White Paper

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How Much Time, Money, and Opportunity are You Wasting?

InfoTrends
A Questex Company

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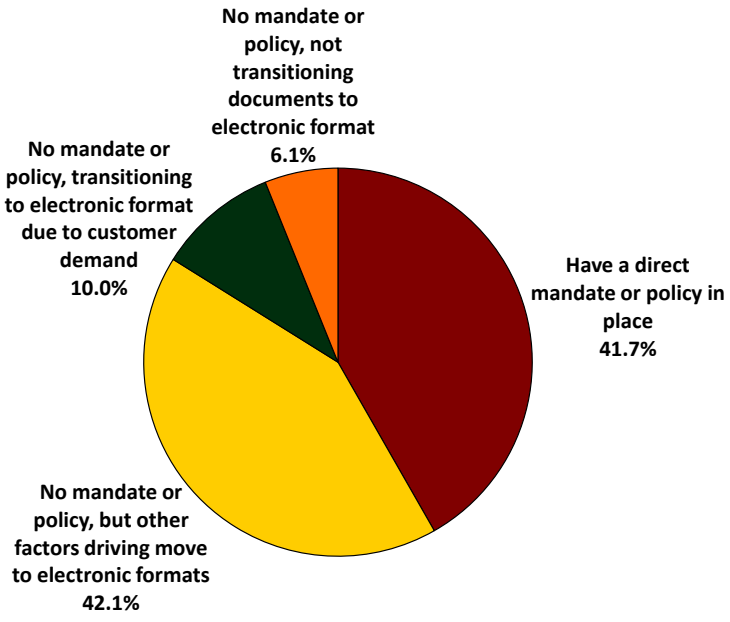
Introduction

Traditionally in the printing industry, the motivation to reduce waste and increase productivity tends to swing back and forth like a pendulum. During times of high demand and growth, the interest declines. During slow periods and economic hardships, the interest increases. During the recession and the slow painful recovery following it, there was an ongoing emphasis on increasing productivity to retain competitive prices in an attempt to retain profit margins.

This waxing and waning emphasis is changing, however, as print buying companies focus on creating sustainability policies and programs designed to reduce paper usage. Everyday companies are requesting that staff use less paper, which impacts the printing industry in several ways. This directly impacts in-plant printers who are experiencing a decline in print volume and, therefore, have to diversify their products and services. Indirectly, this impacts commercial printers who have to demonstrate sustainability efforts to remain on the list of approved vendors.

In InfoTrends' 2012 *Understanding Vertical Markets: Enterprise Communications Requirements* report, only 6% of respondents reported that there was no mandate, policy or driving factors to motivating a transition to electronic formats.

Figure 1: Company Mandates for Electronic Formats



N = 1,026

The Cost of Waste

Considering all the motivation to increase productivity and reduce waste, it is somewhat surprising to find companies are suffering from waste problems. As we write this, we are completing a consulting assignment for a company creating and delivering almost 300,000 signs per week. We are estimating 20% waste of $3 million in production or $600,000 in waste. It always surprises companies to learn about the inefficiencies in their process and how much it costs. What proves to be the greatest shock, however, is the concept that eliminating waste goes right to the bottom line. If you are a commercial printer, another way to think about this is how much would you have to sell to increase your bottom line by the money lost in waste?

Admittedly, the thought of evaluating production processes and trying to increase efficiencies is not as fun and exciting as thinking about buying new technology, creating new products and services, or hiring additional sales staff. Nevertheless, it is also significantly less expensive. How much will it cost for you to buy new equipment, bring new services to market, or sell to bring in an additional $600,000?

If you are not sure how much it is costing your sales, customer service, prepress, pressroom, finishing, and shipping areas each year, interview your staff. Ask them how much time they think they waste based on the time it takes to find old estimates, previously submitted files, or old art work each day. Then talk to them about time lost due to mistakes, thrown away materials, redundant tasks, and lost time when work is sitting in piles.

8 hours a day are wasted

In Japanese, there is the concept of "muda." Muda is a term from quality improvement programs (such as those associated with Toyota) and include waste, idleness, mistakes, and a whole host of other unproductive time killers. The good news is that these costs can be cut considerably by improving these areas of concern. On average, we find most companies are losing eight hours a day to muda.

