

Major Trends and Rethinking the Nature of the Print Business

by Dr. Joseph Webb

NOTE: This report was requested by Presstek, Inc. The comments and analyses presented in this report are those of the author. Presstek did not direct or control the findings contained in this document. The company did, however, identify core topics, in general, based on prior work by the author.

Key Points

- The current cost structure of the printing industry is a function of its capital equipment base. With many presses purchased in the late 1990s, there is a mismatch of installed base of equipment's optimal use and the nature of print demand.
- Price pressures on commercial print have been created by media competition and austere discretionary corporate budgets. Other cost pressures are internal to printing companies themselves; there is a structural incompatibility of the industries installed base that resulted in limited profits, desires to consolidate, and efforts to streamline operations. Profitable printers have realized that streamlining is not enough, and a grander re-thinking of the nature of the printing business is needed.
- Long-term cost restructuring can only occur through investment, especially in modern workflows that permeate all functions of modern print organizations and reach outside to their clients and freelance support personnel.
- Communications alternatives and new technologies have displaced many applications for offset or portions of them. This has altered the monetary and physical size and scope of jobs printers produce, the marketing and sales interface between print buyers and sellers, and ultimately, the range of investments printers make to survive and prosper.
- Potentially, Presstek has a unique opportunity and position in the reshaping of the printing industry's workflow and production methods. Technological and economic changes in the industry have led to a variety of market conditions that demand compressed workflows with more effective use of time and skills, more responsive job turnaround, and output configurations that more optimally fit the job characteristics of emerging print demand.

The Benefits of Print: A Fresh Look

The numerous changes in communications technologies and preferences have blurred the many reasons why print remains a viable and important medium in what often seems to be an over communicated marketplace. In light of the communications upheavals of the last decade, it is important to reiterate the benefits of print:

- Design creates emotional response
- Image consistency in production and intent
- Cuts through media “over communication”
- Control of distribution to an intended audience
- Authoritative, more permanent, when it has to be
- Supports personal interaction
- Deliverability is certain
- Has synergy with other media

Design creates emotional response

Printed materials are designed to elicit a response or to impart information in a believable way. If it is direct mail, its intent is to create the environment that leads to a transaction. There is an enhanced opportunity for interaction when the printed material is designed well and is mindful of its audience. The use of images, colors, and artistic expressions, can be found in other media, but have a permanence in print that reinforce messages, such as brand names, with great simplicity.

Image consistency in production and intent

In the multiple media world, communicators have less control over how their messages are viewed. While they can control how their messages are created, the wide range of viewing circumstances in the marketplace in non-print media cannot be controlled. Images may be as small as a cell phone screen or as large as a billboard; they can be on a network TV show or on a narrow-audience cable channel. Printed materials are only accepted when the content creator is satisfied that they are acceptable: other media do not have a similar gatekeeping mechanism.

Cuts through media “over communication”

Paradoxically, the fact that people are surrounded by media means that messages have to be more creatively developed and distributed than others to get through. Direct mail is rising in this market, as it takes advantage of the “mail moment,” when recipients look at their mail, with more predictably and more certainty than virtually any other medium.

Control of distribution to an intended audience

The availability of niche data bases of consumers with similar wants and needs means that marketers and communicators can target, time, and modify messages to smaller groups of people than ever before. The development of marketing campaigns for niches is a long-term trend that started with the concept of marketing segmentation.

The Benefits of Print: A Fresh Look *continued*

Authoritative, more permanent

The new media age rides on a trend of instant communications that are here in just seconds and forgotten a few seconds later. Print, however, is used in applications where the attention of the reader is captured, directed, and re-captured many times later. Print now has a sense of permanence in many applications. Even readers can sense that a communicator would not spend the effort, creativity, and money on print when there are cheaper new media alternatives, unless that message was considered to be important.

Supports personal interaction

Print is often a springboard for personal interaction. Whether it's a teacher using a textbook with students, or a sales representative discussing their wares with a prospect, printed materials remain essential to the personal transfer of information in numerous scenarios. Indeed, many printed materials are designed to spur action on the part of the reader to other transactions in other media.

