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White Paper

*In-Plant Printing:
Bringing Value to Colleges
and Universities*



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Executive Summary

This white paper presents an analysis of the evolution of college and university in-plant operations, and provides an overview of the market definition and market size of this printing industry segment. It includes a discussion of trends and best practices among leading higher education in-plant print operations. It shows how well-managed in-plant print shops can bring—and are bringing—significant value to their college and university hosts. For example, many college and university in-plant operations are not only self-supporting, but also contribute revenue to their host institutions that can make a significant difference to the bottom line.

As printing technology has increasingly evolved from analog to digital, so have in-plant print shops in the college and university market. There are many examples

of state-of-the-art college and university in-plant operations managed by entrepreneur-like innovators. These leaders have become an integral part of campus life and are delivering value far beyond simply placing ink or toner on paper. Because of their dedication to the success of the institution in which they live, they provide a level of service that can be difficult to achieve on a consistent basis with outside vendors, and they do so at significantly reduced cost levels, benefiting both users of on-campus printing services and the institution as a whole.

On the flip side, some in-plant operations have not been as successful. Some have been closed, with all printing outsourced. Others have not been able to build awareness in institutional administration about the benefits modern in-plant print shops bring to the campus. As this investigation shows, a well-managed, up-to-date in-plant operation delivers:

- **Exceptional customer service.** In these fast-paced times, long lead times of the past are no longer acceptable. An on-campus print shop, as an integral part of the organization, cares deeply about contributing to the institution's success. Need last minute flyers to promote sports or another event? The print shop staff is there to accommodate. Higher than expected enrollment in a popular class? Additional coursepacks can be printed on demand. Need creative ideas about how to boost alumni donations or stimulate student recruitment efforts? On-campus in-plant print shops frequently sport advanced technologies such as variable data printing and design services that can change the face of these efforts.

“Because of their dedication to the success of the institution in which they live, they provide a level of service that can be difficult to achieve on a consistent basis with outside vendors, and they do so at significantly reduced cost levels, benefiting both users of on-campus printing services and the institution as a whole.”

- **Bottom line contributions.** Most campus in-plants are self-supporting. While in the past they may have been considered a cost center for the college or university, today they are often instrumental in reducing expenses while contributing cash to the college or university. Many are also generating enough cash to cover needed investments to stay current with rapidly evolving technology and the need for highly competitive services on campus and do not need funding from other institutional resources. This holds true in spite of tight economic times and the budget cuts implemented on many campuses. Sending printing to the private sector, by its very definition, is generally more costly. A private business has costs that in-plant departments do not. These costs must be covered and work must provide profits to its owners, while an in-plant simply needs to cover its costs plus affordable incremental costs to maintain its modern production platform. In addition, campus projects may not always be the top priority for a private entity that is balancing work from a large number of clients, all with ever-increasing demands for speed.
- **Championing environmental sustainability.** Colleges and universities have been leaders in raising the awareness of environmentally sustainable business practices, and their in-plants are contributing to this effort. Whether it is reduction or elimination of chemistry, use of vegetable-based inks, reducing production waste, using papers manufactured using post-consumer recycled fibers and pulp from sustainably managed forests, or taking steps to reduce water and energy consumption, college and university in-plants have come a long way from the days of ink-stained basements reeking of chemicals. Most modern college and university in-plants pride themselves on their contribution to reducing the institution's environmental footprint, and often have been willing and able to make these changes faster than many companies in the private sector.

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In-depth interviews with leading in-plant managers and a wealth of secondary research conducted for the creation of this white paper reflect the true value that an efficient, modern, in-plant printing operation can bring to any campus environment. This white paper also highlights best practices and offers recommendations that can be implemented by any campus printing facility in efforts to continually improve operations and deliver utmost value to the host institution and its constituents.

Introduction

Historically, most colleges and universities have had in-plant print shops that produced the majority of campus printing. These operations were typically located in a basement facility or even off campus. They were focused primarily on offset printing and old-style spirit duplication (remember those purple copies with their distinctive solvent odor?).

In recent years, many college and university in-plant print operations have evolved into modern business operations that feature state-of-the-art digital technologies, a broader array of services, and higher visibility on campus that indicates their integration into campus life.

This white paper is a review of the evolution of college and university in-plant operations. It overviews market definition and market size for this segment of the printing industry, and documents trends and best practices among leading higher education in-plant print operations. It clearly demonstrates how well-managed in-plant print shops can bring—and are bringing—significant value to their college and university hosts. It explores the range of services, business models and future plans of leading college and university printing operations; and offers conclusions and recommendations to enable colleges and universities to extract maximum value from these all-too-often-neglected internal businesses.

Research Methodology

In preparing this white paper, WhatTheyThink consultants interviewed representatives from eight college/university in-plant operations. In addition, WhatTheyThink reviewed research available from research firm InfoTrends and *In-Plant Graphics Magazine*, as well as discussing in-plant trends with the Executive Director of the Association of College and University Printers (ACUP). For additional data, the WhatTheyThink Economics & Research Center leveraged the more than 700 economic indicators it follows and its substantial base of data and information relative to printing industry trends to augment and validate primary and secondary research undertaken during the preparation of this white paper. WhatTheyThink consultants also brought their decades of experience of work in academic environments, major corporations, and with industry suppliers, to this effort.

In-Plant Definitions

According to research firm InfoTrends,¹ in 2008 there were more than 52,000 total U.S. in-plant printing operations across all industries in three different segments, generating nearly \$26 billion in revenues:

¹ U.S. Printing and Publishing Market Sizing: 2008-2013, InfoTrends, December 24, 2009.

