

A Strategy for Streamlining Publishing Processes

BY JOHN YOUNG

Better technology isn't always the answer; from time to time it's important to reexamine the overall process of production. Many formal methods exist for analyzing and improving workflows. Here's a look at one that has proved its worth.

After centuries with little change, in the last few decades the business of publishing has been transformed. But have publishers driven the transformation? Not really. In fact, it could fairly be said that publishers have had change thrust upon them by developments in their markets, by their customers and by their suppliers.

On the customer side, we have new markets: home-shopping catalogs, direct mail, magazines covering the private lives of the famous, the pop industry, TV listings, business-to-business and the personal computer. The Internet. Making money out of these opportunities has demanded that publishers get to grips with all sorts of new problems. Interestingly, though, many of the new forms of publishing seem to share the problems of the old, established industry.

On the supply side, all sorts of technologies have come along to provide technical solutions to publishers' problems: web-offset and wide-gravure presses; digital typesetting, repro and data transmission; improvements in paper quality; database technologies to hold business assets and customer information. The Internet again.

It is fair to say that the pace of change in publishing has been, and continues to be, so huge that the people controlling the various parts of the process are struggling to keep up. A natural response is to develop bits and pieces of the process piecemeal as new technologies and business requirements crop up.

But publishing as an industry has been reluctant to switch from the reactive to the proactive in its approach to how it organizes its resources and does its business. It has yet fully to take advantage of integrated technologies and ways of organizing resources and processes to eliminate waste. Other industries have grasped this nettle; now we must.

A case in point. *PrintWeek*, a British print trade magazine (www.printweek.com), in late September ran an article covering the future of outsourced repro in the magazine business. It included quotes from the production directors of three leading British magazine publishers, two of whom expressed reluctance to contemplate

bringing repro in-house. There seemed to be a common view that outsourcing repro provided an opportunity to force suppliers to soak up the consequences of editorial delay, and that the cost-saving and control benefits of in-house work did not look too great anyway. That outsourcing a major part of their manufacturing process might have other consequences—loss of quality and control, extension of lead times, unnecessary hand-offs and costly process duplications—did not apparently warrant consideration. Yet these factors have huge implications for their businesses, constraining editorial freedoms and increasing cost, when looked at from a whole-process perspective.

The production directors' attitude, although great from the repro-trade viewpoint, signifies a failure to see a critical business process "in the round." It demonstrates both a lack of understanding of what is available technically and a lack of process-focused thinking. Maybe they were tailoring their remarks to suit the readership of a trade paper; let us hope so, because if not, there is a real opportunity out there now for a publisher with the knowledge and the mindset to take their markets.

Seybold readers are not likely to resist innovative ways of looking at their business. So let's take a conventional consumer-magazine publishing process as an example, and let's think about what can be done to cut really *big* slugs of time, cost, resources and error out of it. Although this will be a made-up example, it shares some important features with many real publishing processes.

What do you mean by 'waste'?

To begin, it's worth thinking about what the magazine is for in the first place. Obviously, it is to deliver value to the reader. What value does our magazine deliver? Well, it probably delivers a number of things: lifestyle-reinforcement articles, news and gossip, a crossword puzzle, a "your problems solved" feature and (we hope) relevant advertising. Separate streams of value combine in our title to become a compelling and worthwhile purchase.

Do many magazine publishers find out directly from their customers which value streams are most

preferred, and from which others they obtain less value? Or do the managers see their personal value to the business in somehow knowing these things. If they are wrong, the magazine contains irrelevancies for the customer, and the publisher is at least partially a busy fool. But let us assume we have spoken to our customers and know what they put value on. Armed with that knowledge, we can analyze all the separate business processes that create that value in our magazine.

The predicament. How do we go about producing these streams of value at present? Well, we probably have advertising, editorial and production departments. A publisher sets direction, decides on numbers of editorial and advertising pages, and worries about finances. An editor decides about editorial content and commissions the creation of stories. Journalists, contributors and photographers are booked, briefed and given deadlines. They create raw assets. Subs and designers generate the editorial pages, probably in Quark using low-res scans of the images. Concurrently, advertising space is sold, and more assets come in. These arrive as a mixture of finished film, PDF files, text in assorted forms, transparencies and layouts, both as Quark files and on the backs of envelopes.

