost of acquisition, possession, and disposal of goods and services for the benefit of all parties."

Strategic alliances can take many forms—they can be outsourcing relationships, contractual arrangements, minority equity investments, or joint ventures, or they can grow into mergers and acquisitions. Firms enter into strategic alliances for a variety of reasons: for facilitating a temporary, one-time project; for enhancing one specific aspect of the business; or to jointly develop new products. A simple alliance can be carried out with a written contract plus an agreed upon termination period. Bringing two totally separate organizations together for a joint venture is usually more complicated because of differences in company values and cultures, business goals, and management structures.

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Strategic Alliances in the Printing Industry

NewPage Teams with RIT's Printing Industry Center

Industry partner joins ten others
supporting center's operation



The Printing Industry Center at Rochester Institute of Technology announces the addition of NewPage Corp. as an industry partner. NewPage Corp. joins ten other companies and associations pledging support to the center's operation.

Supported by the Alfred P. Sloan Foundation, the Printing Industry Center at RIT is dedicated to the growth and profitability of the printing field. The center addresses industry concerns through research initiatives and educational outreach programs.

NewPage Corp. is a leading U.S. producer of coated papers in North America. The company operates four integrated pulp and paper manufacturing mills in Michigan, Maryland, Maine and Kentucky with a combined annual capacity of approximately 2.2 million tons of coated paper.

"The dramatic changes in the printing industry brought about by digital technology and the Internet are making huge demands on the paper industry to innovate," says Frank Cost, associate dean of RIT's College of Imaging Arts and Sciences and co-director of the Printing Industry Center. "NewPage is committed to being a leading supplier of paper to the new digitally-enabled printing industry. The company's partnership with the Printing Industry

Center, combined with the center's growing relationship with the Center for Paper Business and Industry Studies at Georgia Tech, will provide an excellent platform for expanding research initiatives relevant to the future of paper-based print communications."

"NewPage is proud and excited to be a new sponsor of the Print Industry Center at RIT," says Robert Siciliano, NewPage researcher manager. "The expertise and excellence found in both RIT's business and print schools are well known and respected throughout the world. We look forward to contributing to the Printing Industry Center and developing long lasting partnerships with RIT, its faculty, students, and all of the center's collaborators."

Industry partners pledge money to help fund the center's operations and advise RIT's researchers on topics critical to the printing industry. The center's other industry partners are Adobe Systems Inc., Eastman Kodak Co., Heidelberg, Hewlett-Packard Co., NPES, Standard Register, Vertis, VIGC, U.S. Government Printing Office and Xerox Corp. 

Visit the NewPage website at:
www.newpagecorp.com

GPO's 'Future Digital System'

Article courtesy of *In-Plant Graphics* (www.ipgonline.com). This excerpt from a speech by Public Printer Bruce James about the GPO's strategy for collecting, handling and disseminating digital information offers in-plants a look at their own futures as keepers and producers of their organization's information. (Speech delivered September 26, 2006, at Rochester Institute of Technology.)

By Bruce James

Making government information available to the public is the core of GPO's mission: "Keeping America Informed." This critically important function sustains one of the keystones of our republic: an informed and enlightened citizenry. No one will dispute the fact that government information is crucial to informed public decision making and the achievement of our national goals.

Throughout most of its history, GPO guaranteed public access to government information through printing. Even today we continue to print the majority of our most important documents. But in just the past few years, there have been revolutionary changes in the way the public accesses and uses government information.

New and continuously evolving strategies of communications now are not only possible but have become mainstream practices, changing how America is kept informed. This has put GPO at the very epicenter of change in the ways people create and use information to communicate, remain informed, research a topic and preserve a record.

Today, for a large and growing share of government documents, there is no

longer a requirement for typesetting, printing or binding, and there is no tangible document to make its way to library shelves or otherwise be preserved for the future. A document author begins the process by digitally recording a manuscript on a personal computer. By making this document available through a Web portal there often is no need for an original printing of multiple copies.

Such documents are said to be "born digital and published to the Web." So pervasive and common has this publishing strategy become that we estimate that as many as 50 percent of all Federal government documents are now born digital, published to the Web, and will never be printed by the GPO.

