



Understanding Total Cost of Ownership

There's more to a capital investment than the price of the equipment.

As the saying goes, “You have to spend money to make money.” However, that snappy phrase neglects to mention that the “spending” must be highly methodical, and the “making” must offer a satisfactory return on investment (ROI). When it comes to calculating the total cost of ownership (TCO) for inkjet equipment, a “one-size-fits-all” approach may prove unsatisfactory, and may result in one’s business doing more of the spending and less of the making.

Beyond the Equipment

In terms of the key considerations for TCO, most of the headlines will be familiar fare for commercial print service providers (PSPs). The piece of equipment itself is the central character here, but there are a number of supporting acts that PSPs will overlook at their own peril. Michael Poulin, director, product marketing at Canon Solutions America, says, “Machine pricing is probably the largest initial piece of the TCO, but running costs and other factors should also be considered. When comparing vendor to vendor, it is critical that each piece be evaluated

in exactly the same way.”

Todd Potrykus, manager, product marketing at Ricoh, agrees that consistency in the research approach is imperative: “When comparing TCO across devices, or especially vendors, it’s important to be careful you’re making an apples-to-apples comparison, with each estimate accounting for the same factors in the same way. If one press’s TCO estimate includes power consumption and necessary workflow software and the other does not, the latter may seem to have lower TCO, but the former is actually less expensive in practice.”

Beyond the capital investment of the equipment itself, what are the major factors? According to Marco Boer, VP at IT Strategies, substrates are the next big consideration. He explains, “The No. 1 cost is going to be on substrates. If you have a device that cannot print on certain substrates without some kind of a precoat, then you’ve got to add that precoat cost to your equation. Depending on the printing technology, substrates typically make up 50% to 60% of the cost of whatever you print.”

Poulin adds, “Media is a cost that should be



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discussed openly. Inkjet-treated media can cost more than offset stocks, but that doesn't necessarily mean the TCO will be more. Using a good inkjet-treated media can save ink, so a 10% media cost increase may save you 30% on ink, lowering your overall TCO."

Consumables will be toward the top of the list when it comes to an accurate TCO analysis of inkjet equipment. "If you are printing offset, you don't really care about the amount of coverage because offset ink is so cheap that it never really amounts to more than 1% or 2% of your total cost," says Boer. "However, when thinking about inkjet, that matters a lot."

Potrykus adds, "Different inkjet technologies require different amounts of ink to produce similar results for the same printed piece, which may surprise some printers, especially if they are transitioning from offset, where the amount of ink per page is relatively standard. Ink can make up anywhere from 20% to 60% of the cost per page, so getting a clear picture of that cost is absolutely vital to calculating TCO and ROI."

Maintenance and Footprint Factors

He also states the importance of due diligence on maintenance costs. "Maintenance plans can vary quite a bit, and each customer has to choose what's right for them. Some plans build in the cost of all parts, consumables, and support, while others may offer shared maintenance responsibilities. Multiple factors go into these decisions, so it's important to evaluate the same type of maintenance plan when comparing TCO across vendors."

One element that really needs to be assessed carefully and will be unique to each individual PSP is infrastructure expenses — overlooking these could prove exceedingly costly. "Installing a new press can require things like fresh water supply or compressed air," says Poulin. "Do you need to add climate control or build out a room to accommodate the new device? Do you have the right



electrical supply? All of these factor into your total cost and all should be accounted for when looking at a full TCO."

Boer has an equally stark warning on infrastructure, explaining, "Typically what happens is, somebody says, 'Oh, I want to buy one of these nice, beautiful new inkjet presses.' Then it's 'Oh, I used to have toner machines that weren't very heavy; this inkjet machine is five times heavier! My subfloor will not support the weight of this new inkjet press.' So now they have got to put in a cement floor. All of a sudden my retrofit to be able to take on this new equipment is very expensive."

Labor costs are also hard to precisely determine, but are an important concern. Marybeth Gilbert, VP/GM production business at Xerox, points out that, "Operator costs are often overlooked. Ask yourself, 'Will the press require specially trained and skilled personnel to run, or can my organization share operator resources across technologies?' Either option has a different associated cost."

Fortunately, investment in an inkjet press commonly means lower operator costs. David Zwang, analyst and consultant, Zwang and Company, says, "With digital equipment especially, the good news is that it usually requires less labor. In many facilities, one person operates more than one machine — they just push the button, walk away, and do something else. Whereas if you were dealing with an offset press, you would have to be there."