Figure 1. 2008 U.S. In-Plant Operations (All Industries, All Segments)

No. of Employees	<5	5-9	10-49	50-99	100+	Total	2008 Shipments (\$B)
In-Plant Print Shops	4,481	2,397	2,317	254	87	9,535	\$13.89
Small In-Plant Copy/Print	33,904	2,625	347	0	0	38,876	\$3.48
In-Plant Data Centers	2,380	1,090	376	148	79	4,073	\$8.54
Totals	40,765	6,112	3,040	402	166	52,484	\$25.91

Figure 2. In-Plant Revenues, 2008-2013 (All Industries, All Segments) (\$B)

	2008	2009	2010	2011	2012	2013	CAGR
In-Plant Print Shops	\$13.89	\$13.14	\$13.02	\$13.16	\$13.37	\$13.63	-0.38%
Small In-Plant Copy/Print	\$3.48	\$3.29	\$3.25	\$3.29	\$3.33	\$3.40	-0.52%
In-Plant Data Centers	\$8.54	\$7.80	\$7.30	\$6.98	\$6.70	\$6.46	-5.42%

- In-Plant Print Shops.** These are departments within an organization that are primarily engaged in reproducing texts, drawings, plans, brochures, books, presentations, directories or other copies by blueprinting, photocopying, mimeographing, offset printing or any other method. The primary business of the host organization is anything but printing or print-related services. In 2008, there were 9,535 of these operations in the U.S., generating nearly \$14 billion in annual revenues.
- Small In-Plant Copy/Print Operations.** InfoTrends defines these as departments within establishments that are more closely aligned to “secondary” establishments. These small copy/print facilities are staffed, but they exist to support the workgroup in a generally distributed manner. InfoTrends counts 36,876 of these operations across all industries in the U.S., generating \$3.48 billion in revenues.
- In-Plant Data Centers.** These are departments within an establishment that are primarily engaged in providing computer processing and preparation of reports from data. The primary business of the establishment is anything but data preparation services. In 2008, there were 4,073 in-plant data centers across all industries generating \$8.54 billion in revenues.

The primary focus of this white paper is on the 9,535 in-plant print shops, a portion of which are in collegiate institutions.

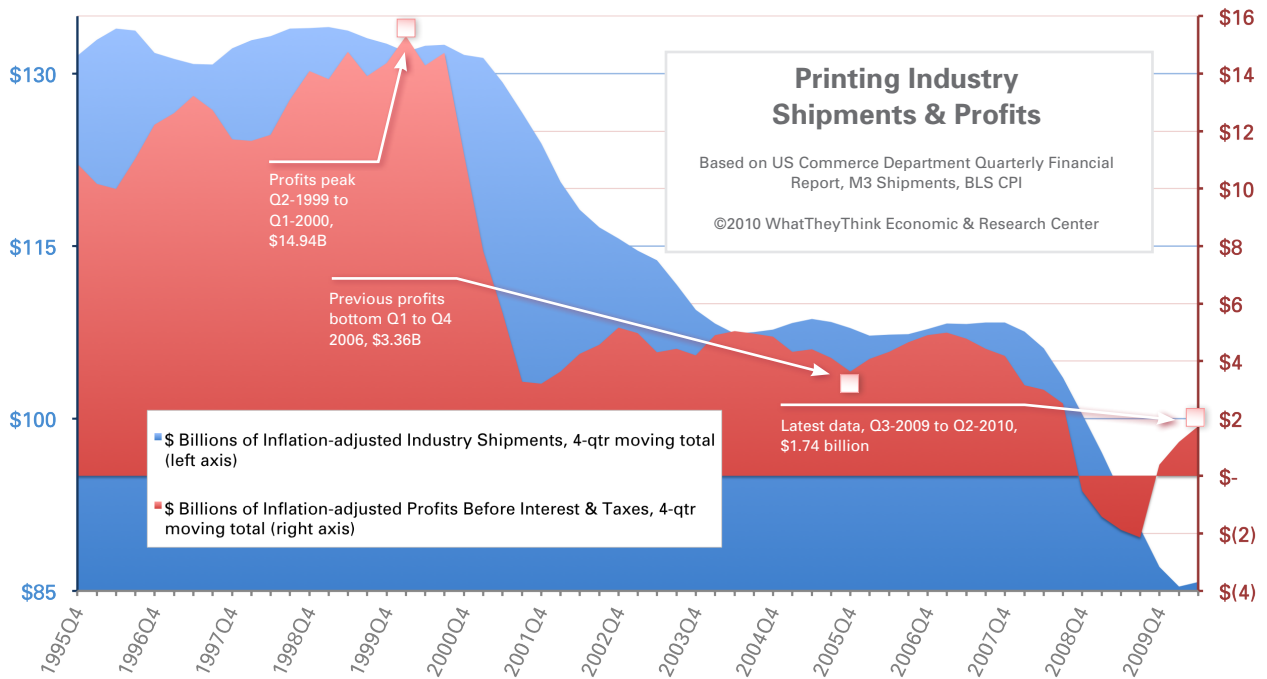
InfoTrends also estimates that in-plant printing operations in colleges and universities comprise 15% to 20% of the overall number of in-plant establishments, or 1,500 to 1,900 establishments.

InfoTrends forecasts revenues generated by in-plant operations across all industries to remain fairly flat over the next few years as shown in Figure 2, with in-plant data centers reflecting the largest decline, most likely due to the increased use of electronic reporting technologies for many internal reports and other data-based documentation.