Transforming the GPO

This trend was well established when I took office, and therein lay the challenge for GPO. What the White House asked me to do was move GPO out of a 19th-century-based printing mentality and into the 21st century digital world. Throughout my life I have used technology to enhance the ability to get information into the hands of people, and this was a task I was up to taking on.

Transforming GPO to a modern digital platform would involve a number of fundamental changes, however.

The digital age itself presents its own unique set of issues and concerns, and carrying out GPO's transformation would require us to develop solutions to the problems that digital information presents. For example:

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Color Printing Outreach: RIT's New Training Initiative

Education, Research, and Industry Training

Every industry needs an educated workforce to stay competitive in the marketplace. This is especially true for the printing industry because of the vast technological changes experienced in recent years. An educated workforce comes from college graduates as well as from skill updates of existing employees. As a vital ingredient in keeping the workforce current, curriculum and training materials must reflect technology and industry advances.

Rochester Institute of Technology has a long history of offering printing degrees and industry training programs. Faculty in the



School of Print Media and professional staff in the Printing Applications Laboratory (PAL) work diligently to stay ahead of the curve so that degree program students and industry seminar participants who successfully complete their programs can help their employers get ahead.

In 2005, RIT completed a three-year project for ExxonMobil Corporation to develop an engineered approach to achieving repeatable and predictable color for the package printing industry. The strategy for achieving color faster, better, and cheaper is to rely on science instead of crafts. One of the key ingredients

is the use of color measurement tools for press-side color control instead of visual based color adjustment that is subjective, dependent on viewing conditions, and difficult to document.

RIT showcased the repeatable and predictable color methodology at a day-long symposium in November 2006. A number of case studies described how RIT extended the methodology from press laboratories to commercial settings with success.

Based on the documented success of this research, RIT has developed three new industry education programs to enable the printing industry to optimize, standardize, and control their print production workflows. Ultimately, the industry as a whole can achieve a more agile process that better serves their client's needs.

Program Overview

Each of the three seminars offered on the RIT campus are structured in sequence and are designed with different learning outcomes in mind.

- **Color Printing Fundamentals, the Seminar for Beginners**
This basic-level seminar assumes no prior knowledge of color and color measurement. The program is designed to bring awareness to those who are new to the graphic arts industry or are in need of basic working knowledge and skills regarding color as applied to color specifications and assessment of printed color reproduction. More information on this program.
- **Color Printing Process Control, the**

continued >

Training *continued*

Seminar for Pressroom and Quality Assurance Personnel

This intermediate-level seminar introduces an engineered approach to achieving consistent color printing in both conventional (i.e., offset, flexo, gravure) and digital printing environments. Participants should have a basic understanding of color perception and color measurement as applied to the graphic arts industry before taking this program. More information on this program.

• Predictable Color Proofing and Printing, the Seminar for Color Savvy Professionals

This seminar focuses on various techniques in achieving color agreement between different workflows and printing devices—design-to-print, proof-to-press, and press-to-press. Designed as an advanced-level short course, participants should have working knowledge of color measurement and process control as applied to print production before enrolling. More information on this program.

Getting the New Training Initiative Ready

The following individuals worked together and completed the repeatable and predictable color project as a team:

- Bob Chung, on overall methodology and gravure repeatable color implementation
- Bill Pope, on flexo and offset repeatable color implementation
- Franz Sigg, on custom target design
- Fred Hsu, on color measurement tool and Excel template development.

The same group of people will serve as instructors in the new color printing programs.

The state-of-the-art color measurement

and color management laboratory and the digital press lab will be used for these hands-on workshops. The lab is equipped with digital presses from Kodak and HP. Excel templates will be used to learn key concepts during the seminar. Participants will be able to adopt the seminar tools to enable printing processes to be more repeatable in their own work environment.

The Path Forward

Is color an important strategy to your company's competitiveness? Is making color repeatable and predictable a very important task that is required in your job? If your answers are "yes" and "yes," take the screening tests on the seminar web site— <http://www.seminars.cias.rit.edu>. The answers to these short quizzes will help you determine the right starting point. Program dates and further seminar details are listed on line as well.