Deliverability is certain

Some claim that “junk mail” has earned the name because it is so often ignored; but at least it was delivered. More than 99% of the mail is delivered, and when addresses are incorrect, the mail is often forwarded to a new address. E-media still have deliverability issues, with rates of nondelivery between 10% to 40% considered common due to numerous blocking or spam-fighting schemes that are often arbitrarily or poorly applied. Print is delivered personally, by mail, or shipped with products, and it reaches its destination more than any other medium.

Has synergy with other media

Today, consumers and business decision-makers are more mobile and use time-shifting strategies to cope. Printed materials can be transported or stored to be accessed at whatever time or place information consumer's desire. Because communicators now have the option of providing their content in new ways, print has an important place in alerting consumers about new methods to access that content. The most obvious one is adding web site addresses to ads and brochures. Among the reasons direct mail's growth, especially in card formats, that compelling offerings can be made to target audiences to stimulate their use of e-commerce, much like loss-leaders are promoted by brick-and-mortar stores. This is similar to the promotions that encouraged consumers to use toll-free numbers in late 1970s. Guiding today's consumers to e-commerce provides opportunities for richer experiences in terms of depth of product selection, on-screen personalization of offerings, video demonstrations, and other efforts to break down purchase reluctance. There are other benefits to marketers and communicators, notably the reduction of transaction and management costs. While search engine marketing is strategically important, what happens after the searcher is engaged will often involve print communications in some form.

The Benefits of Print: A Fresh Look *continued*

In conclusion, media are constantly changing and broadening. New communications “gadgets” are being developed all the time, all heading toward “wherever-when-ever” access to content. Whether or not print will withstand these changes, especially in light of the preferences of young consumers as they bring those expectations to the workplace, remains to be seen. As always, there are times for transition, and the creation of niche applications and audiences in which the print medium can profitably navigate for decades to come.

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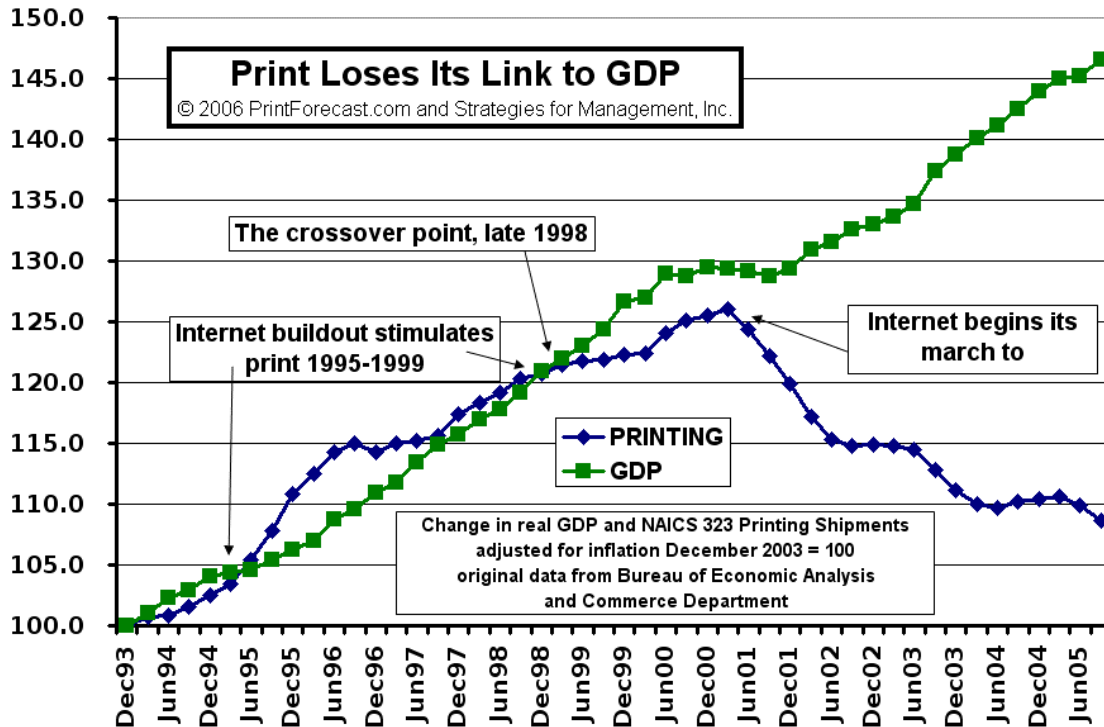
Major Print Industry Trends