While the overall numbers for in-plant operations across all industries do not demonstrate growth, neither do they reflect the devastation that has impacted their commercial printing peers. Our forecast² predicts that commercial printing shipments (NAICS 323) in the U.S. will decline from their 2010 level of \$88 billion in printing shipments revenue to \$72 billion in 2013 and further decline to \$55 billion by 2016 as the industry continues to consolidate. Since 2000, the commercial printing industry’s employment has decreased by approximately 250,000 workers and its volume has decreased by one-third.

² WhatTheyThink Economics & Research Center, Economic Outlook webinar, September 2010

Figure 3. Annual Shipments, U.S. Commercial Printing Industry



Source: WhatTheyThink Economics & Research Center, September 15, 2010 NOTE: This data does not include in-plant printing revenues

This dramatic consolidation in the traditional commercial printing industry is driven by the increased use of new media (web, email, mobile, social media) in lieu of print, a transformation that has been accelerated by economic turbulence and efforts by marketers to optimize flat or decreasing budgets across more media

choices. Marketers now have a larger variety of media choices to consume those budgets, resulting in the shifting of dollars away from traditional media (print, broadcast, direct mail) to new media (web, email, mobile, social media) as marketers seek more effective ways to get their messages out.

Figure 4. WhatTheyThink U.S. Commercial Printing Shipments Forecast, 2010-2016 (\$B)

(As of October 2010 forecast model update)

	Forecasts By Statistical Models			WTT ERC Qualitative Forecast
	Conservative	Aggressive	GDP (+2.5%)	
2010	\$86.5	\$83.9	\$101.6	\$85.0
2011	\$83.8	\$77.1	\$99.1	\$81.0
2012	\$80.3	\$69.8	\$96.5	\$76.0
2013	\$77.0	\$61.9	\$93.9	\$72.0
2014	\$73.9	\$53.6	\$91.2	\$67.0
2015	\$70.8	\$44.8	\$88.4	\$62.0
2016	\$67.9	\$35.6	\$85.6	\$55.0

While these same trends affect in-plant operations in colleges and universities to some extent, these operations do not appear to be as heavily affected as the commercial printing industry at large. A large portion of the commercial printing industry's volume has been in catalogs, direct mail, newspaper insert printing (such as for major retailers and coupon promotions), and magazines. These business categories have all had significant declines over the last decade.

In-plant departments have had a different pattern because they do not produce printed goods in the same categories as commercial printers. In fact, our interviews and the secondary research we undertook in preparing this white paper indicate that many in-plants have made recent capital investments and have additional investments planned, while investment activities have slowed significantly in the commercial printing market.

A recent survey of college and university in-plants conducted by *In-Plant Graphics Magazine*³ reflects that 75% of respondents have added equipment, and 70% have added services, over the past three years.

In-Plant Trends in Colleges and Universities

Our research revealed a number of trends in college and university in-plant operations compiled from a variety of sources as indicated above. These trends include:

- **Business Model.** The majority of college/university in-plants are all or mostly self-supporting. They charge user departments for printing, binding and other services to cover costs and support future investments. Most are operating in a non-profit mode, meaning that funds left over at the end of the fiscal year are returned to the institution's general fund rather than being carried over for use in subsequent years by the in-plant department itself.
- **Pricing Strategies.** The majority of in-plants conduct periodic pricing surveys to ensure that

their pricing levels are highly competitive with the private sector.

Since most college/university in-plants are not operating in a for-profit model, pricing to end users can be as much as 20% to 30% or more below pricing for similar services in the private sector.

Even though the prices are lower, they are still covering their costs, setting aside funds for reinvestment and making contributions to the host institution.

- **Right of First Refusal.** Few institutions have granted their in-plant print shops the right of first refusal for printing and related services. That means that end-user departments have the ability to seek printing services from outside suppliers. It also means that successful in-plant operations must have an aggressive marketing strategy in place to advise end-user departments about the services they offer and the benefits to the department and the institution using those services.
- **Environmental Sustainability.** Colleges and universities have been a primary driver of environmental sustainability research and initiatives, and many in-plant printing operations in those institutions have followed suit. Green initiatives include reducing or eliminating the use of chemistry; improving efficiency of production processes to eliminate waste; introduction of print-on-demand capabilities to eliminate the need for long print runs and associated waste due to inventory obsolescence; gaining Forest Stewardship Council (FSC), Sustainable Forestry Initiative (SFI) or other certifications to ensure chain-of-custody certification in the use of papers manufactured from forests using sustainable forestry management practices; recycling of paper, aluminum and other materials, including office recyclables; reduction in energy and water consumption and more.

³ University Research, *In-Plant Graphics Magazine*, April 2010.

- **Insourcing.** While higher education in-plant operations are generally restricted from selling their services commercially, many have been able to partner with governmental agencies and non-profits to bring paid work in-house, offering those bodies pricing comparable to pricing offered to the college or university itself. Seventy-three percent of respondents to the *2010 In-Plant Graphics Magazine* survey report insourcing work from outside entities. Those who do so indicate it makes up an average of 11.3% of their revenues.
- **Print Management.** Few in-plants are capable of producing 100% of the printing required by their host college or university. Job requirements are not always standard, such as the size of the finished piece, special finishing requirements or unusual substrates, very long run lengths and other specifications that may require seeking an outside manufacturing source. Exceptionally heavy workload can also stimulate a need to outsource. Successful in-plant operations have built a relationship of trust with their customer departments and often act as the intermediary for those departments in outsourcing jobs of this nature. While this does not translate to a global right of first refusal, in-plants who successfully establish these types of internal and external relationships are also able to enhance their

financial positions by managing the outsourcing of work on behalf of their institution. Their knowledge of the printing process, the jargon of the printing culture, and their experience in qualifying suppliers and analyzing bids are critical to ensuring successful outsourcing. These departments are also able to help the institution benefit from volume purchasing discounts that might not be attainable by individual departments acting on their own.

