

The Big Picture

a monthly feature based on interviews with I. T. Strategies Consultants

**This month,
for our 10th anniversary issue,
time to turn the tables—**

Instead of SPECTRUM editor Ted Webster interviewing us, why not ask him a few questions for a change? After all, as a seasoned industry observer (see box), he could have some helpful big picture insights on what the past ten years have brought us, and what to expect in the decade to come. What follows is a virtual dialogue between Ted and I.T. Strategies' consultant Marco Boer. Note: Marco Boer's questions appear in *italics*.

To start, let's think about the word "spectrum." It can be defined as a broad range or sequence of related qualities, ideas or activities. Over the past ten years in our SPECTRUM we've certainly provided a broad range of interrelated topics including technology, companies, people and applications. So I'm wondering, are there particular articles that stand out in your mind?

Well, to prep for this, I can't say I took the time to scan all 120 issues. But of course I had to check out our first. Compared with now, the layout and content look a bit rough and cluttered, but there are some impressive nuggets in the lead article. For one, there's Mark's opening statement, predicting that HP will be leading the charge in a new surge of growth based on narrow format inkjet. It's easy to forget that just ten years ago narrow format inkjet was more or less segmented into two parts, relatively expensive color printers for technical and graphics users, and inexpensive monochrome for the office. HP's leap into low cost color-capable printers truly did revolutionize the low-end printer market by bringing the two color segments together, setting the scene for "a major new market surge."

In the same article Mark touched on digital photography: "Here is my prediction," he says. "When the correct price point is reached in digital cameras, this product will take off like crazy." It's hard to believe just a decade ago digital cameras were used mostly by professionals and priced at \$1,000 or more. Now that

Quotes of Note

Our most significant product in the past decade embodies the best of our earth-friendly manufacturing and design techniques.

—Xerox Business Group Operations President Ursula Burns in a recent release hyping the iGen3 as Xerox's showpiece "waste-free" product from the company's "waste-free" factories which has been a Xerox direction since 1999. Up to 97% of iGen3 components are said to be recyclable or remanufacturable.

In this year's study we found an increase in the use of electronic document delivery, although, unfortunately, without a corresponding decline in print and mailing cost.

—Unfortunately? Maybe not. Depends on the viewer. In this case it's James Watson, CEO of Doculabs, commenting on his recently published research paper for EDSE, the Electronic Document Systems Foundation. The study found rapid increase in color, especially for transactional documents, with the number of organizations using color in >10% of their documents nearly doubling each year.

Experience is a hard teacher because she gives the test first, the lesson afterward.

—Source unknown, suggesting caution in using trial & error as a business strategy.

In This Issue

10th Anniversary Special.....	1
WOW! Lulu leads in POD Books	6

SPECTRUM

this has come to pass we see the industry fall-out, a market for high quality digital color printers in the home and retail mini-labs, and Kodak and other film giants scrambling to remake themselves as major digital players.

Looking back, other examples of impressive prescience made for irresistible reading. I've always been especially interested in technologies, how things in the physical world work as opposed to abstractions, things you can't see such as electrons and software (even though I was trained as a programmer). So April, 1998 caught me: "The Siren Song of Alternative Technologies."

It was fun to see this overview of a half dozen or so alternatives to mainstream inkjet and EP. The consultants' general conclusion is a note of caution: "The hard reality, in one view, is that most of the technologies for office printing have either been commercialized or will never see daylight. To get through this reality is bound to be costly and a gamble in any case." In short, a "siren song." Looking again two years later (June, 2000) Marco notes there are around 20 alternative technologies under development, but in the near term sees none of these challenging the two majors, and this remains true today.

Sensory Overload?

Then there's April, 2001 where the focus is display. I like it because the issue of "sensory overload" is aired, echoing the conclusion in my book¹. Liz in the article questions the prediction that this will negatively impact on print volume: "Just because you fear sensory overload, that doesn't mean it's going to stop, that there won't be more and more display. In reality, it's driven by competition. Just like the direct mail market, you become immune to all these things but you still get more and more." Yes, still true five years later. Ten years out, I expect this will change.

But that's probably enough for this. It would be easy to fill up this whole session citing articles that stand out for me.

OK, so let's move on. In the last ten years, what was the most shocking...amusing...interesting...puzzling?