Print is a dynamic and essential medium for the communication and documentation of ideas and information, and it will continue to be so. Now in competition with more communications alternatives than ever, print has an important role in comprehensive communications programs or as standalone communications. While many of print's competitors reside in new electronic media or broadcasting, there is growing interest in “offline media” such as events and other promotions.

The multitude of communication choices has turned much of traditional communications and media planning on its head. In the past, the content creator could unilaterally decide to choose which medium they would use, and build their entire production process around that. The recent groundswell of media choices has made such decisions more difficult, requiring a common denominator of flexibility in content planning. The consumer of information is in charge, and integrated communications campaigns are often demanded by the marketplace. This is not an explicit request of information consumers, but it is implicit in their behavior in light of the myriad gadgets, locations, and times at which they access media, in a world that has taken the time-shifting benefits of the 1970s VCR and applied them throughout their day. Cell phones and wireless technologies have also created “location-shifting,” resulting in a wherever-when-ever expectation of convenience of consumers, especially younger ones.

The rise of communications immersion has affected the size of the commercial printing business, altering its relationship to the general economy. Since the consumer-introduction to “information superhighway” in the mid-1990s, and the burst of the Internet “bubble,” print has lost its link to GDP. Increases in economic growth often spur more adoption and innovation in non-print communications technologies.

Major Print Industry Trends *continued*



The print business owner has many alternatives for survival. The path depends on the owner's interests, the skills of employees, business relationships, owner's experience, capital, the understanding of client requirements, and expectations about the future. Whatever the choices, economic realities persist: pricing is dictated not just by competition with other printers, but by competition for dollars with other media, the need to match production capability with market needs now and in the future, and the creation of the “right” costs that create sustainable profits in a changing market.

How the Installed Base Fell Out of Date

If the industry is divided into short-, medium-, and long-run length documents, however defined, there are some unique trends worth noting. Much of the industry decline in shipments volume has been in long-run printed documents. Magazines have not had a change in aggregate circulation for more than 15 years. Page counts are down and that has counterbalanced an increase in the number of magazine titles. Catalogers have become multichannel marketers, embracing e-commerce, changing frequencies and page counts of catalogs. They are using direct mail to find, inform, and satisfy their clients, sending them to web sites where they can become both a delighted customer and an unpaid order entry clerk. Though newspaper circulation is still quite large, it is nonetheless declining, affecting newspaper insert circulation. Despite encouraging reports that consumers still have an interest in coupons and that inserts still have a worthy role in reaching a higher income, higher educated households, there will be fewer households that can be dependably reached in this manner.

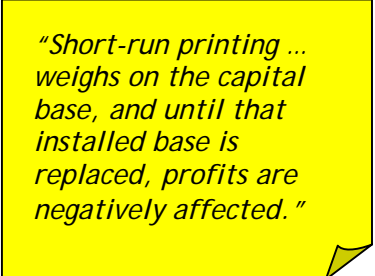
“Much of the industry decline in shipments volume has been in long-run printed documents.”

How the Installed Base Fell Out of Date *continued*

For convenience and low-run length materials, long the domain of quick and small printers, there continues to be a migration to viewing information in Internet browsers, printing on desktops, sending as e-mails, or viewing as PDFs. The latter is most interesting. At the end of February 2006, this researcher searched Google for domain addresses that ended as “.pdf” and found more than 300 million addresses. In mid-August, that same search found more than 600 million. Even though this might be a sign that Google executes better searches today than it did six months ago, or that there are web sites full of old out-of-date documents, one is still awed by the size of the increase in such a short time. Also, small printers are increasingly competing with office superstores, such as Staples, who have started an aggressive move into printing services.

