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Production Inkjet: The Economics and Cost of Acquisition

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This is the second in a series of reports by Mr. Simonson based on actual application research and consultancy conducted by Gimbel & Associates. Additional articles reporting results of this research will be available in the future.

Production Inkjet: The Economics and Cost of Acquisition

More Choices, More Complexity

Inkjet technology continues to be the hottest topic in production full color digital printing. As Drupa 2012 unfolds, inkjet is about to get another energy boost, with new technologies, new product offerings, and new manufacturers entering the marketplace. With more choices and capabilities, the inkjet technology acquisition process has become more complex. How does one begin? How and where does inkjet really fit? Are the economics as attractive as the inkjet manufacturers would have us believe? The answer is a qualified "maybe," depending on criteria that need to be methodically evaluated and assessed.

Inkjet is not a universal panacea. There are applications and circumstances where inkjet technology will excel, and applications and circumstances where inkjet will not meet current application requirements. However, inkjet technology is on a course of continuous innovation and improvement. Said another way, "what inkjet technology cannot accomplish today may very well be achievable tomorrow."

Applications and Volume Matter

Let's first look at the economics of full color inkjet. There is no doubt that there is a significant economic opportunity to produce ***qualified applications*** on production inkjet devices at a unit cost substantially less than on traditional digital production color devices. But what does this really mean? What is a qualified application? We define a qualified inkjet application as one that meets quality, substrate, and finishing requirements for the end customer.

Another requirement for economic viability is substantial volume over time that matches up with the Total Cost of Ownership (TCO) model that generated the acquisition justification. Sounds simple, but unless you have commitments, contracts in hand, or control over available volume for the length of your equipment obligation, there can be significant exposure no matter how attractive today's unit cost for a particular application or job.

Looking at the numbers, an entry level production system, all up all in, will be in the two million dollar range and will include the following components: printer/controller, pre- and post-processing hardware, software/workflow software, delivery, training, set up charges and start-up/install kits. As speed and web width increase, so will price, with larger systems pricing out in the three to four million dollar (or higher) range. Costs can escalate quickly, since specific applications can require options like MICR, increased drying capacity, paper moisturizers, UV coaters, and more RIP horsepower for the controller.

The Impact of Operating Costs

So far, we have looked at the fixed-cost side of the equation. The inkjet model becomes more challenging when we begin to look at operating costs such as maintenance, with or without a click charge, with or without heads included, with some component of self service, or with some combination of all of these.

Ink type, dye or pigment, is another option with cost implications. While you can select whether you are going to use dye or pigment, you must make this choice prior to install. (Theoretically, you could flush the system and change from pigment to dye or vice versa. However, we have not seen or heard of anybody doing this.)

Another critical economic consideration and important component in your TCO model is percentage and density of ink coverage on the pages in the job. When ink coverage/cost, head cost, and ongoing maintenance charges over the life of the equipment are stacked against the necessary volume to "feed the beast," the sticker shock of the hardware acquisition diminishes by comparison. Yes, inkjet technology has begun to change the game. However, most of the choices you make will still need to be based on the applications you intend to run.

Evaluating the Choices

If you are seriously ready to step into the wonderful world of Inkjet and plunk down the prerequisite bundle of money, there are a few critical factors you will want to be aware of. First, because of the dollar value of these deals, they tend to be much more flexible and customized than we have seen with acquisition of other digital devices in the past. We have found the major inkjet manufacturers more willing to negotiate, given the size of the revenue opportunity. This means that it is imperative that buyers have their requirements tightly defined and fully understand what and where they need to leverage.

We recommend building a test suite with various coverage models that mirror what you will be producing on the printer. Ask the manufacturers you are working with to provide detailed information relative to ink usage for the various coverage models you have requested. All of the prominent manufacturers have reasonably solid ink estimation tools that should be able to produce the ink usage/cost at various percentages of coverage for you to incorporate into your TCO model.

If heads are not included in your monthly base maintenance charge, you also will need to understand head cost, head warrantees, and expected head life. We have found that head costs can be fluid and can be negotiated based on the dollar value of the commitment. If heads are included in the base maintenance plan, you will want to understand the manufacturer's criteria for head replacement, and be sure that this aligns with your application and customer requirements.

What else matters? Our research leads us to believe that the manufacturers that have the greatest control of the key components will have the advantage. For example, a manufacturer that controls head and ink technology will be more nimble in responding to advances in inkjet capability/technology. For the buyer, this translates into an opportunity from a cost perspective. If there is no middleman taking a cut on heads and ink, there is more pricing flexibility. Drupa 2012 will see a number of announcements that support this position, as the major players move to solidify control of major sources of revenue.

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