There is a schedule with absolute deadlines. These are sometimes ignored by Editorial and Advertising until someone important in Production rings up someone important in those departments and gets angry. Then it all comes together; the Production staffers frantically dash about, dispatching motorcycle couriers, e-mails and files down broadband wires and fibers to repro houses, paper suppliers and printers.

In come the proofs, and the Editorial folk make a fuss, so Production makes lots of changes. More dashing about. Eventually a press somewhere gets going. Standing near the end of it is a tired Production person who is supposed to approve the job. But he does this for so many titles that he is only looking for gross howlers, although he may fiddle with the color a bit to demonstrate his relevance.

Hurray, it's done. Weeks later, bills come in from the suppliers with extra charges for all sorts of unlikely things which we cannot remember happening. We are too busy to challenge them and we do not have any decent records anyway, so we pay up and hope we are not being ripped off.

To whose benefit? Unfortunately, the customer sees none of this. What the customer sees are pieces of paper, bound together in a convenient size, and carrying images and text of surpassing interest. The value to the customer is not enhanced by the turmoil involved in their creation. And turmoil is very expensive for the publisher. It involves loads of activity that adds no value as far as the customer is concerned. In fact, it subtracts value. It tends to deprive the Publisher and the Editor of the full control of the content they are

paid to exercise. Sometimes the final product is a bit of an accident, events having deprived these creative managers of an ability to exercise their proper roles. If we can eliminate the turmoil, we can save money and deliver a better product.

This is a big deal.

A method for major change

So let us step back, climb into a metaphorical helicopter, and survey the process from an altitude that lets us see the process steps but not the details of the content. Let us watch a page and record the stages it goes through in detail. For each stage, we will use a separate piece of paper, recording on it how long our page takes to go through each stage, how long it is actively being worked on during its time in that stage, how many other pages are hanging around at this point and, finally, the proportion of times that the page has to be reworked. How do we get this information? We zip down and ask the experts doing each task.

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De-helicoptering, let us now mount all these pieces of paper on a wall in sequence, joining them with lines to show how they are linked. Let us add up the total duration of the longest path and the total active work time along that path. Let us add up the total duration along all paths and the total active duration. Let us add up the total number of pages in work-in-progress. And finally, let us calculate the total distance a spread physically moves in the process, and the total distance moved by people in producing the spread.

What do we inevitably find? The overall duration is massively higher than the total active work time. Some activities have a ridiculously low yield. There are lots of activities that appear to duplicate others, or that do not add value. Documents are produced whose sole purpose is to help tell the person responsible for the next activity about the page. Pages skip around all over the place, in and out of the Publisher, to suppliers and back. We are juggling a huge number of pages at many different stages of production, so that it is not really possible to report what the production status is. We set schedules based on custom and practice without any real knowledge of activity durations. There are no measures that tell us anything useful about productivity, error rates, quality, resource utilization, task durations and length of queues of work. So we have no targets for these measures either.

We are appalled. Have we really been in charge of such a shamefully inefficient process without even realizing it? Yes, sir.

Not invented here. Described here is the first step in a business-improvement tool originally developed by Toyota to improve the way they made cars. Now called Lean Excellence, it is a way to improve almost any repetitive business process by eliminating waste. Waste, in this context, is anything in the process that does not add value *from a customer perspective*. Lean Excellence principles can also be used effectively to reduce the duration of new-product development.

We cannot tell you all about it in these few pages, of course. We can, however, suggest a relevant Web site, www.simpler.com, and sources for further reading.¹

After the initial survey (called “value stream mapping”), we can immediately see ways to improve the process fundamentally. Yet we must resist the temptation to tinker. Instead, we draw up another process map that represents a theoretical ideal process—one that only adds value as seen from a customer perspective. It ignores all perceived technical constraints. For

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example, many current workflows perform the same “scan, resize, rotate, position, crop” routine in page makeup and in repro. But for this exercise, we must assume that technology exists to allow it to happen only once. (In fact, it does exist; but we would assume it even if we did not know that.)