What about the middle of the market? This part of the commercial industry is not immune from the continuing growth and preference for electronic media among many consumers and businesses. The first inclination to find information is no longer a purchasing manager searching through business cards or the *Thomas Register*, but to use Google or a wide variety of Internet-based resources. Anonymous surfing for product information is one of the biggest challenges for business marketers, and solving this problem offers many potential opportunities. Interest in direct marketing, such as direct mail, has increased, as has the building and use of databases that can be used to proactively communicate with prospects, customers, and other constituencies who fit the customer profiles that those businesses seek.

It's important to place the phrase “short-run” in some context “short-run” is always in reference to other work, and is more accurately “shorter than typical.” To a big magazine printer, 50,000 can be short-run. For this reason, “short-run” has always been misunderstood, though it has always been assumed to mean the same thing to everyone. The characterization of certain equipment as “short-run” has also been misunderstood. It can be better stated in this way: if “short-run” means that unit counts lower than expected when equipment was originally justified and purchased, a mismatch of equipment capability and current job characteristics is created. Using this reasoning, everything in the industry is now short-run. Short-run is actually mainstream. It has little to do with unit counts, but all to do with prior expectations not matching reality.



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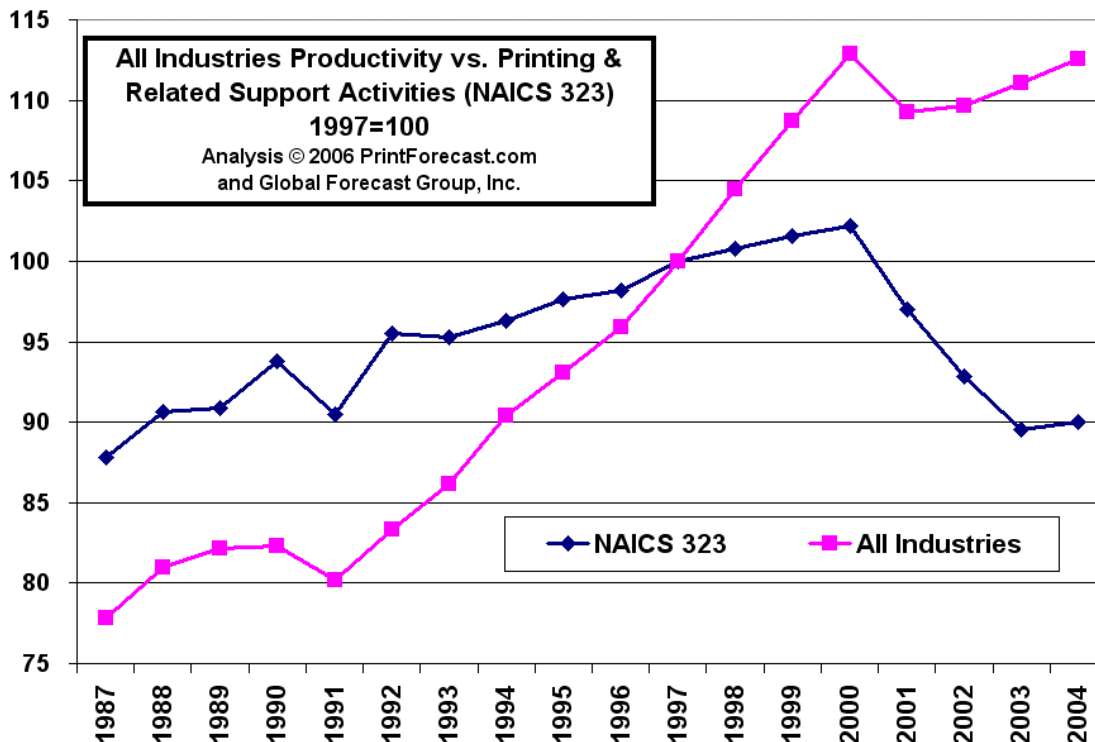
What happens is that the economies of scale work against an older piece of equipment. Fixed costs are described that way for a reason. The more units produced, the lesser the amount of fixed cost per unit. When equipment is purchased for the run length capabilities the printer and the printer's client base need, this is fine. When those jobs change in their characteristics, such as smaller or more targeted campaigns with fewer pages, the economies of scale work against that fixed cost, and each unit bears more of that cost. The only immediately malleable cost becomes labor, especially if waste and spoilage factors have been well-managed. Short-run printing (defined as above) weighs on the capital base, and until that installed base is replaced, profits are negatively affected.