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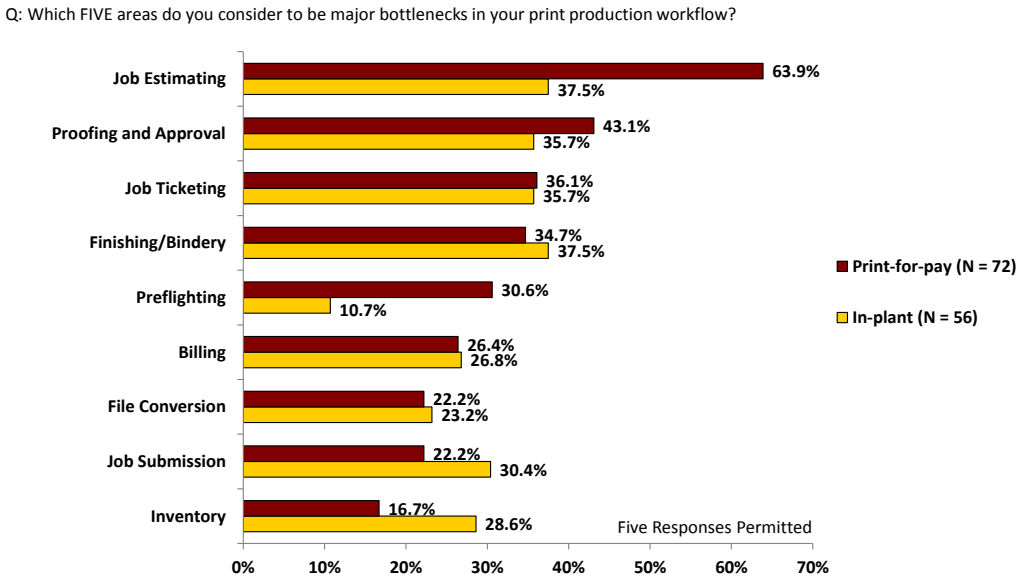
As seen in the following chart, commercial printers (print-for-pay) and in-plant printers admit to losing time due to bottlenecks in every aspect of their business.

Figure 2: Where Are Your Worst Bottlenecks?



N = 128 respondents
Source: *Trends in Workflow Automation Emerging Trends Research*, InfoTrends, 2014

Benefits of an Optimized Workflow

12%-25% more work

The difference between an optimized workflow and an inefficient one is somewhere between 12% and 25% greater production in efficient plant layouts. This is measured in several different ways. We see increases from an improved workflow in various aspects, such as:

- 3-4 more offset jobs per shift/press
- 10%-20% more digital sheets printed per shift/machine
- 5%-10% more posters per shift/machine
- 4-8 hours of less overtime per staff/week

An optimized workflow results in increased productivity as well as a decrease in wasted materials and time. Typically, the difference between an optimized workflow and an inefficient workflow is due to three things:

- increased productivity/time (products/hour)
- reduced material waste (rework)
- getting work out of piles (reducing work in process)

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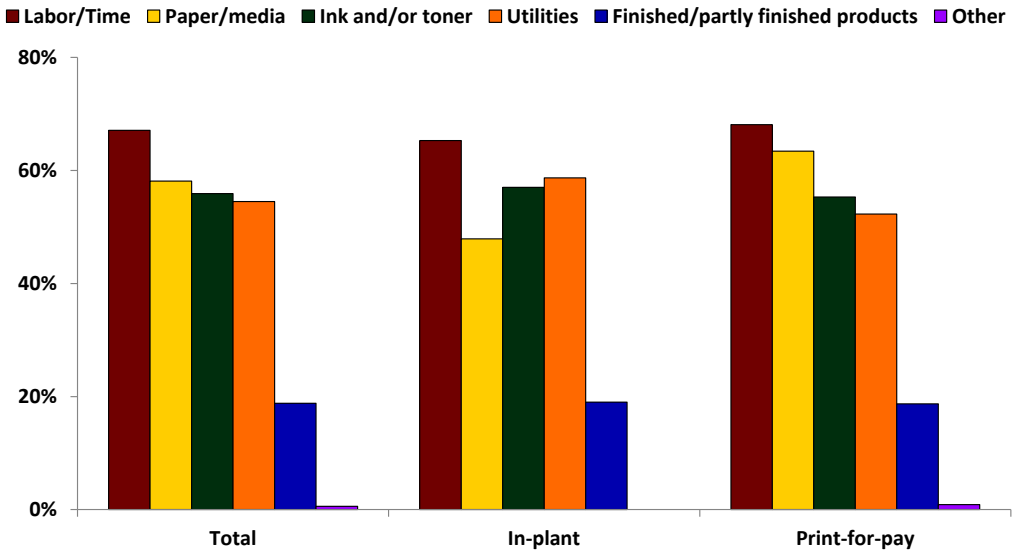
Start with Measurement