Hmmm, well, "interesting" is easy, since it's maybe insatiable curiosity that underlies whatever aptitude I may have as a researcher/writer. Almost everything is interesting. The trick is to know what to pick and when to stop.

The others are tougher. The role of printing in the wireless world was a timely topic in July, 2000, but even now the answer remains unclear. Maybe time for another review?

Business Bio: Ted Webster, SPECTRUM Editor



Over 15 years with PIA, Inc. (Printing Industry of America) researching and writing an information service about printers for the business forms industry in the days when computer printing was primarily impact line printers and Flexowriters hammering out data through carbon interleaved forms. Still earlier, systems analyst, computer programmer and on the computer operations staff of some Boston area companies including Raytheon and Sylvania.

After PIA founded Datek Information Services, Inc. to serve the digital printing industry directly. Datek published Printout and Imaging Supplies Monthly newsletters, research reports, and staged a variety of well-attended conferences..

In 1988 Datek became part of BIS Strategic Decisions and after several years pursuing other interests, Ted responded positively to recruitment by another company that he says attracted him "with its creativity, spirit, brains and mission." I.T. Strategies.

Seeing "chutzpa" in our February, 2000 lead article might qualify as evoking a bit of both surprise and amusement. The lead article rightfully awards two specialized vendors the grand prize for "chutzpa" in reaction to their release announcing that "Two industry titans have just inked a deal that will forever change the printing and publishing industries." The so-called "titans" were Prograph and Creo. Our Spectrum article does what good analysis should, sorts out substance from hype.

¹Print Unchained: Fifty Years of Digital Printing, A Saga of Invention and Enterprise, 1950-2000 and Beyond by Ted Webster. For more information, go to http://www.it-strategies.com/print_unchained/index.htm

Megatrends

Is there a constant theme you see over the past ten years? Some important industry trends that stand out?

Three trends come to me at the moment. Guess you might call them themes since articles covering them are scattered through the various editions:

- production and proprietary technologies ever less important, less central to business strategies;
- second, related to that, commoditization, and
- third, color, or at least color-capability almost everywhere.

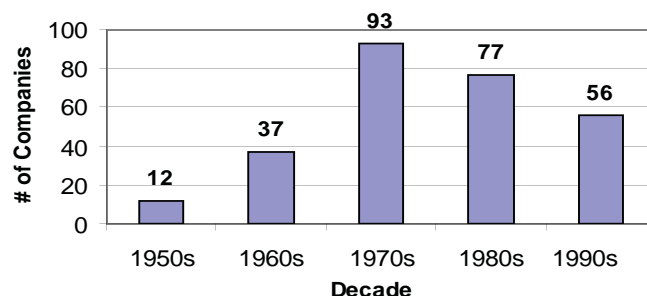
Since we have explored all three of these over the years, no need to elaborate here, I guess. Except to note that I wonder if we coined the term commoditization with our March 2003 lead article. At least I haven't seen the term elsewhere. Although I must admit, working mostly as a telecommuter up here on our rural Vermont ridge-top, I don't get around nearly as much as the globe-trotting analysts at I.T. Strategies.

Any thoughts you'd like to share about your experience putting together these articles? Has it gotten easier or tougher over the years to keep pace with industry trends?

In some ways easier, in some ways tougher. I'm grateful to the Internet. I find company sites a handy source of at least superficial information. Google is a research treasure that I hope won't be polluted with too many ads as the years go by.

On the "tougher" side, it's ever harder to make real-time contact with people or companies. I've hit a few web sites that don't even give a contact address or phone number, but rather just a page to fill in my name and email address for possible response who knows when. Telephone isn't much better. The director of a non-profit I worked for years ago said the most important person in our organization is the person who answers the telephone. That initial human contact is critical. Today human contact is getting ever more elusive. The customer (or the researcher) is no longer king. Vendors unload more and more onto customers with long telephone menus to listen to, and now we're even seeing some food markets getting customers to do check-out scanning and bag their own groceries. In the race for efficiency, human contact is disappearing. It's maybe one shadow of our approaching virtual business and perhaps recreational and social worlds as well. But looks like I'm getting into the future and I guess we're saving that for later.

Figure 1: Digital Printing Industry Player Count, 1950 to 2000



Some companies come and go or are merged in a given decade, so the actual company count at any one time is lower.