How the Installed Base Fell Out of Date *continued*

This issue is now cast against an interesting backdrop. Because the world is now “connected,” there is the opportunity for content creation, printing, and distribution to be more geographically separate than ever before. Content publishers now have the options of creating content in the U.S., sending pre-publishing work to India, having print production in China, and physical distribution in the U.S. While many books have been printed in a similar manner for many years, it is only recently that almost all print products can entertain a global production option within acceptable time frames.

Print's Fixed Cost Structure Needs a Revolution

In any discussion of revitalizing the printing business, one cannot avoid the issue of competitive cost. Print's costs are different than electronic media. Paper is in the range of 25% of costs, and production labor is roughly equivalent. Postage costs can exceed the cost of print substantially (such as the mailing of a post card) or be equal or slightly less. At first glance, electronic media might appear cost-free by comparison because it has no paper, and no shop floor labor, and minor distribution costs, but it is obviously not free. Content creation has a cost from the capturing of the initial idea through its gestation to something ready for publishing. But that content creation cost is now shared across many media, which is the synergy integrated communications campaigns promise and why they appear so attractive.



Print's Fixed Cost Structure Needs a Revolution *continued*

In this period of tight controls on discretionary corporate spending, especially on communications, print providers have had to confront the issue of expected return. That is, no one communicates without the expectation of some kind of payback for the cost of that communication, either in perceived satisfaction or a well-defined ROI. Because printers print and are not responsible for content creation, it is easy to become bystanders in the process, but they can no longer be. In the past, only direct marketers had a detailed understanding of tangible ROI; the media evaluation methods used today had their genesis in the direct mail industry, and is being applied throughout all marketing communications. Sometimes these ROI measures are foolish, dubious, or inappropriate, but they are being used, nonetheless.

Modern digital printing systems, whether toner or digital offset, are best justified from a total cost perspective, from content creation through distribution. This leads to an important situation for print business owners. Increasingly, marketplace pressures on commercial printing prices are leading to the realization that the cost of the entire print enterprise has to be called into question, not just the cost of outputting a single sheet. That is, low unit costs are important, but the fixed costs of overhead, and the costs of employee intervention need to be rethought from the ground up. This means cost-cutting cannot be defensive; it has to be proactive and designed from the bottom up, not just trimming around the edges.

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The Need to Change Workflow and Costs in Mid-Size Shops