- **On-Campus Copy Centers.** In some institutions, the In-Plant Manager also has responsibility for management of on-campus copy centers. Where this practice has been implemented, in-plant managers have the ability to move work between the in-plant print shop and campus copy center(s) to take advantage of workload balancing, better handle tight delivery times, balance staffing, and ensure that the most appropriate manufacturing process is utilized for each project.
- **On-Campus Copier/Printer Fleet Management.** In some cases, educational institutions are leveraging the knowledge and expertise of the in-plant print shop to assist with the selection, purchasing and management of the on-campus copier/printer fleet. “Fleet,” in this case, has nothing to do with vehicles, but refers to the copying and printing equipment that is used on campus. The experience of the In-Plant Manager can shift some of the burden of managing these fleets from of the procurement department and/or resource constrained IT departments. It can also give the in-plant manager better insight into the type of printing being produced on these devices within the various departments, allowing them to recommend alternative production strategies when costs of localized printing are excessive from a labor and/or machine cost perspective. As part of their printing expertise, In-Plant Managers attend trade shows and vendor presentations, are members of printing trade associations, and have industry contacts that allow them to make more informed purchase decisions.



- **Graphic Design.** To provide turnkey services with fast turnaround to its departmental clients, many in-plant operations are adding graphic design services for a one-stop shop model that users find extremely beneficial. While graphic design is easier than in the past, there are production requirements for various types of printing equipment that are not always well understood by graphic designers. It still takes some skill to be sure that files work, and that the printed output will be appropriate for the final finishing steps (such as folding, cutting, and binding). Recent surveys by the Graphic Arts Technical Foundation and others indicate that more than 80% of files submitted to commercial printers require some necessary correction or adjustment before they can be printed.
- **Collaboration with Campus Bookstore.** Increasingly, campus bookstores are managed by independent operators. In some cases, campus bookstores also operate completely independently of the in-plant print shop. However, our research reflected two alternative models for those campus bookstores that choose to work with campus printing resources, primarily in the production of coursepacks.
 - In one model, the bookstore assumes full responsibility for assembling coursepacks and gaining copyright approvals, sending formatted coursepacks to the print shop for production.
 - In another model, the in-plant operation assumes responsibility for assembling coursepacks, gaining copyright approvals and producing the coursepacks, which are then delivered to the bookstore for sale.
 - In either of these models, coursepacks become an important revenue stream for the in-plant operation. In a slightly different model, MIT has no formal relationship with the campus bookstore which is a private company with two locations on campus.

“If you want to be a player in this environment, you need to know how to streamline your operation, deliver great customer service and great quality, and be a bleeding edge in-plant.”

Leslie Rutledge, Director of Graphic Services
Brown University

However, at MIT, the bookstore does not sell course readers (or coursepacks); rather, the in-plant shop produces and distributes them through its three on-campus locations. MIT’s in-plant offers a complete copyright service for printed coursepacks and is now doing the same for electronic versions.

These trends demonstrate how in-plant operations are structuring themselves to align with college/university policies, deliver services to the institution with highly competitive pricing and service levels, and add value to the university community. In-plant managers should ensure that they remain in close communication with college/university administration, educating them in a proactive manner about the value of their operation to the institution and their future plans for enhancing this value. This will ensure that decision-makers are fully informed in the event any consideration is being given to closing down or outsourcing in-plant operations.

“In a nutshell, your university print shop can deliver significant value through both traditional printing services and new, more non-traditional services that help your institution maintain and protect its brand identity; reach students through their preferred communications media; produce cost-effective, high-quality products; and help departments/groups exceed their goals and expectations through innovative business practices while staying within increasingly constrained budgets.”

In-Plant Best Practices

Our interviews and secondary research uncovered a number of best practices that can act as a guide to in-plant printing operations and the administrative departments that manage them to improve operational practices and increase their value to the institution. In a nutshell, your university print shop can deliver significant value through both traditional printing services and new, more non-traditional services that help your institution maintain and protect its brand identity; reach students through their preferred communications media; produce cost-effective, high-quality products; and help departments/groups exceed

their goals and expectations through innovative business practices while staying within increasingly constrained budgets.

Consolidated Management of Printing Operations

Brown University in Providence, Rhode Island, is a good example of an institution that has consolidated printing, copying and graphic design operations under one management team. The department also does framing and produces and oversees installation of campus signage. The Graphic Services Department has three locations: an off-campus print shop with ample storage, a campus copy center, and a business office that also incorporates graphic design. Director of Graphic Services Leslie Rutledge recently joined the university from San Diego State University, where she successfully managed a similar turnaround situation. The expectation at Brown was that she would be able to take the printing operation to the next level based on her track record. While the combined Graphic Services Department at Brown generated a profit, sales were down 20% over the year before. Rutledge manages 23 people and has received excellent support from her management team in making changes she believes are necessary to increase the profitability and value of the operation. A key change underway is the elimination of all or most print inventory by moving to a print-on-demand model.

“Our business manager takes care of the accounting and manages the copier program for the university,” Rutledge says. “We also have a customer service manager and an estimator/outsourcing manager for any printing we can’t handle internally. We have three graphic designers and an art director that are doing great work for the university. Graphic design had been decentralized before but is now consolidated under Graphic Services, making for much more efficient utilization of these valuable resources.”

The campus copy center is located across the street from the Graphic Services business office in the center of the campus and does a hefty walk-in business.