Right. For now, what do you see as the biggest fear that has never happened?

That's easy: a paperless world. I personally feel deluged with more printed paper than ever.

What do you think over the past ten years have been the most significant changes? Product introductions, technology improvements, brand consolidation?

The Flood

Sounds like they're your suggestions, and I agree. The ever accelerating pace of product introductions stands out as a major change, especially at the low end. HP's flood is almost impossible to keep up with and some just minor variations on the same basic platform. But I suppose from a marketing standpoint, it works.

Also, I forgot to mention earlier, as part of commoditization a huge response over the past decade has been ever increasing reliance on ink and other supplies. And more recently vendors have been wisely looking to broader "solutions" and services rather than the hardware alone. We had nice coverage of that in April and July, 2001.

Maybe here should be mentioned one other trend, the industry participant count, an indication of the maturity of an industry. Looking at just hardware OEMs as the players, a two-page chart in *Print Unchained*¹ says a lot. The count peaks out in the 1970s (see chart above). The 1990s figure is for the whole decade, with the number at the end significantly smaller due to a good bit of merger and acquisition activity. This has continued, but it has

been offset by a number of start-ups so I feel the company count is stabilizing. It's unlikely there will be a new wave of growth in the industry as we have known it. I agree with I.T. Strategies, that instead we'll be seeing the industry slowly redefining itself.

Fun, but Knowing When to Stop

For you, what kinds of articles have been the most fun to write?

I guess those where I get to interview outside people. I say "outside" people, since of course most of the content, at least for our lead articles, is distilling and working with what comes up interviewing the I.T. Strategies consultants every month. It goes without saying that this is somehow fun as well as interesting in most cases.

Because it is less routine, the outside people interviewed generally for our second article have provided an enjoyable change.

Also fun, being a technology buff, was our 2002 "Technology of the Month" series, researching topics like chemical toner and technologies that bridge analog and digital printing.

This year's WOW series stands out, too, since they most often have been based on one-on-one interviews. These articles to date have profiled a wide variety of innovators, from relatively obscure entrepreneurs such as work-from-home mom Michelle Marshall building her custom handbag business to cutting edge research by the giants such as Xerox in Canada developing materials that push the printed electronics frontier. Also fun was this month's POD Publishing WOW. As an old printing industry hand and small-time publisher, I felt able to connect especially well to that world. One thing to watch out for, though, is when a topic is really fun and interesting, and when the subject company is communicative. In this case I need to be careful not to make it too long. Too much fun can be a problem!

How about you personally? How do you relate to printers at home and business? Any complaints about your desktop printers? Do you print more or less than ten years ago?

I'm probably printing about the same volume as ten years ago. But as part of the hardcopy generation my print volume is no doubt more than the typical younger person who is likely to be more display oriented. One of my sons is a freelance technical writer. His printer died a while back and he hasn't bothered to replace it. Might this small sampling be a danger sign for our industry?

An Entrepreneurial Journey

Clipping excerpted from a mock Printout newsletter written by employees of Datek Information Services, Inc. in March, 1988:

23 Hurt as Color Market Explodes

(Newtonville, MA) A crowd of more than 100 industry pundits watched in horror yesterday as 23 forecasters were injured during an unexpected color market explosion at the annual convention of the Flat Earth Society. Noted seismologist and ex-newsletter publisher Ted Webster attributed the explosion to upper plate tectonics. "In spite of the confidence you may hear in our voices, we don't really know what's beneath the surface of such fragile forecasts," Webster noted . . .

The nature of the injuries was severe—particularly gruesome were injuries to those whose necks were on the line. Four received cuts requiring sutures as crystal balls shattered and sprayed the scene with shards of glass.

Most of the injured were waiting for busses and cabs near the entrance to the convention center. The number of casualties no doubt would have been much greater had not many fortunate forecasters just departed the area on a Paperless Office bandwagon.

Complaints? No big ones. Speed, print quality and media tolerance is all good. And of course, like I guess all users, I yearn for cheaper ink.

You have been around for a long time. So I'm wondering what you think about the pace of change. As the digital age matures, everything can move faster. I say things can move faster, but they don't always, right? Some do, some don't. To sort this out is tough, and that's what we're paid for, I guess. Care to comment on this?