For further information on: RIT's new color printing outreach initiative and the seminar courses offered, offering the series as a custom program for your organization, or consulting on color issues, please contact Ken Posman, Printing Applications Laboratory Training Manager, at (585) 475-7429 or email at krptpd@rit.edu.

www.seminars.cias.rit.edu

Alliances *continued*

Reasons for the Recent Growth in Strategic Alliances

Certain environmental conditions have been driving the formation of alliances and explain the increased cooperation among companies during the last decade. Among these drivers of strategic alliances are the following:

- The once-obvious boundaries between industries are now unclear, due to advances in technology that have created crossover opportunities.
- Advances in communications (the Internet, etc.) have begun to link formerly distinct products, markets, and geographic regions.
- The rising demands of customers require improved and increased capabilities.
- The increasingly global marketplace calls for standards and compatibility.

Overall View of the Research

This study used qualitative techniques to describe and interpret the current practice (from the years 2004 and 2005) of established strategic alliances in the U.S. printing industry.

The author refers to the major players and their roles in the industry, and describes the nature of the relationships among partners in the printing industry. To enhance this understanding, a case study of an existing partnership is included.

Data sources were press releases, search engines, online data bases (particularly ABI Inform, Whattheythink.com and the Selectory Business Database), company Web sites, scholarly journals, and trade articles. Among the 116 observed alliances established by more than 200 companies, the author found four basic types:

- outsourcing,
- contractual agreements,
- joint ventures, and
- mergers and acquisitions.

The most common type of alliance was merger and acquisition, constituting 48% of the observed alliances. (See Figure 1.) Apparently equity investments and partial acquisition relationships rarely exist in the printing industry because, over a brief period of time, one of the companies usually acquires all the assets of the other.

Based on the data gathered, a variety of print-related companies entered into alliances, including equipment manufacturers, print services providers, and publishers. While generally there were only two parties in an alliance, there were some exceptions. For example, Xerox International Partners (a subsidiary of Xerox Corporation), FujiXerox Co. Ltd., and Dell Inc. aligned to expand their joint imaging and printing marketplaces.

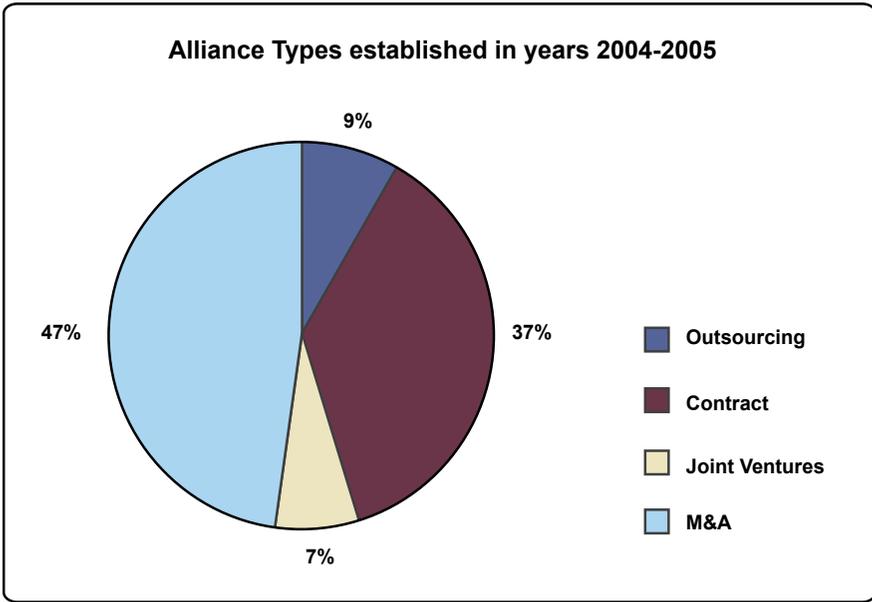
Alliances Observed

Ten outsourcing alliances were observed, 50% of which were initiated by print services providers. (See Table 1.)

While the types of firms that entered into the 42 contractual agreements observed in the study were much more diverse (almost all NAICS classifications were represented), print services providers again played a big role, being involved in over 40% of the agreements. These 17 print services providers' contractual agreements are illustrated in Figure 2.