There are also two new principles we will adopt in creating this new process: one-piece flow and customer pull.

One-piece flow. Rather than a page traveling between functions and joining a queue at each stage, we will redesign the process so that we do not start the production of any one page until all the proposed content is in a perfect condition of preparedness. Then we will organize our resources into physically co-located teams so that each page flows directly through the team to completion, from picture selection to layout, positioning of images and logos, text insertion, subbing to fit and final edit, repro, proofreading, final approval, last correction and into the output spooler.

All the team members may not be present all the time, and some members may be shared between different teams. But each team will have a physical location for every member. Each team will have frequently updated signage showing productivity, production status, dwell times, number of problem pages encoun-

tered, etc. If problem pages are encountered that cause a break in the flow, they will go into a clearly visible escalation process. Managers passing by can then instantly see the condition of production in the team and can act to resolve serious situations. Permanent records that can be analyzed for trends are also created.

Pull rather than push. This principle says that the process will minimize its work-in-progress if the requirements of the customer pull the work through the process, rather than demanding a complex calculation of what has to be pushed into the beginning of the process in order for it to pop up with what is needed at the end, some time later. In my experience, this is more difficult to apply in publishing processes than industrial production processes. Nevertheless, it is worthy of serious consideration in process design. For example, a team that is producing pages for several publications should have some form of visual representation of the relative priorities of the pages, so that team members can see for themselves what work to tackle next.

Get real. So we create the simplest, clearest process we can imagine; all waste is gone. If we have done it right, it is impossibly unrealistic. That’s OK, because in the next step we will retreat from this model and create the nearest approximation that is realistic. We must then define the major categories of change needed to get from today’s reality to the new goal. Some are things we can just do. Some are things requiring a bit of one-off project work. But many require detailed process knowledge that we do not possess.

As managers, we do not like to admit that we do not in fact know as much about what actually goes on as we like to pretend. The real experts are the people working the process every day, and they are the people who are most likely to be able to do the transformation job. They are also the people who have to buy into it to make it happen. So they will have to be asked to do much of the work.

How will we do this? First, we will have to decide that, whatever happens, we will not even think about reducing staff numbers. If the staff gets a whiff of this thought, they quite reasonably will not cooperate. Second, we will need to appoint a coordinator, whose task is to understand the methodology we are adopting and organize the events we are going to undertake to change our processes.

Third, we will decide on the optimum size of the multi-functional work teams. Between six and 12 might be about right. Looking back at our new process map, we can now break it up into logical groupings of activities that fit together. Maybe we can do the A–Z of the process with one team. Maybe we need two or three teams working on major sub-processes and designing the hand-offs among them. These hand-offs, we now know, must be the subject of intense attention

¹ Lean Thinking, by Womack and Jones; Simon & Schuster, 1996.

if we are to avoid all the disruptions to smooth flow of work that we suffer at present.

Having decided on the skills each team will need, we nominate individuals whom we know are likely to be change champions and leaders of opinion in our business, as well as expert in their respective activities. We may choose to include one or two skeptics who are also opinion-formers; while we may hope to convert them, we mainly hope they will keep the rest of the team intellectually honest. The teams are playing for real stakes. They will do more than analyze; during implementation, they will become the model groups that run the new process.

Meanwhile, we revisit our “initial state” process map and recalculate the statistics that cover the activities to be analyzed in each team. We then consider what improvement targets we want to set for these measures.

Curtain time. With all this done, we can set a date for our first “Rapid Improvement Event.” This will last a full week, during which we will gather the new teams together, explain what is to be done, give them the statistics and targets, and facilitate their putting together their new process. Not only do they invent it, but they are physically running it by the end of the week, and can continue to do so thereafter. What they achieve can be further refined in subsequent Events, and rolled out to the rest of the business when appropriate.

As you may suspect, the coordinator will need to be highly skilled and experienced in the methodology. The coordinator must also have the ability and authority to facilitate resolution of the many huge issues that will inevitably emerge as the teams go through the week. Top management can prepare for this event by ensuring that space is available, that resources can be reorganized as required and, of course, that the business overall is fully briefed about what is going on. Most important, top management must make its absolute commitment and enthusiasm very apparent to everyone.