Do We Really Want "Explosions?"

It's always been tough, even back in the 1980s when things moved slower and were simpler (although it maybe didn't seem that way at the time). As computerization accelerates its invasion into offices and systems throughout our whole economy, people began talking about the Paperless Office. And back then as rudimentary color printing appeared there was the vision of universal color capability, a color market "exploding." Well,

there was a different kind of explosion—it never happened in the 1980s, it took another ten years or more. Markets, in fact, seldom “explode.” And that term, come to think of it, can be ambiguous. Today it is most likely to mean hypergrowth. But it can also be taken as a collapse. In either case, it seems rare, with evolution more typical.

An exception today, though, might be portable music and various handheld wireless boxes for entertainment and communication. I’ve read that Apple’s iPod shows few signs of slowing down. It was introduced five years ago and 35 million were sold last year including 14 million in the Christmas quarter alone. That market surely has exploded, but the impact on printing technologies and markets has been minimal. At least so far.

This pace of change topic does remind me of a strange little sidebar in my book, however. It reflects a bit of humility and humor, two qualities helpful for forecasters. (See box, page 4).

Looking Ahead

So where do you think the industry might be in another ten years? What role might printing have in the future of communication?

Well, thinking about each layer of our industry, some images do come to mind. On the consumer and desktop printer side it seems like ten years out most printer manufacturing will be outsourced and that ever more sophisticated low-cost vendors in China and elsewhere will have begun to market their brands directly. Printers will be viewed by users maybe the way something like the telephone is today. Most of us today probably don’t even know what brand telephone they are using or where it came from. And the supplies annuity will be significantly eroded by third party competition. The vendor mix may look quite different. The higher, mid-range business level will probably be also experiencing all this, but to a lesser extent.

At the mid-range level, will inkjet and EP still be the predominant technologies? I continue to underestimate EP due to its inherent complexity. But back in the early 1980s I predicted there would never be an EP printer selling for less than \$1,000. And I was of course dead wrong. Looking ahead, however, I can’t help but believe that inkjet will be taking an ever larger share of the mid-range document printing market and still not be threatened by any of the alternative applications that we’ve occasionally written about.

Current vendors working the professional and wide format

levels will continue to be insulated from these trends thanks to ever more sophisticated technology and continuing marketing/support/training needs. Commercial printing will surely evolve toward digital printing. I know, the digital press segment has not met the expectations of the optimists so far. But I feel over the long run it will pick up and that by 2016 the digital/analog mix will have tilted strongly toward digital.

What about the industrial segments that we’ve profiled off and on over the past few years? I agree: these remain the big opportunities and will account for a share of industry growth that can actually be measured. Packaging of course has been measurable for years. In coming years printed electronics, RFID tags, medical dispensing and all the rest will begin to take off. Decorative printing, textiles, wallcoverings and all that are now for real and will take increasing share translating to growth, and more important, profitable growth. In these markets printing is one component of a larger system. This means marketing these applications will be quite different so the structure of this emerging sub-industry will also be different. In the industry as a whole merger and acquisition activity will be offset by new players coming into the market. And I expect these new industrial applications will account for a lot of the newcomers.

Back around 1980 we saw Okidata advertising 300 lpm EP printers for the amazingly low price of \$2,500. And that was the OEM price; the end users might be paying double that. And in today’s dollars, still more. The hunger for print, the value seen for print, looking back, is awesome.

Since then, volume lost to systems that by-pass digital print have been more than offset by how incredibly inexpensive it has become and by greatly expanded applications such as targeted direct mail and on-demand publishing. But I expect in ten years new forces will come into play that will offset these growth avenues. There’s the younger, display-oriented generation that statistically will have more impact. Overseas in developing economies lots of people rather than moving to digital print are by-passing it, moving directly to hand-held wireless. Paper will be getting more expensive thanks to resource depletion and higher energy and transportation costs. And then there’s that other potential trend I mentioned earlier: attention scarcity. Each of us has only so many waking hours to absorb and deal with informational inputs. The media tend to feed off one another and multiply. But this has limits, and as mentioned in *Print Unchained*¹, I still feel attention scarcity has the potential to negatively impact not just print communication, but also display and all other media.