Of the eight joint ventures that were observed in the study, 80% of

Figure 1. Alliance types in the printing industry



| Alliance Types | Outsourcing | Contractual Agreements | Joint Ventures | M&A | M&A |
|----------------|-------------|------------------------|----------------|-----|-----|
| Number | 10 | 42 | 8 | 56 | 116 |

Table 1. Companies with outsourcing

| Service Buyer | NAICS code | Employees | Sales (\$ mil) | Outsourcing Provider | NAICS code | Employees | Sales (\$ mil) |
|----------------------------|------------|-----------|----------------|----------------------|------------|-----------|----------------|
| Transcontinental Media | 511 | 53 | 4.10 | New York Times Co. | 323 | 12,300 | 3,303.64 |
| MAGNET | 561 | n/a | 5.13 | FedEx-Kinko's | 323 | 20,000 | 2,000.00 |
| Bowne Global Solutions LLC | 541 | 4,900 | 899.01 | BAeHAL Softward Ltd. | 334 | n/a | n/a |
| Northwestern University | 611 | 5,954 | 1,115.61 | FedEx-Kinko's | 323 | 20,000 | 2,000.00 |
| RR Donnelley | 323 | 43,000 | 8,000.00 | IntraLinks | 541 | 214 | 37.22 |
| CIGNA | 524 | 28,000 | 18,176.00 | RR Donnelley | 323 | 43,000 | 8,000.00 |
| MCI Inc. | 517 | 40,000 | 20,690.00 | Danka Holding Co. | 423 | 10,870 | 786.79 |
| Hewlett-Packard Co. | 423 | 151,000 | 79,905.00 | Heidelberg | 423 | 24,649 | 3,360.27 |
| IBM Global Services | 423 | 319,876 | 96,293.00 | Danka Holding Co. | 423 | 10,870 | 786.79 |
| Barclays Bank | 551 | n/a | n/a | Xerox Corporation | 333 | 58,100 | 15,722.00 |

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Alliances *continued*

them were established with partners overseas. (See Table 2.) Joint ventures are formed to facilitate one specific project, rather than for long-term business relationships. Again, half of the

joint ventures observed were initiated by print services providers.

In 27 of the 56 observed mergers and acquisitions, large print services providers acquired smaller print services providers. Most of these mergers and acquisitions (36 cases) involved print services providers.

