

HOW TO DETERMINE YOUR BREAKEVEN POINT

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What is breakeven

In July's column we spent some time discussing various aspects of contract printing. Two of the items I mentioned were the Budgeted Hourly Rate (BHR) and knowing your breakeven point (BEP). While these two items are usually associated with the work your CPA does, they are two very important concepts that will help you track your financial performance on a daily—or even hourly—basis during the course of a month.

In the past it was not all that important to keep track of these items. Today, with increased competition and shrinking margins, it is much more crucial. These two items will help to assure that all of your hard work is going to accomplish the primary objective of any business, to make a profit. This month I will introduce you to some of the basic aspects of BHR and BEP. My intention is not to get too accounting oriented, but to give you some simple tools that you can work with.

Besides the basic aspect of knowing if we are making a profit, there is another reason for knowing what your breakeven is. It helps you to judge your pricing and how much low-margin work you should take in. I have seen too many printers bid jobs for very tight margins—thinking that they will make up the profit on volume. While this is true in certain instances, if you take this approach without understanding what you are doing, you could be flirting with a very dangerous situation.

The decision to discount margin is based either on excess press capacity or lack of capital to buy supplies and garments to keep your press running on a full-time basis. With any automated shop there is a tendency to feel that you have to keep that press running all the time. In order to do this you discount the margin to be more competitive. As soon as you make this decision, you had better be sure that you know what your costs are, and the cost information had better be accurate. If it is not, you run the risk of losing money on the work that you are printing, *and* you run the risk of jeopardizing profits that would have been realized if you had more expensive low-volume work on the press.

What exactly is breakeven? It is the point at which you have covered all of your costs and are now making a profit. It can be calculated on a hourly, daily, weekly, or monthly basis. It is a moving target. You recover your costs by producing product and billing the

client. You accumulate profit over time. If you stop accumulating, you start losing. I prefer to track breakeven hourly, but account for it on a monthly basis. This simply means that I base my pricing on breaking even on an hourly basis, but account for the accumulated profit on a monthly chart.

To illustrate: if my hourly cost is \$250 and I earn \$300, my profit is \$50/hour. However, if I print for only four hours during the day I will lose money for the day. My daily cost is \$2,000 (8 hrs x \$250) and I will have earned only \$1200, a net loss of \$800 for the day. If I am earning a profit of \$50/hr, it will take 16 hours of profit to make up this loss, assuming that I have covered the costs of each future hour. In other words, a four-hour downtime will require over 3 days of solid profitable printing to get back to even! By projecting the monthly cost of 22 days x \$2,000/day—or \$44,000—we can accumulate profit or carry forward losses throughout the month.

Components of BEP

Breakeven is made up of two components. These are fixed and variable costs. The fixed costs are those that must be paid every month, regardless if you print 500 or 500,000 garments. Examples of fixed costs are rent and lease payments, fire insurance, utilities, and administrative salaries. Variable costs are those that are directly tied to production of a job. These include direct labor, inks, solvents, raw materials (garments), and utilities associated with production equipment (if they can be separated). Technically, your breakeven includes components of both. For simplicity I combine the two. I delete the cost of materials (garments) so that I can see how much cash we are actually generating toward our breakeven.

To determine your BEP, look at one year's monthly financial statements. Build a spreadsheet that compares month to month, and totals the year's activity. It is important to do this because you will see any unusual peaks for unexpected activity. The yearly totals will help you in determining the year's average by dividing that number by 12. This way, an insurance payment of \$6000 in August will average to \$500 per month for the year.

By adding up all of your direct and indirect costs for the year, and dividing by 12 months, you will have the average monthly breakeven based on last year's data. Let's say that your average monthly breakeven is \$35,000. To get each individual month's breakeven, count the number of working days in each month and divide the \$35,000 by that number. For instance, February has fewer working days than September. Take each amount and multiply it by the number of working hours in each day. We use 7.5 hrs/day to account for breaks during the day. I have included a chart of the number of working days in each month for 1994. The number of holidays for each month is also included for your general information. The fewer working days in each month, the more your hourly rate will be.

The number that you obtain following the above example represents a 100% efficiency. The means that every second of every day is spent working and producing product. We all know that this isn't possible. Most printers work in the 50% efficiency range. I have included different columns so that you can see what happens to your breakeven as your efficiency drops. The cost impact is dramatic.

If you have more than one fully staffed and functional production line, you can divide the breakeven amount by the number of presses you have. If you can run

only run of your machines part-time, use that percentage. For instance, if your screen maker also prints when there are no screens to be produced, we can consider that person a part-time printer. If that person prints 4 hours per day, assign a .5 value to that production station. With one automatic press and one half-time manual printer, the division of cost per hour would be \$92.59 for the manual printer and \$185.19 for the automatic if the hourly rate was \$277.78 for the whole company. If you had two automatics the rate for each would be \$138.89 ($\$277.78/2$). With multiple presses it is up to you to decide how you want to divide the costs. The important issue is that you know what your costs are and that they are being accounted for.

One of the very common areas that printers get trapped into are proofs, color matches, and print approvals. All of these tie up the press and keep you from generating income. If the press is idle, it is costing you money and subtracting from your profits. As I mentioned earlier in the article, breakeven is a dynamic or moving target. You are either losing money, breaking even, or making a profit. As soon as the press stops, you start sliding downhill financially. This is why it is so important to keep the press printing. Figure 2 illustrates what it takes to recover the lost profit when the press is down. There comes a point at which it is not possible to recover accumulated costs unless you can raise your price. With contract printing you are generally fixed and unable to carry the incurred costs forward. Unfortunately, standard practices in the industry make it very difficult to recover some of these costs. Using our example of \$277.78 per hour above, the cost of a proof on press for four hours is \$1111.12! I have never seen a

customer who is willing to pay \$1100 for a press proof, yet your cost is still there.

What can you do? The most obvious thing is to maximize the press time, keep the machine running. In order to achieve this, it is necessary to closely coordinate your production team so that they know exactly what they need to do when the press goes down for a changeover. Think of your team as the crew in an Indy Pit. When that car comes in, there are vital seconds to get the wheels changed, gas it up, clean the windshield, and give the driver a drink. Races are won or lost on less than ten seconds, and the pit crew can literally win or lose the race! It is the same in the automated print shop. The press can only go so fast. It is the effective number of prints per hour that will determine if we hit our BEP. By keeping the press running all of the time, you maximize that potential.

Do everything you can to make sure that there are no delays. Mix your ink and have it approved ahead of time. Proof on off hours to avoid tying up the press. Make sure that all of the screens are taped and blocked out, ready to run. Have a separate set of flood bars and squeegees ready to go into the press. Do everything you can to make the transitions go as smoothly as possible. All of these options become more and more important as the size of the average order decreases. The general trend is toward shorter runs more often to minimize the impact on cashflow and inventory. This isn't just a trend in our industry, but in all manufacturing. Think flexible and you can be profitable. If you adhere to rigid thinking, you are in for a rough ride.