The desired outcome

Perhaps this is enough to outline the Lean Excellence method. Although it was invented for other industries, it can be used to address many of the failings in our example magazine business—or in a real publishing business. It overcomes internal political barriers to change, generates huge boosts to morale, focuses attention on any deficiencies in the functionality of our technology, generates understanding across current functional “silos,” and opens opportunities for multi-skilling staff in our multi-functional teams to our and their benefit. It cuts lead times, rework and confusion. It generates practical performance measures, so that we can match resources to volume of work.

Possibilities. What sort of change can we expect to see in our processes? The principle of one-piece flow indi-

cates that the process of taking all the raw assets for a page and converting them into finished files for the printer should be done in one step by one team, a page or spread at a time. Here are some more possibilities:

- Never mind outsourced repro; the repro technician should be in the production team, not in a separate repro department, no matter whether in the business or outside it.
- Rather than using expensive high-productivity scanners in a central location, there are cheap, high-quality, lower-productivity scanners that each team can run.

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- We should not need many low-res proofers to check work in progress, because the pages whip through so fast that we will have very little work in progress. A calibrated high-res proofer can probably be shared by several teams.
- The software should allow the scans to be positioned on the page in the layout program at the same time as they are being retouched by the repro expert. InDesign and PhotoShop, for example, allow this kind of once-only handling.

Who else is in the team? In our consumer-magazine example, we probably need subs, designers, page make-up specialists, proofreaders and repro technicians. And how do we get repro into the team if we do not already have the skills in-house? We *could* bring in a rep from our repro supplier, but turkeys do not vote for Christmas (Thanksgiving, in the U.S.). We need to hire.

The consumer-pull principle may mean that if we have different print-driven deadlines for different press sections in several publications, we can perhaps physically denote their pages by a color-code system on a production board displayed in the office. While it is red-page day in Production, it may be green-page day in Advertising; but when Production has completed its red pages, it changes the code to green, causing Advertising to close green-page selling.

Efficiencies. The raw assets each production team receives will ideally be subject to little change. So the processes that generate those assets must include their own quality checks and management approvals. We get a new principle: He who creates an asset is respon-

sible for its quality, timeliness and approval status. The responsibility does not fall to the long-suffering production staff. This way, we can close the edition editorially maybe only a day or two before the printer's deadline.

Further downstream in the process, we can establish calibration of our color space with our printers so that we supply contract proofs made from the same PostScript or CT-LW files he receives. No need for a proof back from him, no need to go to the printer for press-side approvals; what you supply is what he should print. No waste from a customer perspective.

What really happens. All of the above is hypothesis. When the staffers come together for the Rapid Improvement Event and accept the task of reworking their process, they will come up with the details that they are comfortable with. Trust that it will be better. Handing over process design teaches managers a little humility, which is no bad thing. And operationally, it requires the senior editorial team to plan effectively, to recognize its proper place in the process and not to indulge itself in unplanned refining of content.

Does it work?

What evidence is there that this technique works? The application of the approach to the production of mail-order brochures within the author's business resulted in the following improvements. Elapsed times represent the duration from inception to distribution.

For a mail-order business, elapsed-time reduction represents an opportunity to select its merchandise much later, allowing it to better reflect market changes in its stock position. Yet these improvements are just

	Before	After
Average number of spreads in progress	290	176
Total steps in process	210	74
Number of value-added steps	35	27
Touch time	46hr 46min	26hr 0min
Average distance traveled by people, per spread	17,244m	2,455m
Distance traveled by the average spread	6,395m	3,315m
Total elapsed time per spread	89d 15hr 48min	38d 8hr 12min

the result of a first pass of the Lean Excellence technique. It seems likely that many more can be brought in when further Rapid Improvement Events are held. The technique is now being adopted widely in other functions within the business, many of which have never used a process approach before, with even greater impacts.

Conclusion

Any business that has not taken a good look at its working practices could do well to adopt this sort of approach. You may suspect that we have glossed over the hard work that is required, and rightly so. The process is not easy, and it is best done with the help of an experienced facilitator —perhaps from a consultancy that has wide experience of the technique. But the payoff is quite real, and it is within reach. **TSR**

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