Figure 2. The nature of print service providers in contractual agreements

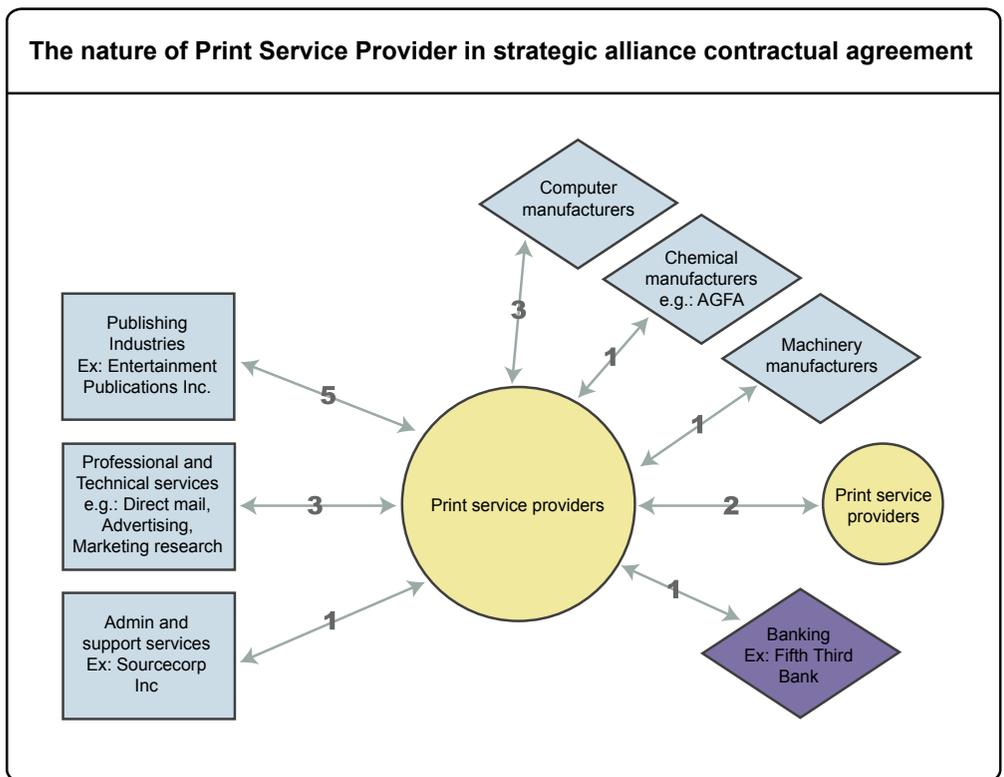
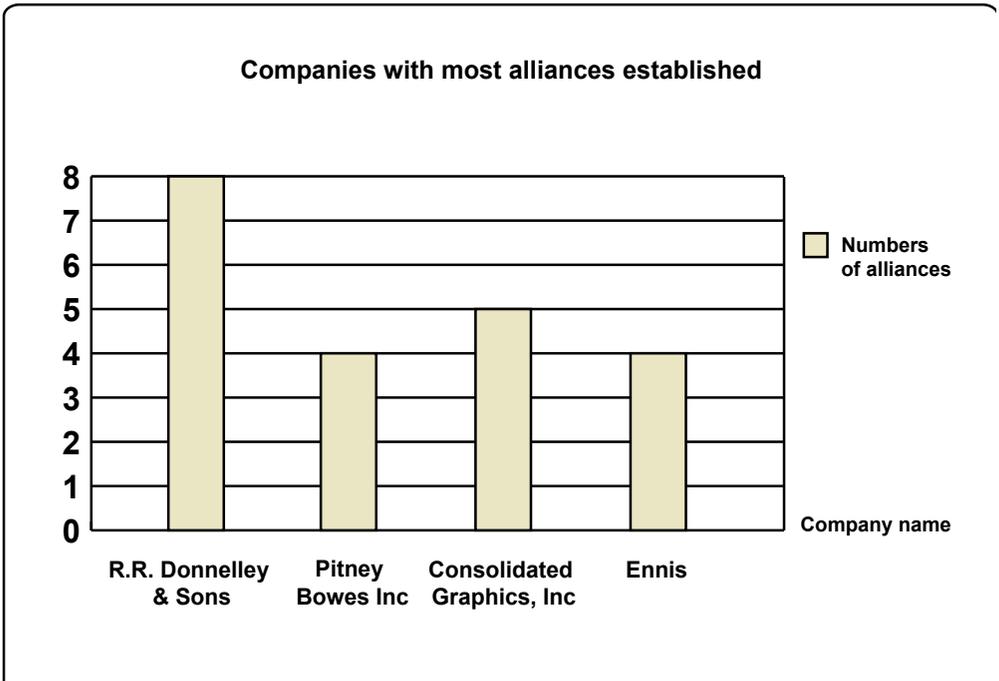


Table 2. Company with contractual agreements

| Company A | NAICS code | Employees | Sales (\$ mil) | Company B | NAICS code | Employees | Sales (\$ mil) |
|-----------------------------------|------------|-----------|----------------|---------------------------------|------------|-----------|----------------|
| Starr Toof Printing | 323 | 125 | 10.9 | Flexeprint, Ltd. | 454 | n/a | n/a |
| Sonopress LLC | 334 | 75,537 | 90.7 | Coral Graphic Services | 323 | 75,537 | 21.70 |
| Cadmus Communications Corporation | 323 | 3,000 | 436.44 | Datamatics Technologies Limited | 518 | n/a | 13.00 |
| Pitney Bowes Inc. | 333 | 27,152 | 4,957.44 | Semco | 334 | n/a | n/a |
| Sappi Fine Paper North America | 322 | n/a | 5,482.66 | Jiangzi Chenming | 322 | n/a | n/a |
| Xerox Corporation | 333 | 58,100 | 15,722.00 | Pantone | 323 | 140 | 14.80 |
| Stora Enso | 322 | 43,779 | 16,100.90 | Xeikon | 423 | 400 | 7.40 |
| Stora Enso | 322 | 43,779 | 16,100.90 | Shandong Huatai Paper | 322 | n/a | n/a |

Figure 3. Companies with the most alliances



Establishing Multiple Alliances

Some printing companies established more than one alliance in the years 2004–2005, apparently a good idea, since the four companies that established the most observed alliances during this period were also in the top ten for revenues for commercial printing businesses in 2005. (See Figure 3.) These four companies focused on a growth strategy through acquisitions. RR Donnelley also engaged in contractual agreements with small print services providers. Business forms provider Ennis, Inc. was ranked first in revenue growth 2005 because of its acquisitions throughout the year.