A Selection of Favorite Headlines

What makes a good headline? The trick is coming up with words that can grab the reader, irresistible questions or maybe some humor and whimsy. As in the mainstream press, alliteration and rhyme can help. The headline can be the hardest part of the article, the challenge of packing the essence of the whole story into just a few words. Scanning back through old issues, here are some headlines that grabbed your editor:

HP is Poised to Pounce as the Narrow Format
Inkjet Market Regains Momentum
August, 1997

JAPAN:
The Barriers Are Real, but Mostly in the Mind
October 1977

Sound-bites pulled from the article as a sub-head:
"They have it but don't even know it."
"Depressing!"
"You can't take a dog and change it into a cat."
"That's what should be keeping industry leaders awake
at night"
June, 1998

Wide Format:
What's Hot, What's Not—
I.T. Strategies Releases Updated Forecast
February, 1998

What to Watch for in 2000—
Mark and Marco Map Micro- and Mega-trends
January, 2000 (A+ for alliteration?)

The Mystery of the Missing \$Millions:
A Drama in Three Parts
(A novel article format intended to lure readers
into a somewhat abstract presentation; did we invent
the term "commoditization" with this issue?)
March, 2003

So in ten years my prediction is that these negative trends will begin to be felt, depressing demand for all kinds of print, digital and analog. And already, in the pages of SPECTRUM and elsewhere, I've seen lots of valuable guideposts to developing a profitable way forward as our industry continues to reinvent itself. Enough said?

Well almost. Let's fantasize a bit. Imagine a thousand years from now someone discovering our current 10-year volume set of pristine condition Spectrum newsletters encapsulated in petrified maple syrup during an archeological dig of a mountaintop in Vermont. What will they think?

We can imagine the world in ten years. But a thousand!? No way! The way things are going, I'm not even sure our human race as we know it will be around in a thousand years. OK, If you want fantasy, mine is another generation of intelligent beings, who will translate the wonders contained in SPECTRUM. For us, perhaps a useful vision, additional motivation going forward to choose our words carefully and continue to grow SPECTRUM into an ever more efficient guide to a profitable future for our industry, however it may come to be defined.

Way Out. . . and Wonderful?

Our theme for this year's series of background articles we abbreviate "WOW!" Profiled will be a selection of applications and technology innovations—some established, some in process, and all, we hope, mind-stretching reminders that there remain vast worlds of yet to be realized potential for digital printing. Among them will be end user implementations, technology innovations and other developments that seem likely to spur demand for digital printing. Will they really be "Wonderful?" We leave that to you and to time to decide.

Lulu leads the pack in POD books, the hotspot in an otherwise sleepy market

Book publishing—yawn—a ho hum industry, old, with the mainstream U.S. market flat or according to some sources, falling. In May of this year it was reported that the latest annual book trade figures showed a decline in U.S. book production. Industry commentator Dan Poynter is quoted as the source of the following statistics (whether anecdotal or based on reliable surveys not known):

- 58% of the U.S. adult population never reads another book after high school;
- 80% of U.S. families did not buy or read a book last year;
- 70% of U.S. adults have not been in a bookstore in the last five years.

So, with data like this, why should we bother to look at book publishing as a WOW topic for digital printing? Because one segment appears to be taking off, namely print-on-demand (POD) book publishing. This specialty certainly warrants attention as a significant digital printing application, one that appears likely to fuel demand for advanced digital press configurations, in-line post-processing, software, and supplies. It qualifies as WOW, we believe, because the growth of POD books is a good example of the new world of e-business and the Internet, rather than replacing print, actually driving digital print volume.

As with any issue, much depends on definitions, in this case, how to define “book?” POD books are clearly books, but what about e-books? Curious, we asked Bowker, the organization that assigns ISBN numbers and tracks books in print how they handle e-books and POD books. It seems they do assign ISBN numbers for a lot of e-book titles, but clearly not all. So we wonder whether at this point anyone is keeping track or if it is even possible to track.

Looking at the performance of the players is a start. Some, like Lulu, our pin-up company for this article, report impressive growth. Lulu reports current revenues up three times over last year, around \$1M per month compared with just \$300,000 per month in 2005. With POD, book publishing certainly is not dead, although the mainstream picture has tended to put people to sleep. Even Lulu founder Bob Young claims to be surprised by Lulu’s success. He had expected most of their sales would be e-books, but e-books account for only around 10% of their sales today. “We didn’t realize that dead trees are as big an opportunity as they are,” he says.