It can be a mercurial process, but at the heart of it, a PSP's granular knowledge of his or her print shop is a vital first step toward an accurate evaluation. Zwang explains, saying,

"One of the things that I have found for years when carrying out analyses of businesses is, for the most part, people are using their equipment at about 40%, with some maybe getting as high as 60% or 70%. I see PSPs saying, 'We're so busy, we must be operating at 90%!' They just don't know how to capture that information. That really needs to be taken into account, because if you're only operating [at] 40% and you based your TCO on 80% or 90%, then you're not getting real numbers, and you may not get an accurate picture."

Understanding Workflow and Performance

Boer also acknowledges the importance of being realistic about the numbers, saying, "Many print providers say, 'I know what my workflow and my plant looks like, I've been in this business for 30 years, I know what my cost of ownership looks like.' But the reality is, as we get smaller and smaller run lengths, the mix of those costs is going to change dramatically, to the point where you still know at the end of the month how much revenue you took in and what your expenses were, and if you're profitable or not. But what you don't know is whether or not that one job was profitable or not."

"Back in the day, you had maybe 25 jobs a day as a typical commercial printer. Today, you might have 50 to 100 jobs a day. And because there's so much more variation in these jobs, you cannot keep track of what your cost is on average. You really do have to know it by job."

So how does one go about achieving the comprehensive view of his or her business that's so important to an accurate TCO analysis? An effective measure is the implementation of ▶

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a solution that allows for analyzing operational performance and achieving complete visibility of one’s activity. David Spencer, CEO, SpencerMetrics, says, “Let’s say we have a company running three shifts seven days a week. We’re looking at every minute of that time, accounting for every minute, and then aggregating that so that from a top down view you can actually see how time is spent, how much of that time is productive, and see opportunities to get rid of nonproductive time. What happens as a result is that we get a very accurate and robust understanding of how a machine is being utilized.”

Spencer adds that an efficient workflow and the ability to measure it are vital components of calculating ROI. “It comes down to three things: the press itself, the people, and the workflow,” he says. “Figuring out ROI when you’re going to buy a press is going to depend very much on things like the length of your job, it’s going to depend upon the workflow, and how well you batch your jobs before the press gets them.

“There are so many short-run jobs. If before every short-run job you have downtime while there’s a press setup change, and then another short-run job and another setup, as opposed to being able to do a series of setups and then just run a whole slew of jobs — things like that have a major impact on your productivity. So workflow really matters.”

The Bigger Picture

A comprehensive understanding of one’s business must include an in-depth knowledge of the equipment, and therefore it falls to the manufacturers to ensure they are working in partnership with their customers to effectively communicate costs. “It’s important to take a broad, holistic view of the costs associated with an implementation and be completely transparent with customers about how those factors affect TCO. When accounting for more variables, your estimate becomes more accurate, and therefore more useful,” says Potrykus.

Poulin explains that his colleagues in sales work with their customers to review the entire workflow process, benchmarking against market data in order to ensure they are aligned with current market requirements. He adds, “These specialists will help identify potential areas of concern like substrate speeds and ensure that you understand the requirements, and also help find ways to maximize productivity while maintaining the best quality. Some manufacturers leave it up to the PSP to service its own device, which may seem like a big cost saving, but can cost more in the long run due to excessive downtime, missed deadline penalties, training costs, and high parts usage.”

Gilbert outlines what PSPs should be asking their vendors. “Supplies can have a big impact on cost, whether included in the service charge or purchased separately,” she says. “Ask

your vendor for a sample book of inkjet output at varying image quality levels, ink drop sizes, and resolutions. This will help you understand the cost to maintain the image quality required for your business and your customers.”

Poulin takes it beyond asking the vendor the relevant TCO questions, urging PSPs to think of the big picture. “TCO is important, but it is just the beginning,” he says. “Smart PSPs should be asking, what else? ‘What else should I be looking at? What else do I need to know? What else can I do to be successful?’ And the answer is: team up with a partner who can help you answer those questions and all of the follow-up questions that come days, weeks, months, and even years down the road.”

The complex and highly variable nature of TCO means that unfortunately, there is no magic bullet, and you must be mindful of the risk of hidden costs. “Think of TCO like you would an iceberg — many of the costs are not immediately apparent,” advises Gilbert. “This is especially true with an inkjet press. Service contracts can be confusing and extra costs may pop up after the contract is signed. Matters such as installation and training, the use of approved versus nonapproved paper, printheads, and additional charges for third-party software are just some of the places hidden fees can lurk.”

First and foremost, don’t forget the reason why accurately calculating TCO is so important — to give an accurate assessment of the ROI. Be realistic with production estimations, carry out meticulous research, and work in partnership with vendors to build an authentic picture of potential costs, from the obvious to the unexpected. ■

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