Case Study

The partnership of ColorCentric Corporation and Lulu.com, first announced in September 2004, represents a major breakthrough for the printing and publishing industry. Their joint web-to-print service gives the end-user an unprecedented amount of freedom and cost savings.

Lulu.com is the web-based publishing marketplace established in 2002 by Bob Young, a co-founder of the open source software company Red Hat. Lulu.com allows users to publish, sell, and buy books, music, comics, photographs and movies, with no set-up fee and no minimum order required. Users can earn royalties for their own work.

ColorCentric Corporation was established in November 2002 by John Lacagnina, who developed it around Xerox’s iGEN3 digital printing press. The company’s mission is to change the way the world views digital color printing by bringing customers closer to the manufacturing process and incorporating the most up-to-date technology to reduce cost, time to market, and workload for clients. ColorCentric’s cash flow turned positive after its first year of business, and the

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Alliances *continued*

company continues to grow.

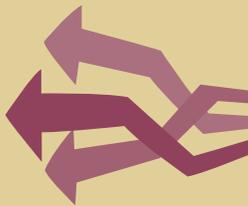
ColorCentric makes Lulu.com's business model possible by providing printing and shipping services. Digital files are transferred from Lulu.com to ColorCentric, which then delivers the finished products directly to end-users. By working together, ColorCentric Corporation gains access to a larger customer base, and Lulu.com need not invest in printing equipment and factories. Their relationship is

maintained by mutual trust and a strategic alliance contract.

Conclusions

Many inter-firm relationships can be found in the printing industry today. Shifting technologies are fostering the formation of these strategic alliances, which often lead to mergers and acquisitions. For companies that remain separate entities, partnering can significantly increase revenues. 📌

Other research publications of the Center are available at:
<http://print.rit.edu/research/>



Research Monographs of the Center

Research conducted by the Printing Industry Center at the Rochester Institute of Technology is the central focus of the Center's operations. Expert faculty from the School of Print Media, the E. Philip Saunders College of Business, and other fields at RIT comprise the cadre of researchers that build and carry out the research initiatives undertaken by the Center. The research agenda is built through collaboration between Center researchers and Industry Partner companies, resulting in research that is cross-disciplinary and highly relevant to industry concerns. Take advantage of this resource at:

print.rit.edu/research

Some of our recent publications include:

Print Media Distribution: Process, Profitability, and Challenges
by Twyla Cummings, Maria Cummings, and Bernice LeMaire

The Case for Print Media Advertising in the Internet Age
by Patricia Sorce and Adam Dewitz

Take advantage of our complete archive of research monographs, available for download at <http://print.rit.edu/research>

GPO *continued*

- Printed books can last hundreds of years, but how do we ensure that digital information will be easily accessible even five years from now?
- With so many publishing solutions now available, how do we create a common set of standards for digital documents?
- What's the best way to ensure the security of digital information?
- How do we deal with the multiple versions of official documents in a digital environment? How do we determine which version deserves to be preserved for the future?
- What's the best way to go about making legacy information content—the content now stored in millions of printed government documents housed in library and agency collections nationwide—digitally available?
- Now that information content is easily separated from the form and format in which it can be delivered, what kind of system can be developed that most efficiently permits content to be repurposed?
- In the vastly decentralized information marketplace that the government has become, how do we create a system for capturing that information for convenient and effective public access?

To be sure, GPO already had considerable experience with electronic technology when I arrived. The agency had successfully navigated the transition from hot metal to computerized typesetting in the 1960s and 1970s. And in the early 1990s GPO set up one of the government's earliest and most comprehensive Web sites, GPO Access.

But subsequently the agency fell behind the pace of digital technology innovation. This was due to a variety

of factors. For example, there was a period in which GPO's future status was being debated intensely, which led to a decrease in investments pending the resolution of that question.