Vendors

Depending on how this segment is defined, there are myriad vendors. One website has descriptions of close to a hundred companies. Actually, any print shop with a DocuTech and bindery equipment can produce short run or one-off books. This volume is untrackable. What bears watching, rather, are a small group of high tech, web-oriented vendors who form the core of this growing sub-industry (see box, page 9).

To overview the industry, first, some segmentation.

“Publishing,” narrowly defined, is not “printing” or book production. It is rather packaging and marketing books. The traditional publishing industry used to produce books, but now most farm out production. With POD and the Web, however, publishing and production have been reunited. According to a recent BBC news report, POD is “rewriting the rules of publishing.”

Vendors vary as to their customer base. Some target primarily authors with books they feel will be turned down by traditional publishers or who want a better royalty deal. Others target both writers and work with hardcopy book publishers for producing and marketing short-run digital books. Recently mainstream publishers have begun looking harder at POD. It’s been noted that the life-expectancy of books has been rapidly declining. For best-selling novels, for instance, life-expectancy has halved within the past decade. In addition, publishers find POD a handy way to test market titles, eliminate inventory overhead and implement keep-in-print programs. Most digital book printing today is said to be short-run rather than one-off production.

Changing Industry Dynamics

The appeal looks irresistible for more and more authors because it is a channel that apparently accepts all comers. Also, there’s the financial incentive. Lulu, for example takes a commission of 20% on each order and the author/publisher gets 80%. With traditional publishers, this split tends to be more or less the reverse.

Online marketing is central for most of the players, either directly or indirectly through a variety of retailers. Online bookstores have unlimited “shelf space” and the potential to reach millions of customers around the world and in rural areas where bookstores don’t exist.

Lulu’s Bob Young says “The blockbuster novel has gone the way of the mayfly,” reflecting the way the publishing industry is “unravelling.” We are in an era of book overproduction, he asserts, thanks to media fragmentation and now disruptive new technologies like the Internet and POD. At the same time there has been an explosion of new titles. The number of books published in the U.S. almost doubled between 1993 and 2004, from around 104,000 to a bit over 190,000. The future, Young says, belongs to the niche-busters.

Why Lulu?

For this month’s WOW application we picked Lulu as

the showcase player for a couple of reasons. Lulu has been described as pioneering the business and its growth rate is impressive. Their playing field is worldwide and they have announced printing partners in Spain and elsewhere in Europe. Unlike some of the others with ties to a major wholesaler or bookseller, Lulu is independent. For us and apparently for others, there's the appeal of a catchy company name. A "lulu" is defined as an American 1930s slang term for a "remarkable person, object, or idea."

And finally, there's Bob Young, an entrepreneur who is both colorful and has a spectacular success story under his belt. He has been described as having had a nose for making money all his life. First it was running a typewriter-rental business, then moving up to PCs. Then he co-founded Red Hat, the Linux open source software company, an alternative to Microsoft, now a billion dollar operation. A millionaire after selling out his share, he moved on to found Lulu.

Creativity Explosion

Young has described his new company as "a cross between eBay and Amazon, the eBay of digital content." Mainstream publishers reject hundreds, maybe thousands of book manuscripts for each one they accept. It's been said almost everyone seems to have a book simmering away inside, so today's author-friendly POD publishing could be destined to unleash an explosion of creativity powered by digital printing.

One thing that prompted him to launch Lulu is said to be his "miserable" experience as an author. He wrote and found a publisher for his book on the history of Red Hat. But just 15,000 copies were sold before the publisher went out of business. It was a niche book that got lost in the mainstream publishing world. To remind him of this career-changing trigger, one observer reported his office chair and desk are built from unsold copies of his book.

Lulu products include hardcopy books, ebooks, custom calendars, music and images. The system involves very little human intervention by the publisher. The publisher may give authors software and other tools to format their books, free or at nominal cost, and then they get out of the way.

When an author is satisfied with his/her book, it is added to the huge Lulu electronic inventory from which, via the Lulu website and various marketing partners, there's vast marketing outreach. As book orders come in, they are automatically forwarded to (in the case of Lulu) to selected production partners,

printed, and shipped directly from there to the buyer. Authors have accounts with Lulu that are credited as sales are made and the royalties distributed to them periodically.