At *MIT*, Steve Dimond reports that his department has responsibility for an all-digital printing operation in three campus locations with 21 employees. In a voluntary program, the in-plant also manages campus copier programs in locations such as departments, labs and centers, including acquiring and managing these devices.

Managing Outsourced Print

Randall Bramlett, Manager of Printing Services at *Columbus State University*, has worked hard to rebuild the reputation of his shop on campus. He said, “There was a time when the in-plant operation was simply not meeting customer expectations, and we have worked hard to change that. Although we don’t have the right of first refusal, we have taken back everything that was being outsourced except work we are not equipped to do, such as larger formats. We now control 97% to 98% of all campus printing, as well as the few jobs that are outsourced.” This state university has been able to do so even having undergone significant budget reductions due to economic constraints within the state, with its manager adding, “We are doing double the volume we were doing two and a half years ago with 2.5 fewer people. Job descriptions are blurred and everyone chips in to get the work done.” By emphasizing customer service, eliminating rush and overtime charges and giving customers more control and faster turnaround times, he has been able to turn the tide for his shop by encouraging customers to give them another try, and then delivering on promises. “We have also been recognized with a number of awards,” he says, “and that helps as well. In addition, we will be relocating to the center of campus right next to the new remodeled book store, a prime location that we think will help increase business even more.”

MIT's Dimond reports that while the in-plant operation had responsibility for full offset, digital and mailing services, the group was broken up a number of years ago. Offset printing for the campus is now farmed out off campus through a broker’s bureau without involvement from the in-plant. “We have been very successful since we became independent,” he says. “We

have about \$3 million in chargebacks annually and are expected to cover our expenses on a yearly basis.”

At *Brown University*, the Brown First program gives Rutledge right of first refusal. She says, “If it is something we can do, we do it in-house. If it is something we have to outsource, we want to oversee it. Not all vendors were consistent in their pricing across campus. Brown First has been in place for some time, but we are always fine-tuning the program.”

Brown First seems to be working for Rutledge. “If someone requests a purchase order for printing,” she explains, “Purchasing sends them to us. There is some leakage if a department uses an outside graphic designer and the designer purchases the print on their behalf, but we do see the resulting bills and we are working hard to show off the internal graphic design capabilities we have. We believe there will be increased use of the department as a result, along with savings for the University.”

Insourcing

While most college and university in-plant operations are prohibited from competing in the commercial space, many have been successful in insourcing, or bringing in work, from non-profit and governmental agencies. Another university in the Southeastern U.S. is a terrific example of how this approach can assist not only the in-plant but the external agencies as well. “The work we produce for state agencies now comprises about 60% of our work,” says its print shop manager. “That work is treated as a profit stream and is critical to our ability to make the necessary investments to keep our shop current.” This manager’s team consists of 14 employees, and his shop sports a direct imaging “DI” press⁴, color and black & white digital presses, chemistry-free platemaking for small format duplicators

⁴ A “direct imaging” offset press images its plates on press automatically rather than having a separate offline operation, and uses a process called “waterless offset.” This type of offset reduces the amount of chemicals needed to print compared to traditional offset and uses virtually no water.

“While it sounds like a cliché, you have to weave yourself into the fabric of the university. You need to be an active and visible part of the campus. You are the university; you are not an outsider. But you can’t sit back and wait for the customer to come to you; you are not the only game in town.”

Tom Tozier, Executive Director

Association of College & University Printers
(ACUP)

and an impressive array of bindery equipment. Both his internal and external customers are thrilled with the quality and turnaround time this well-managed and well-equipped shop is able to deliver. He hopes to be able to add a 40" offset press and UV coater to the mix to generate even more business. “Anything left over at the end of the year goes back to the university,” he explains. “We are currently a six-figure money-maker for the university.”

Marketing Your Print Shop’s Wares

Although the past year has been difficult for MIT’s Dimond, with departmental printing budgets being a target for cost reduction, he comments, “The push to reduce printing coincided with a push for increased sustainability. The initial reaction resulted in disdain for the whole idea of printing anything because

- a) they didn’t have the funds; and
- b) you were treated as a leper if you did.

However, most people have come to the conclusion that completely eliminating printing does not make sense, especially for things like event announcements.

Eliminating print is probably not the wisest way to generate maximum attendance.” Dimond considers himself fortunate to have a full-time marketing manager on staff whose role is to continually measure the shop against outside competition and to do everything possible to have the in-plant’s name associated with events that take place on campus. “This could include sponsoring movie nights or other student events as well as supporting some of the employee arts programs on campus,” he explains. “The whole idea is to have our name appear in as many places as possible so that people know we exist down here in the basement.”

Brown’s Rutledge, who has recently taken over Graphic Services at Brown, reports spending a great deal of time meeting with customers and vendors, getting oriented to the current situation and needs, and learning what needs to be improved from the customers’ perspective, a process that worked well for her at her previous assignment at *San Diego State University*. “Even though we have the Brown First program in place, we need to meet the needs of the campus,” she says, “and we aren’t always doing that right now. They want quality, affordable color and they want it fast. We want to be able to do that without blinking our eyes.”

This time investment on her part is paying off. Rutledge has a brainstorming session planned with the Director of Admissions to improve the marketing pieces the department uses. She plans to bring in vendors to conduct open houses and seminars to educate the campus on capabilities, as well as internal training for operators and designers to ensure optimum use of the department’s equipment. “We had our first internal training session with one of our key vendors, and it was very successful,” Rutledge said.

