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Process at the heartbeat of printing – Print21 magazine

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By Patrick Howard

Making print into a viable manufacturing process requires more than hardworking presses. It also needs sophisticated production systems designed with strict but flexible parameters to make the important decisions, removing the influence of any single individual. Then it needs management with the discipline to make sure the system works all the time. Meet Anthony Thirlby who is re-writing the book on the future of printing.

There is far too much emotion in printing. Most commercial printers run on gut feeling, a dread mixture of anxiety and hope. Uncertain of their true costs and quoting blindly against the market, they are forever second-guessing themselves and the competition. Many live in a permanent fog of aspiration that detracts from the productivity and profitability of the business. Not so Anthony Thirlby, managing director of ESP Colour in the southern English town of Swindon. The mild-mannered Northern Irishman has built a groundbreaking rules-based production process that is not only transparent and up to the minute, but makes all the quoting decisions based on real time situational feedback.

In doing so he has created something of a Mecca for printers worldwide, including the upper echelon of Australian and New Zealand printers, who have made the journey to his West Country plant. They come to learn how to run a printing business in a market that is more and more owned by print management firms and web-to-print, where margins are under constant pressure and where automation is no longer simply an option.

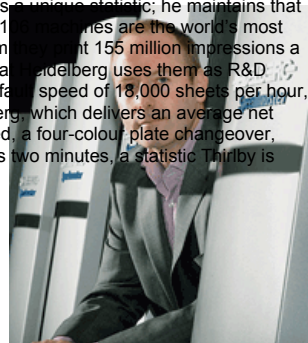
They come because Thirlby claims a unique statistic; he maintains that his two Heidelberg XL105 and XL110 presses are the world's most productive presses. Between them they print 155 million impressions a year; their performance is such that Heidelberg uses them as R&D platforms. The presses have a default speed of 18,000 sheets per hour, the rated top speed from Heidelberg, which delivers an average net speed of 17,763. Highly automated, a four-colour plate changeover, from last sheet to first sheet, takes two minutes, a statistic Thirlby is

attempting to lower. "Although I'm not sure if the physics are possible," he says.

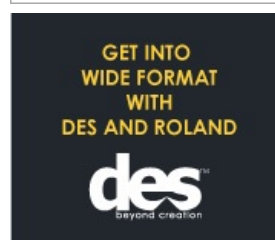
The printers from around the world also come because Thirlby is happy to share his experiences with them, aware that it is not what you know, but what you do with what you know that matters. And there is no doubt that the disciplined former pro-footballer runs one of the most formidable benchmark printing operations anywhere in the world.

His operating statistics are impressive. Although it is not a huge business, the company's £14 million pro rata turnover is generated through printing 19,000+ jobs per year at an average run length of 3,900 from 24,000 orders. To achieve this, two prepress operators oversee all the orders processed, using one Kodak platesetter with the capacity of 60 plates per hour that produces 135,000 plates per year.

As with most printing companies, post-press production drives the business. That's where there are capacity issues. Every hour of press time generates a ratio of no more than four hours of finishing. Cutting folding,



"I operate on negative margins, because the software looks at that job in isolation but at any one time I have 50 A5 jobs going through the system." Anthony Thirlby.



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saddle stitching and perfect binding are all CIP4 linked and part of the process.

"Fold, stitch, trim is our core product," explains Thirlby. "When I get very busy on that product I adjust my rates and go into the perfect binding product range. I've always got prepress and press capacity available. I don't always have post press capacity. That's the bottleneck."

And you know he is continuously working on addressing the problem.

Automation is the heartbeat

There is no doubt that ESP Colour is a very efficiently run printing company but what sets it apart is Thirlby's focus on the reality of the market. He addresses the challenges of quoting for work with real time-information from a rules-based automated workflow built on Tharstern's Primo MIS software linked with Kodak Prinergy. This he describes as the "heartbeat" of the system.

"We've never been emotional about print. Ninety-eight per cent of what we print goes on one size and that satisfies 96 per cent of all the print in the UK. The other four per cent you can't pay me enough to do," he says.

Automation kicks in at the very start of the process when the system generates a quote based on the pre-ordained rules, with the values continually adjusted. This takes out any emotion in the process. Thirlby quotes 140 jobs a month and wins on average 41 per cent of them. The time for a job to convert from quote to press is 5.2 days and it is rare that any one job will be quoted with a positive margin.

"I operate on negative margins, because the software looks at that job in isolation but at any one time I have 50 A5 jobs going through the system. I charge 16 minutes make-ready that we do in sub-two now. Bindery is charged at 45 minutes to an hour for set up but it takes us five minutes. We don't differentiate between customers, we just do product.

"We're measuring our sales throughput in real time. We're selling on added value. The top line value is irrelevant; it's sales minus purchases and what's left is the bit for us."

ESP Colour's break even is £380,000 in added value, which will show as a negative in the system even though the business will be already ahead of break even by some considerable distance. The UK print market is arguably ahead of Australia and New Zealand in having made the adjustment to the new market realities of printing. There is astringency to buying, selling and terms of credit that is more pronounced than here. The print management market in the UK is very mature and more pervasive. As a result it is unavoidable. Almost half of ESP Colour's work comes from print management.