But there was also the absence of a comprehensive vision of GPO's future in a digital environment.

Fundamentally, GPO hadn't been organized around a digital platform. The agency didn't have a good concept of what that digital platform would look like, and as a result the questions and challenges posed by the digital transformation were left only partly resolved. The print-centric culture of the agency, which had served printing well, was not well suited to moving the agency forward in the digital era. Even where GPO's digital activities were concerned, we were putting data in typesetting codes and formatting the data as replicas of the printed page.

Creating a New Digital Platform

The core of our future operations will revolve around a GPO-developed Future Digital System—which we're currently calling FDsys—that is being designed to organize, manage and output authenticated content for any purpose. This system will ingest into a central repository all the public information of the government and reduce that information to a common denominator, which means having a uniform character set and coding structure for data. This system will preserve the content independent of specific hardware or software so that it can be migrated forward for the benefit of future generations.

Eventually, all known Federal documents, whether printed or born digital, produced both prospectively and retrospectively, will be cataloged

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and authenticated and then entered into the system according to GPO metadata and document creation standards.

Content may include text and associated graphics, video and sound, and other requirements that may come to be. Content, which may be stored at various quality levels, will be available for Web searching and Internet viewing, downloading and printing, and as document masters for conventional and demand printing, or other digital requirements.

This strategic goal took a significant leap forward with the award of a contract to Harris Corp. for master integrator services to guide the planning and acquisition of the FDsys component system. This partnership represents the culmination of careful analysis and planning to specify our system requirements, and it marks a major milestone as we forge ahead to develop a robust and flexible digital platform that will provide permanent public access to information from all three branches of the Federal government.

Security and Intelligent Documents

Security and intelligent documents—including passports, Federal identification cards and potentially other documents—will be a growing and increasingly important business line for GPO, perhaps as much as 50 percent of GPO's business in the future. There are new statutory requirements for these documents in the recently-passed legislation that GPO is working to implement. And from our standpoint, there are certain digital technology synergies that can be brought to bear to improve the security of these important documents.

We created a new business line for Security and Intelligent Documents in 2005 that consolidates our long-standing expertise in security documents.

The major product of this unit, of course, is U.S. passports, which by law must now include computer chips containing identifying information. We've been working on the e-passport project for better than two years, involving testing and creating the new production process for these documents. Along the way we've found that the same skills used for this product could be used to help Federal agencies meet other security document requirements, such as the production of new Federal ID badges that must also contain computer chips. As a result, we're developing a new capability for this product line.

Thanks to the hard work of all our employees, and with key support from our oversight and appropriation committees in Congress, we've managed to turn GPO in a new direction, one that promises a positive future for our great agency for many years to come.

Our digital platform, once it's relocated and fully equipped with the new technology, will provide the physical image that reflects GPO's full participation in the digital world. 📷

Download the full speech from:
www.gpo.gov/news/speeches/PP_RITSpeech.pdf

Or visit the In-Plant Graphics website:
www.ipgonline.com

About the Center

Rochester Institute of Technology (RIT) was selected by the Alfred P. Sloan Foundation in 2001 to join the family of Sloan Industry Centers located at prestigious universities across the U.S. The Printing Industry Center at RIT is a joint program of the School of Print Media and RIT's College of Business, emphasizing Sloan's long-standing tradition of applying a broad multidisciplinary approach to industry investigations and findings.

Dedicated to the study of major business environment influences in the printing industry brought on by new technologies and societal changes, the Printing Industry Center at RIT addresses the concerns of the printing industry through educational outreach, research initiatives, and print evaluation services. The Center creates a forum for printing companies and associations worldwide to access a neutral platform for the dissemination of knowledge that can be trusted by the industry, to share ideas, and to build the partnerships needed to sustain growth and profitability in a rapidly changing market.

With the support of RIT, the Alfred P. Sloan Foundation, and our Industry Partners, it is our mission to continue to develop and articulate the knowledge necessary for the long-term economic health of the printing industry.

More information on the Printing Industry Center at RIT and its research activities can be found online at <http://print.rit.edu>.

Industry Partners

Support for the Printing Industry Center at RIT comes from:



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