In-Plant Expansion

The 2010 in-plant survey conducted by *In-Plant Graphics Magazine* reflects that 75% of respondents have added equipment over the past three years, and 70% have added services. The one-on-one interviews we conducted validated these results. Some of the planned

investments by in-plant managers, with a view toward improving or adding services and providing employees with the tools they need to do their jobs, include:

- **Digital presses.** The *In-Plant Graphics* survey reflected that 75% of respondents have both offset (including DI) and digital presses supervised by one manager. Several of the in-plant managers we interviewed plan to add additional digital presses or upgrade existing ones. They typically had a higher level of interest in acquiring color digital presses, although most are also producing significant volumes of black & white for course materials, directories, handbooks and more. These presses reduce the need for offset, but also allow for on-demand printing. This means that printed goods do not require high inventory levels, with a risk of going out of date. The amount needed is the amount printed, and reprinting additional copies as needed makes more environmental sense than printing what might be needed and then storing the inventory in offices, closets, and warehouses, only to be discarded later.
- **Wide format printing.** As college and university in-plants seek business expansion opportunities, many are adding wide-format printing for the production of posters, signs, banners, architectural renderings, art reproductions, and other large pieces for use on campus. Addition of a wide format laminator can improve the quality and durability of these printed pieces.
- **DI press.** We spoke to several in-plant managers who have or are planning to acquire a DI press. These presses feature chemistry-free platemaking, a high level of automation which makes training and operation easier than conventional offset, and high quality (300 line per inch (lpi)) printing. DI presses are waterless and produce very little makeready waste, adding to their small environmental footprint.
- **Bindery equipment.** As the saying goes, a job is not finished until it is finished. Savvy in-plant managers also have updated bindery equipment on their wish lists. Not only are they looking for updated and

expanded finishing capabilities, they are also looking for increased automation that can reduce labor costs, minimize human error and ensure minimal waste when setting up the equipment. Bindery errors can often be the most costly part of the process since they can result in having to redo all or part of the job to replace spoiled goods. Specific bindery equipment mentioned included perfect binders, slitters for manufacturing of business cards and other “multiple-up” jobs, UV coaters and laminators.

Especially in a tough economic climate, getting approval for investments, even those that are self-funded, can be difficult. *Columbus State University's* Bramlett said, “We are expanding because we have the work coming in. You have to sell management on why you need new equipment or software, and you have to look at ways to be creative in paying for things yourself.” Bramlett has opened up his operation to students, staff and faculty for copying, printing, binding, faxing and other services to generate extra revenues while providing a needed on-campus service. Bramlett also insources a limited amount of work from outside the university to augment revenues.



Improving Accessibility

One of the best ways to improve accessibility of the on-campus print shop and to make it more efficient and cost-effective for customers is to implement an e-commerce site. In the trade, this is referred to as a “customer-facing web portal,” or “web-to-print.” These online storefronts allow users to upload print jobs; reprint standard items such as directories, handbooks and forms; create customized materials based on institution-approved templates (i.e., mailers, business cards, business stationery, etc.); and order printed and non-printed items from inventory. According to the *In-Plant Graphics* survey, 74% of respondents offer some type of online ordering and/or job submission services.

MIT's Dimond reports that as much as 75% of his work comes to the shop via the web. This means that there is a minimum of administrative and sales time in securing orders, that business cards and other jobs have a consistent appearance and use the proper logos and formats, and that the proper approvals and chargebacks pre-programmed into the system.

Variable Data Printing

While 65% of in-plant shops surveyed by *In-Plant Graphics* reported producing variable data printing, the managers we interviewed largely reported producing simple variable data (e.g., addressing) or none at all.

Most of these shops have the capability because they have digital presses, and most indicated adding these services is high on their list of future enhancements. This includes personalized URLs and 2D barcodes, such as QR Codes, that serve to make printed pieces more interactive and effective.

When used, variable data can be effective. *The Citadel*, a liberal arts military college, used a variable data campaign to increase membership in its Brigadier Foundation to fund sports scholarships. Not only was the Foundation able to increase membership by 12%, the number of online renewals also grew, saving administrative costs.

In another example, the University of Alabama used a variable data campaign with personalized URLs to increase the number of online season ticket sales for season football tickets. This makes the process faster and more convenient for the season ticket holder and reduces administrative costs for the university. Previously, only 5% had renewed online; this campaign generated online registrations of 35%. It also generated increased revenue through the sales of more than 1,000 posters, resulting in nearly \$60,000 in incremental revenue.

These are just a couple of the many examples where personalized communications have improved the effectiveness of fund raising, student recruitment



and more. More importantly, because these variable data jobs are printed and addressed inline, the time between production and mailing can be shortened, and additional steps are eliminated, such as the labor and time required to manually affix labels.

The variable data make the recipients feel that they are getting mail specific to their interests, and reduces the sentiment that the pieces are “junk mail.” When they see customized design elements, such as logos for fraternities or societies, or academic insignias, as well as mentions of their graduating class or other items of importance to them, they are more likely to respond. This reduces costs and the need for additional mailings. Variable data technologies also can be used to create special personalized web sites where the recipient can help keep mailing addresses up to date or respond to other requests for information or calls to action. These personalized URLs (pURLs—pronounced “pearls” and referring to personalized web microsite addresses) tie in with existing college databases, and in the end reduce the amount of printed goods required to engage the desired audiences.

Mailing Services

Mailing services are handled by 57% of in-plants in the college and university environment, according to *In-Plant Graphics*. This is an area of opportunity for expansion in in-plant operations for those who are not already managing the mail. As one in-plant manager told us, they can literally do a project from brainstorming through putting it in the mail. Being able to deal with one source for these types of complex projects saves their customers time, money and aggravation.

While most shops are doing some type of email promotion of their services on campus, we found few that actually execute email blasts on behalf of their on-campus customers. This is another area of opportunity for in-plant operations to explore as communications increasingly take advantage of multiple communications channels.