"The highest level of available credit insurance in the UK is within the print management sector and they always have suitable products available. We have an average of 61 days creditor days across the business, which is good for the UK. The industry average in the UK is 77 days. Print management provides the majority of what we do for eight months of the year. In March print management is approximately 40 per cent of our turnover. We use that market to recover overhead and we use other markets to generate margin.

"Working days in the month have a huge impact on my pricing. Our overhead structure is based on 20 working days. So when March is 21 and April is 21, I'll discount my prices by 8 per cent. We work on pure volume," he says.

Process runs itself

The decision to automate the workflow, starting with the quoting system, has shaped the business in different ways. It placed efficiency and process at the centre of the organisation. Thirlby has developed a unique workplace culture to deal with it. For instance, there is no production manager nor sales manager.

"We have no middle management in the business. No production manager, no bindery manager. The only hand-off manager in the business is the customer service manager and she personally looks after £2 million plus of accounts.

"The process runs the business. We have guys that are responsible for every shift but we don't have guys with bums on seats. We have always employed the best people we can get. We pay them 20 per cent above average wages, with healthcare, gym membership and insurance. They get to work on the best presses, using the best substrates they can run. Basically, we never want to give people a reason not to do their job correctly.

"I've never worked on a machine. However, I understand the machine inside out, I specify the machines and work with the machine manufacturers but I've always been a firm believer that technology takes care of itself. Of course, you have to have fantastic people to apply the process. The average age in this business is 36. By utilising and developing technology I can prolong their careers."

Schedule is the method



ESP Colour's pressroom with the Heidelberg XL105 and XL106 machines, claimed as the world's most productive presses. Between them they print 155 million impressions per year.

The industry can't afford to lose talent such as Joan Grace
[.http://ft.co/DuGDpXtwbC](http://ft.co/DuGDpXtwbC)

Colin Longbottom heads towards the exit Good man Colin, hope your saddlebags are well loaded for the sunset ride.<http://ft.co/d5oamorf2X>

Getting everything in the system to work in sync is a complex and sophisticated process. A lot of it passes off as common sense but it involves deep knowledge of what it takes to get the machinery to be able to operate at maximum efficiency. For instance, the work of the presses is made easier by a steady incremental increase in paper weights throughout the day.

"The way we schedule is quite unique. We never schedule by delivery date; we schedule by paper weight and folding scheme. We're incrementally going up and down the paper weights, which makes the press work less. Changing sheet size for us is 22 minutes of downtime. You cannot achieve the impression counts we do without feeding the things correctly.

"I never worry about the amount of work we need to process in a short period of time. It's a given. I'm always available and I always have capacity. Our average section of a job is on press for less than 14 minutes.

"We only print spot colours one shift a week, so every spot colour quote that goes out is for five working days lead time. Four-colour work schedule is three days, specials are five days."

Paper selection is also hugely critical when working at this level of productivity. Not all substrates will run at 18,000 per hour consistently. Every new press that goes in, and the most recent was last year, is product tested with different papers for eight weeks. Any substrate or sheet size that does not run without problems at 18,000 is discarded.

"All we ever quote for is our core product range – 70gsm to 400gsm offset; 90gsm to 400gsm coated. With that I cover nearly everything that is available for commercial printing – conventional marketing literature, direct mail inserts, catalogues. There's nothing on my shop floor you don't see on any other printer's."

With clients logging into the Tharstern system on a secure web page that enables them to track the progress of the job, there are no hard colour proofs. When a job enters the workflow, a content proof is produced purely for internal purposes. According to Thirlby, there was an initial reluctance from the clients but he won them over.

"We know and understand colour through technology, better than most. Clients formed the biggest obstacle at the beginning in getting away from hi-res proofs. But I came up with a commercial proposition to stop them wanting it. When you look at the life cycle of a printed job, traditionally over 55 per cent of the time is spent on proofing. We now do less than 1 per cent of hard copy proofing."

The arrival of web-to-print has only reinforced the supremacy of automation. The ESP online system, like the rest of the MIS, is a development built on Tharstern's Primo. Online orders are ganged up using EFI Metrix. They then follow the same rules-based processes as the conventional workflow, completely lights out and hands off.

Passionate about process

While Thirlby has taken the emotion out of the day-to-day operation of his commercial printing business, he is passionate about the process and the future of the industry. He is in great demand as a speaker and presenter and works closely with Tharstern, Kodak and Heidelberg to continually improve the system. He employs four full-time programmers to continually refine the automation. But he is very aware of his limitations.

"A lot of our competitors pretend they can do everything. They go to the client and say, 'We can do all your work, and we're fantastic'. We don't say that. I've never met a print company worldwide that can do everything well. We understand how to get to a sellable sheet better than most. We understand colour better than most. It is important that you position yourself in the market and understand the product range you do efficiently. Only then can you get product stability in the system."

There is a brave new world of printing since the advent of print managers and web-to-print ordering. Anyone who imagines they can stand apart from the forces shaping the market is likely delusional. Certainly they're unlikely to succeed against pragmatic realists such as Anthony Thirlby. In his pursuit of efficiency he may have taken the emotion out of the printing process but he has retained a true competitive passion for winning.

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