More than most other players, Lulu's marketing program includes efforts to build a customer/authorship community. To this end there is a monthly newsletter, a blog track for comments and chatter among Lulu authors, a diverse assortment of partners including Meetup, Inc., radio podcasts, workshops and "Team Lulu" user networking.

POD Book Production

Mentions of production technology by the POD vendors include Xerox DocuTech and DocuColor, IBM InfoPrint 4100, Xerox iGen3 and HP Indigo. Standard configurations simply churn out cut sheets, with manual post processing required for trimming, collating the cover, and binding. Versions of both the DocuTech and IBM InfoPrint are said to print at several hundred ppm, collate, trim and bind a book in around five minutes.

According to Lulu's Young its vendors have customized digital presses that minimize or eliminate manual post-processing. In his words, "page paper and cover paper go in at different slots and the machine does the sizing, cutting and gluing, and out pops a book at the other end."

Lulu production is outsourced to several production partners. The only one named is ColorCentric of Rochester, NY. ColorCentric confirms it has Xerox packaged systems that take the order from printing through binding without human intervention. For black and white books, it's the DocuTech 6180 and for color, iGen3 integrated by Xerox with the 2005 Bourg DBF (Digital Book Factory).

Xerox has offered other systems tailored for POD books for a number of years. Back in 2002 at BookExpo America it introduced the Xerox DocuColor Book Solution consisting of the DocuColor 2060 Digital Color Press mated with book finishing, software and professional services. According to Xerox VP Elaine Wilde at the time its customers were generating over \$150M per year with Xerox book solutions, producing in the preceding year more than 20 million books.

Barnes & Noble, the major U.S. book retailing chain has announced that it will be using "IBM POD technology" to produce books on site in its retail stores and through its website. Customers will order books via the Internet or from wireless handhelds. The company expects to expand its POD library by over 50,000 titles over the next five years.

Lulu's long term goal is to facilitate distributed printing as part of its initiative to bring "the opportunities of independent publishing to every living creator on the planet." Outside the US it now has four print partners in Europe, one of whom is Publidisa in Spain. Others are not disclosed.

Production Wish List

New generations of equipment and systems will no doubt help accelerate the growth of this sub-industry. Wondering if a company like Lulu might have specific suggestions, we talked with Andrew Pate, VP Business Development.

Current production technology certainly seems to be doing the job for Lulu, but Pate did offer some thoughts on developments that would expand its market. His first wish was for more ability to put color into books selectively. Lulu can do it now, but it's expensive. A book with just a few color pages needs to go on the color press for in-line production. Hand collating doesn't fit Lulu's economics.

Secondly, he'd like larger format color for book jackets. The current limitation of the equipment used by its partners is a problem. Lulu does offer hardcover books with jackets, but jacket size is limited.

What about materials? "We're pretty good on materials," he says. "We're seeing considerably better and more varied materials. But especially for larger books, thinner papers would be especially helpful."

His feeling is that as things stand digital printing needs to keep things consistent in terms of size, etc. "In the new markets, authors have individual needs, so that's a problem."

He sees there is still the need in color to close the loop to tie in the computer screen to the production machine, the equivalent of litho swatch books. There have been wonderful improvements with RIPs and all that on the front end, he says, but the back end still needs development.

Prospects

POD does have skeptics. David Taylor, on the website Writing-World.com, paints a negative picture. In his view, production constraints are a barrier in terms of print quality compared with offset and format limitations. Some vendors offer only 6x9-inch paperbacks. He goes on to say the main problem isn't production, though, but business, that's there's no "new millenium" in publishing, the business still works like the old one. With POD "the author still winds up with a trickle of sales that don't come close to breaking even," he writes. "Why? Why

Representative POD Publishers

Lulu.com, seen by many as pioneering this business; see box and article

Lightning Source: Specialize in "keep in print" programs for publishers, affiliated with the giant book wholesaler Ingram Books. Claims 1,800 publisher clients and to be maintaining 200,000 orderable titles. Home base LaVergne, TN; recently reported opening a production facility in the UK. Their digital production equipment said to be IBM InfoPrint 4100 and HP Indigo.