Companies often do not even know how much poster material, offset plates, or paper is being damaged or wasted every day (mostly because it is not measured). In InfoTrends' 2014 *Production Print Services in North America: Understanding Industry Transformation* report, respondents were asked "Which waste elements do you track?" As seen in the Figure below, the vast majority of responses were similar when we compared the commercial printers to the in-plant printers. The largest difference was in the tracking of waste paper and other media. About 63% of commercial printers said they tracked paper and media waste compared to 47% of the in-plant printers.

Figure 3: Which Waste Elements Do You Track?



N = 652 240 412
Base: All respondents

Without going into agonizing detail about the differences between waste and spoilage, as well as the different percentage of waste associated with different printing and finishing processes, let's just say that waste includes any paper or media that is thrown away. The important question is how paper waste hurts productivity and profitability.

In the simplest of terms, throwing away a print run because of a mistake is costly because of the associated time and materials. Paper is one of the most expensive components of the printing process. The percentage of cost due to paper waste varies based on the run length, the printing process, and the kind of paper used; however, a typical rule of thumb for on-demand digital printing is about 10% of cost.

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Worst Offenders

This becomes a problem when paper waste is doubled by those we refer to as the worst offenders. There are three ways to define these people:

- They can be customers or staff that do not understand how to prepare files for output
- Customers who do not prepare files well
- Staff members that do not understand how to preflight and repair customer files

In all three cases, the worst offenders create more mistakes and paper waste. The impact of the worst offenders is that paper waste is two or more times higher than the industry-standard. A study conducted by Lexmark ("Retail Topped European League of Paper Wasters"; Lexmark International, May 2006) found that an average of 17% of everything printed was considered waste or pages the user did not want.

One project we worked with was a $2 million company (an on-demand printer with six high-speed, cut-sheet digital presses). They were struggling with on-time delivery, suffered from customer complaints of price, and they were losing money. It did not take long to uncover that they threw too much paper away. We estimated they created 25% waste, which made them one of the worst offenders. After reducing waste, there was no more need for additional equipment and they could deliver on time.

If you think the Lexmark measure of 17% is high, the measure quoted in the opening of 20% is excessive, or the 25% waste of a digital printer is exaggerated, then there is also the article "Trying to Measure the Unmeasurable: Substrate Management" in *Print Week*, which describes a magazine printer with 25% waste.

3 Solutions

In our production benchmarking audits when we discover paper waste issues , we often outline three strategies:

- Measure waste by barcoding and/or weighing the substrates as they enter and exit inventory
- Compare actual versus estimated waste to refine the estimating process
- Use barcodes to monitor inventory levels as well as automate re-ordering and tracking substrate usage per job, press, and operator

InfoTrends' Opinion

It does not matter if you work in an office with multifunction printers/copiers, a print-for-pay commercial print shop, or an in-plant printer—the benefits are the same. Reducing waste lowers costs and supports most companies' mission of becoming a "green-citizen." Additionally, "green" initiatives are becoming important with print buyers, can reduce the cost and prices for in-plants, and increase profit margins and on-time delivery for commercial printers.

The good news is that simply identifying the problem is more than half the battle of reducing it. The on-demand printer we worked with created a monitoring process, enforced quality procedures, and posted charts around the shop that reduced the waste by 50% in a few months. For the company creating signs, we are estimating that the reduction of waste will result in almost $725,000/year.

Next Steps

If you are not sure if reducing waste would help you, ask your staff these questions:

- Have you ever compared your production times to industry standards?
- Do you have concerns about the amount of paper or materials thrown away?
- Have you ever thought that you need to reduce the number of mistakes?
- How much did it cost to rerun your last job? How much time did it take? How much more work was required simply to make up for that mistake?
- Does one bad job wipe out all the hard work for that month?
- Do you ever get customer complaints about quality?
- How much would it cost the company if it lost a client due to a quality issue?

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Howie Fenton is the Associate Director of InfoTrends' Operations Consulting. Mr. Fenton works with commercial printers, governments, universities, and corporate enterprises. For 25 years, he has focused on benchmarking operational and financial performance and recommending strategies to increase productivity and reduce manufacturing costs.

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