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Mailing is becoming more complex. The U.S. Postal Service is under financial stress and seeking to increase its rates. At the same time, the USPS is offering many discounts for mail that is of specified sizes and sorted according to their guidelines. This means that it is essential to stay on top of the latest postal regulations, and design printed items to take advantage of maximum discounts. A good In-Plant Manager stays up to date with postal regulations and can suggest ways to achieve optimum costs for mailings, including recommendations on design of the printed piece.

Digital Signage

One of the more innovative services we uncovered during our research surfaced at *MIT*. Dimond explains, “There are many screens across campus that are all coordinated and managed by our department. People can submit slides and images for a fee to play for a certain amount of time on a certain amount of screens. This was a reasonable alternative to the push on the

“Because well-run in-plants are also aggressively marketed in-plants, it is expected that social media will be important to their success.”

part of the university to eliminate as much printing of flyers as possible. We have also been able to tie this into our large format services with electronic event slides tied to a large format poster, as an example.” Dimond is also involved in ongoing efforts on campus to determine how or whether it is practical to use devices like the Apple® iPad™ or Amazon Kindle™ for course materials. All digital devices have some (sometimes quirky) requirements to use files that were designed for print. For example, Kindle documents convert all footnotes to endnotes, something that writers of academic papers might not be expecting. iPads and Kindles also require reformatting of graphic images to display properly. While the Kindle and iPad offer exciting convenience, the skills of print and graphic professionals may be needed to engineer documents that are more than just flows of text and make them as effective as they can be.

Social Media

This is an emerging area many in-plants have not yet delved into. One in-plant manager reported using social media sites as recruitment tools for international students to eliminate the need to print and mail offshore. *Columbus State’s* Bramlett plans a Facebook® page in conjunction with his move to a new facility in the center of campus. “With our student copy center,” he explains, “we can use Facebook to run copy specials and provide other valuable information to students.” Because well-run in-plants are also aggressively marketed in-plants, it is expected that social media will be important to their success. The rules of

marketing via social media are being being written as the media is developing, and we expect to see many innovative approaches from in-plant departments in the coming months, especially in the college and university environment.

Reinventing the In-Plant Print Shop

Several in-plant managers we spoke with during our interviews had a track record of whipping one or more underperforming in-plant operations into shape. Current employers of these individuals have invested in them based on that track record and the perceived value these departments have to the institution. A supportive administration is always helpful for any in-plant manager trying to improve his or her business model, whether new to the institution or someone who has been in place for a time. Ongoing and very proactive education of the in-plant’s management hierarchy about the value the in-plant offers is a key best practice. Citing examples from other institutions is one way a disadvantaged shop can generate interest in making necessary investments to keep the operation up to date.

Without that proactive outreach, in-plants may be closed based on decisions made without all of the facts. One story we heard during our interviews was from a very successful in-plant operator whose plant was simply closed because the university wanted to use the space for a research lab. Departments within the university were told they were on their own for printing. This was a well-run operation with significant funds available to continue to enhance services. This type of situation should be avoided at all costs. The chaos, additional expenses and inconveniences created by such a move are difficult to recover from. As one in-plant manager told us, “The university will not realize the true value of the in-plant and the savings it generates until it is gone, and then it is too late.”

Of course, some in-plants are not well managed, and those situations should be addressed from a position of knowledge, either by providing additional training for managers and staff, or by seeking new management who can transform the operation to a position of value

within the institution. In this way, the institution can benefit from the advantages a well-managed in-plant print shop can deliver.

One example of this approach at work comes from *Columbus State University*. John Lester, the University's assistant vice president for University Relations and Randall Bramlett's immediate supervisor, reports that three years ago, the University's in-plant was not performing to expectations. He said, "We didn't study closing the plant, although it was an idea we looked at. In the end, it came down to whether we thought we could be more effective and affordable keeping the plant operating. We chose to promote Randall to manager, invested in updated equipment including a four-color DI press, and sought more work—including some from outside the normal channels—to help offset the costs. As a result of the great work by Randall and his team and the updated production platform, we have saved University departments thousands of dollars over the past two years by doing the work in-house."

Conclusions and Recommendations

The key value of the in-plant print shop we heard repeated in almost every interview was the fact that in-plant employees are also university employees and dedicated to fulfilling the mission of the institution.

MIT's Dimond said, "We stress quality and commitment to the work as opposed to high prices that might be found with outside suppliers. We are flexible, and that is one of the things we are most proud of. Over the past few years, we haven't pigeonholed ourselves into any one service that—if it went south—would have dealt a killing blow to the department. The fact that we are members of the MIT community goes a long way in terms of the support we receive from the campus."

While most in-plant managers we spoke with have terrific relationships with their administrative management, they continue to foster open communications about their accomplishments, capabilities and goals, especially as they relate to the mission of the institution. In addition,

"We have saved University departments thousands of dollars over the past two years by doing the work in-house."

John Lester, Assistant Vice President for
University Relations
Columbus State University

they are actively marketing themselves to departments and other constituents, not simply by touting their cost-effective printing, but by becoming a value-added participant in the creative process and a problem solver for their clients. Establishing, maintaining and enhancing these relationships through one-on-one meetings, seminars and open houses, and other communications is a key best practice for in-plant operations in college and university environments. Without these efforts, they are at risk of being perceived as delivering limited value in an age when environmental sustainability is high on the list of priorities and print can be perceived as less essential, particularly in the college and university environment.