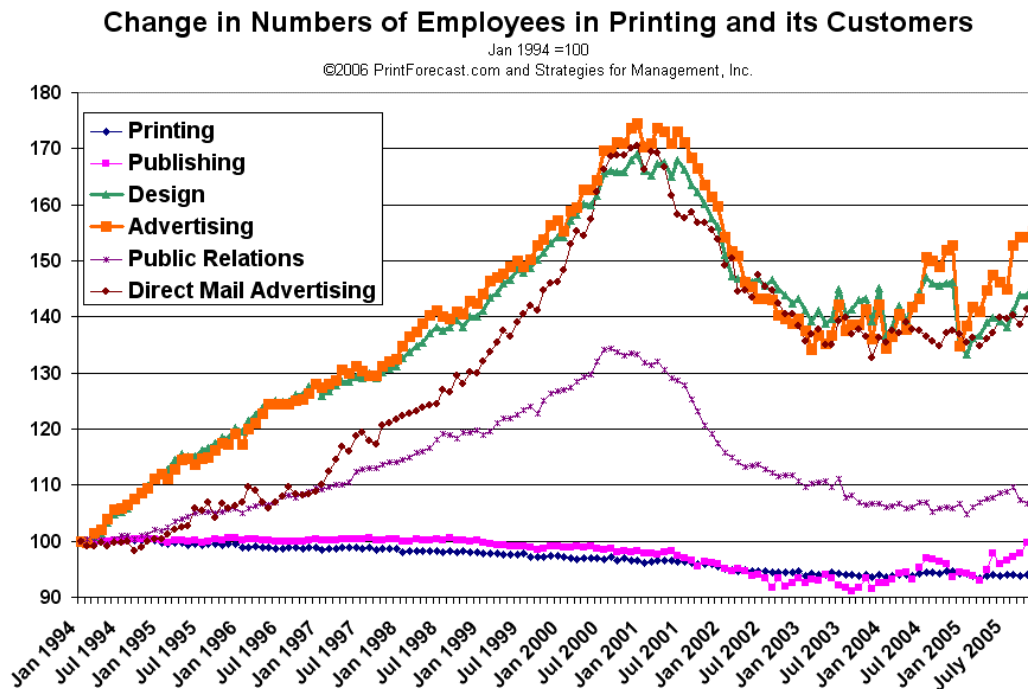
The need for productivity improvement is almost dire. The printing industry has lagged in productivity compared to others for many years. Unraveling the combination of existing equipment and out-of-date production processes certainly takes time. Starting a turnkey digital printing operation may actually have a better return and be easier to do than trying to fix an existing traditional business.

Changing the workflow to take full advantage of the great strides in the evolution of desktop publishing, digital imaging, and connectivity, is necessary. There is a plausible argument that the mid-size printer (between \$2.5 and \$10 million in annual revenues) may be particularly well positioned at this moment in industry history. On an individual company basis, this may not be true, as there are many businesses of this size that do not have the financial or market position characteristics needed to survive. It must also be noted that small businesses can grow to mid-size, and that large businesses can become mid-size; print companies are historically dynamic in this aspect. This is not a reference limited to sales levels, but to the number of employees that a business has. That is, a large printer (more than 100 employees) that has implemented modern high productivity production solutions can become "mid-size" (20 to 99 employees) because of those investments, yet still retain their sales level.

Major Trends and Rethinking the Nature of the Print Business

Here are the issues that lead to consideration of the special place that mid-size print business may have:

- “Long-run” documents on web offset presses are losing much of their broad market applicability. They are being replaced with niche and targeted materials that are different in scope and intent. When these are used, mass marketing is often designed to stimulate the search for niche products; much like a department store would advertise its general capabilities in one medium, and then focus on a specific department or sale in another.
- True “short-run” documents are printed on demand at desks in offices and homes; when they are not, it is far less likely today that a commercial printer is involved. More likely, an office superstore, a shipping store, or other location has entered the picture. This trend is enhanced by expectations about immediate availability of printed materials that have been conditioned by 25 years of desktop PCs.
- While print volume is decreasing, the ability of print businesses to expand their marketing geographies is increasing because of e-commerce and broadband; geographic expansion is needed just to secure enough volume to remain economically viable.
- As niche marketing, a multidecade trend, becomes more prevalent, the opportunities to serve small businesses through specialized offerings increases. The printing industry is letting the small business opportunity slip away to others.
- Craft production techniques are almost completely displaced. Print buyers are used to looking at a wide variety of printed materials, in color, produced by an equally wide variety of printing methods.
- The content creation business is growing because of new media channels. The chart below shows rates of employment changes for a range of industries.



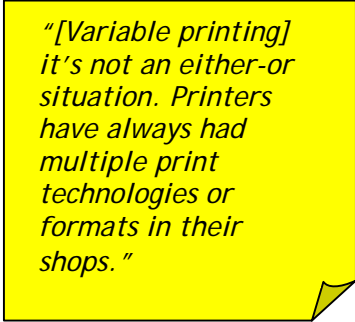
Major Trends and Rethinking the Nature of the Print Business

Digital Offset and Variable Printing

Variable printing has been around for years, starting with computer line printers that output invoices and statements in the 1960s. Through the years, laser printing, and finally digital color printing all improved the output quality from computer-based information to the point today where digital toner color is often indistinguishable from offset.