BookSurge.com (recently acquired by Amazon): Headquartered in Charleston, SC with its own state-of-the-art book manufacturing facility and serving both individual authors and as a fulfillment partner for leading publishing companies. Market titles through existing channels plus "e-tailers."

Wheatmark: a Lulu-type business claiming a "unique process" to convert manuscripts to published books via "other high capacity printing companies." Founded in 1999 by Sam G. Henrie, based in Tucson, AZ. Emphasizes sales power resulting in typical POD runs of 1000 or more books compared with sales of an unidentified "major" POD publisher that sells on average 111 to 130 copies, including sales to the author.

iUniverse: Claims to be the most popular POD publisher, also significant in that it is owned by the major book retail chain Barnes & Noble. Unlike most of the others, they, not authors, set retail pricing.

Xlibris: Based in Philadelphia, PA and partly owned by the major publisher Random House, giving it significant clout. Unlike most players, the Xlibris royalty cut is more like that of traditional publishers, just 10% to authors compared with up to 80% by some of the others.

Xulon Press: Based in Longwood, FL and owned by Salem Communications, a Christian bookseller with a major sales channel being the Christian Booksellers Association.

Blurb: Founded in 1996 by Eileen Gittens, CEO and based in San Francisco, CA. Unlike most others, Blurb charges no up-front fees and offers free software to help authors design their own books. Reports raising \$2 million in venture capital.

Aventine Press: Distribution through book wholesalers gives it marketing clout. Founded in 2002, based in San Diego, CA. (Reprinted with permission from "Print Unchained, A Saga of Invention and Enterprise," © 2000, DRA of Vermont,)

Lulu Snapshot

Lulu.com
 860 Aviation Parkway, Suite 300
 Morrisville, NC 27560
 919-459-5858
 www.lulu.com

Established in 2002
 Bob Young founder and CEO
 Currently around 70 employees

Claims to be the Web's premier independent publishing marketplace for digital do-it-yourselfers, a place to publish, sell, and buy all things digital including books, music, comics, photographs, movies. Lulu describes itself as a technology company, not a publisher. But it publishes lots of books:

Sells over 167,000 books per month
 Inventory over 45,000 titles
 Revenue growth ~19% month to month
 Sales have zoomed from around \$1M per year in 2004 to \$1M per month currently.
 Profitable since fall, 2005

Lulu's Bob Young wearing a hat of books. The company founder has been described as having a nose for making money all his life, which bodes well for Lulu and no doubt others jumping onto the POD book bandwagon. [photo courtesy of Lulu.com]



hasn't the potential and promise of print-on-demand technology been realized?" He goes on to mention POD's poorer quality, higher cost per unit, and the reality that publishing is a fiercely competitive business "that's highly prejudiced against self-publishers."

Bowker, as mentioned above, is the organization that assigns the ISBN numbers that appear on every book released by recognized publishers. John Krafty, who tracks the industry at Bowker confirms the organization does keep track of the num-

ber of published titles but not how many of each get printed. In terms of number of titles, its e-book tab isn't impressive. He says the count in 2004 was 17,000 and in 2005 down to 12,147. (Lulu, with 7,654 ISBNs looks like the major e-book publisher as per the Bowker statistics on BooksInPrint.com.) Krafty sees a lot of action in e-journals and feels the larger publishing world isn't quite ready for e-books.

Be that as it may, it's hard to argue with the results being reported by many of today's self-publishing players. Lulu claims 45,000 titles, so it looks like most of its e-books do not have assigned ISBNs. And also, again, most of its volume is POD rather than e-books. Cheerleaders for POD and other web-based publishing describe the market as exploding—i.e. growing fast with the potential for spectacular growth for all involved, including, we presume, for digital presses customized for economical one-step book production. Again, this seems to contradict the conventional wisdom that in this electronic age hardcopy media and books will fade away.

It is primarily conventional, mass-produced books that are reportedly being read less and less, and to have ever shorter marketing lives. With books that can be targeted specifically to the needs and interests of the reader, the picture may turn out to be quite different. So at this point, regarding future opportunities, we can offer only our traditional closing: does POD book publishing really warrant a WOW? We'll be watching and keep you posted.

I.T. Strategies, Inc.

A leading market consulting and research firm serving the digital printing industry, specializing in

- Worldwide Market Research
- Worldwide Market Consulting
- Business Strategy Formulation
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