As many managers pointed out, from observing the results of peer organizations that have been disbanded, outsourced or turned over to print management firms, the institution will not likely realize what has been lost until it is too late. To ensure that in-plant operations are delivering the right products and services through the right means and to the right constituents, our research revealed the following recommendations for success:

- **Maintaining the production infrastructure** should be a key priority for in-plant operations. Equipment and software have two distinct life cycles: An operational life and a market life. Continuing to use equipment or software beyond their market life simply because they still function at some level reduces the overall productivity of the shop and its value to the institution.
- **Pricing Models.** Most in-plant operations in

the college and university environment are either self-supporting or mostly self-supporting (75% according to *In-Plant Graphics Magazine*). In-plants should create a formal written business and marketing plan that is updated annually and clearly defines the operation's strategic intent. This plan should be well known within the institution. Pricing for services should be structured to be below the commercial market to provide cost advantages for the university, but should also include enough margin to fund necessary enhancements to ensure that the in-plant operation remains of significant value to the institution.

- **Competitive Assessment.** In-plants should do pricing surveys at least annually within the local and online commercial printing communities to ensure that their shops are providing the host college or university with competitive pricing and innovative services. Surveys should be published to let the campus know about the savings being provided.
- **Community Support.** In addition to supporting on-campus events, such as movie nights or other student/faculty events, in-plant operations should focus on “Town & Gown” relationships with a view toward triple bottom line sustainability. This includes the positive environmental, economic and social impact an in-plant operation can have on the local community, including providing jobs for its citizens.
- **Web-to-Print:** A modern college or university in-plant operation should invest in a web-to-print interface to make services more accessible to its constituencies. This in no way replaces the sales and marketing outreach and relationship building that must be ongoing; but it does make submitting print and ordering printed and non-printed items and services much easier for the campus community. There are a myriad of web-to-print solutions available in the marketplace, many of which are extremely affordable and easy to use.
- **Print Smart.** Campus in-plants should work with their clients to print only what is needed, and eliminate storage of long runs of print that may or may not ever actually be needed. Shorter, more customized runs of printed materials are generally more effective and up to date. Longer runs often result in long-term storage of materials that are ultimately disposed of without being used, and that is costly from both an economic and environmental perspective.
- **Personalization and Customization.** In-plant operators in the college and university environment should be looking for opportunities to help customers improve the quality and effectiveness of printed pieces by offering personalization (one-to-one communications) and customization (e.g., students interested in the engineering program would receive different materials than students interested in fine arts). Brainstorm with clients, present creative solutions to their business problems, and showcase the capabilities your shop offers. Alumni services, athletics and student recruitment are the best places to start this effort.
- **Aggressive Self-Promotion.** Aggressive self-promotion using the tools at in-plant managers disposal is a great way to educate clientele about the possibilities offered by today's technologies. One enterprising plant manager sent personalized mailers to a couple hundred campus decision makers with a small message about the value of personalization. “The first day the mailer went out,” he reports, “we got three calls from departments that wanted to take advantage of the opportunity. If you don't do this, someone else will.”
- **Partner With Outside Resources.** Establish relationships with local printers who can provide services the in-plant may not be able to deliver. Establish the in-plant as the single point of contact for printing, allowing the university to gain more control over the number and quality of outside vendors that are used. Partnerships may also be established with State Printers or other agencies in your area that provide printing services. Structure mutually beneficial relationships that encourage collaboration, rather than competition, and that

Recommendations for Success

- Maintaining the production infrastructure
- Pricing models
- Competitive Assessment
- Community Support
- Web-to-Print
- Print Smart
- Personalization and Customization
- Aggressive Self-Promotion
- Partner With Outside Resources
- Insource work to generate additional revenues
- Investigate Symbiotic Relationships with the Campus Bookstore
- Get on Board with Social Media

provide advantages to all parties.

- **Insource work to generate additional revenues.** While most college and university in-plants are prohibited from competing in the commercial space, many have found great success in insourcing work from non-profits and governmental agencies. As described earlier, in the case of a university in the Southeast, its manager counts about 60% of work generated by insourcing. In addition to helping him fund new acquisitions, it also offsets the cost of printing for the university, resulting in even more cost savings for the institution.
- **Investigate Symbiotic Relationships with the Campus Bookstore.** While many bookstores prefer to operate completely independently in a turnkey environment, others are struggling with how to meet the changing needs of faculty and students. By aligning the in-plant with the bookstore, there may be many areas in which they can work together for the benefit of the campus and both businesses.
- **Get On Board with Social Media.** Whether using Facebook or Twitter social media venues to communicate special promotions, or simply keeping the community informed about the

latest trends in the industry, in-plants should be investigating this low-cost way of better weaving their shop into the fabric of the university. In-plants should be going where their constituents are, and they are surely using social media regularly. Once the in-plant gains experience with its own social media presence, they should brainstorm with their team on how they can help departments leverage this growing communications channel.

About WhatTheyThink

WhatTheyThink is the printing and publishing industry's leading media organization; offering a wide range of publications delivering unbiased, real-time market intelligence, industry news, economic and trend analysis, peer-to-peer communication, and special reports on

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emerging technology and critical events.

WhatTheyThink also

hosts webinars and live events as well as providing content through a syndication program, which delivers content directly to related websites.

Through the WhatTheyThink Speakers Bureau, expert speakers are available for private company planning sessions and sales meetings, customer and dealer events, and association membership programs. WhatTheyThink also supports the speakers programs by assisting in the promotion of the events through its web sites and e-mail programs, if desired.



About Dr. Joe Webb

Dr. Joe Webb is the director of WhatTheyThink.com's Economic and Research Center, where managers, researchers and analysts

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Cary Sherburne is a well-known author, journalist and marketing consultant whose practice is focused on marketing communications

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