Yet there is still a problem with variable printing's acceptance in the marketplace. There is no doubt that superb quality jobs can be produced, but what will the volume be? While the marketplace will answer that question, variable printing has its own competition: traditional static printing and the on-the-fly personalization that can be done on the Internet. Our research continues to indicate that many printers avoid consideration of toner-based systems because they perceive them as only being appropriate for variable printing work.

It is not just the cost of variable printing that can be a concern, it is the comparison of that cost with the expected return. Very often, the same full job produced in static and variable will not produce enough additional returns needed to justify its increased costs. This, of course, depends greatly upon what is being promoted. For many campaigns, a slight increase in response can more than justify the cost. Because increased returns are not always reliable, marketers use many other techniques that have historical dependability, such as price discounts and special promotions. Many times, static pieces that use these traditional techniques, or when combined with a variably printed outer wrapper or insert, can do the intended job quite satisfactorily.



"[Variable printing] it's not an either-or situation. Printers have always had multiple print technologies or formats in their shops."

Finally, niche marketing does not always imply an application for variable printing. Since the 1960s, when Procter & Gamble taught the world about market segmentation, marketers have learned to group consumers of similar demographics, behavior, or psychographics together. That is, when subgroups are created from larger groups, even those subgroups are homogenous in their demographics, behavior, or psychographics. Why else group them? The desire to transmit a consistent message to a specific audience means that the standardization of that message in its content and context will play an overriding role in that message's design and distribution. This means that static printing is appropriate to the need.

The other issue is that personalization technology is on best display on the Internet and on products like Apple iPods. The use of data bases with a combination of historical and current site visit behavior makes web sites like amazon.com very effective. The fact that consumers choose their own entertainment, such as they do on an iPod, also shows the power of deep selection when the costs of storing content are virtually zero. Personalized printing still has to confront the costs of paper, labor and distribution, just as static printing does. The question is whether or not the returns of personalization add more profits or reduce total communications costs. It's actually early in the process of determining the value of these returns, but it seems clear that online personalization is far more powerful than it is in print in a majority of circumstances. The fact that many communicators do not have the databases or the skills to give variable printing a larger place in the market is a limiting factor in its adoption.

Major Trends and Rethinking the Nature of the Print Business

Digital Offset and Variable Printing *continued*

In the end, it's not an either-or situation. Printers have always had multiple print technologies or formats in their shops. From small printers with duplicators and copiers, all the way up to heatset plants that also have sheetfed presses, digital offset and toner-based digital printing will be common on shop floors, sharing a common workflow system. While adoption of differing technologies is rarely simultaneous, the nature of print demand and market competition will conspire to make it so. In the long run, it is unlikely that successful printing companies can survive by having only one print technology.

Where Does Presstek Fit?

Presstek as a company, and print as a medium, are at a fascinating crossroads of technology, market opportunities, and competition. The company's products allow printers to compress their workflow to eliminate costly steps, leveraging modern content creator's capabilities to make better, richer, and more predictable printable files.



"The company's products allow printers to compress their workflow to eliminate costly steps..."

Most of all, Presstek's concept, with others that can be integrated with it, allows for a restructuring of the print business to match the likely changes in the nature of print demand. Matching capability to print demand characteristics is difficult, especially at a time shifting media mixes. Because capital investments are long term, and print buyers preferences are often fickle in the grand and growing buffet of media choices, there is a need to focus on unshakable concepts:

- Digital workflows are essential to revolutionizing the print business. These are not just in production, but throughout the print organization.
- The physical nature of print documents lend themselves to smaller presses in smaller formats for the general commercial market. There will always be specialists who need large press capabilities, but the mainstream will not.
- Manufacturing costs in the print enterprise need to further shift labor cost to capital investment that are more flexible and ensure a better competitive profile with other media.

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