Why should I buy new technology?

Great question! And … with a little effort, you can obtain a simple answer. Let's look at the basic steps for determining the cost/benefit ratio to see if the purchase makes sense.

1) What are we trying to solve or improve?
    a) Reduce operating costs?
    b) Reduce labor or personnel needs (time costs)?
    c) Improve efficiencies?
    d) Improve customer service?
2) What's the cost of status quo (not solving or improving)?
    a) High cost per item, job, or job function?
    b) High payroll expense?
    c) Costly errors due to inaccurate data?
    d) Lost customers due to poor service or late product deliveries?

We first need to map out the current steps in the area in question. Who does what, when, why, and for whom? How much time it does it take to complete the task? Based on this analysis, a cost must be calculated.

1) For example, manual time entry into payroll would include man-hours required to collect and tabulate the employees' time. Let's say it takes 3 days to complete this task. You are paying $20 per hour for this position. This cost is $20 X 24 hours (3 days @ 8 hours per day), which equals $480. Your payroll is weekly, so the cost is $24,960 per year.

2) The next step is to calculate the cost of inaccuracies inherent to manual timecards. Each card has multiple manual calculations. This can present addition and extension errors and thus may not accurately reflect the actual time the employee worked. Let's take 280 hourly employees with an average annual pay of $20,000. The weekly payroll is $107,692. Let's assume there is a .5% error rate. The estimated weekly cost of these errors is $538. This amounts to $27,976 annually.

3) Finally, we add the costs in 1) and 2) above for a total cost of manual time collection and tabulation. The actual cost in this scenario is $52,936.

What is the value of reducing these costs? We determined that time collection man-hours can be reduced to four hours by using an automated time clock system. By using this automated system, we will also eliminate the cost of manual calculation errors. Our new cost is $20 times 4 hours which equals $80 per payroll. Multiplying by 52 pay periods gives us a new annual cost of $4,160. We have eliminated the error cost, so $4,160 is our total cost of time collection and tabulation using an automated system. Next is purchasing an automated system so that we can realize the savings we have calculated so far. We find a suitable system for $46,000.00. Should we make the purchase?

Industry best practices suggest that any technology system has an effective life of at least three years. Some contend that the effective life is seven years or more. We will use three years in our analysis. The annual loan cost of a three-year loan at 8% is $17,298. Annual maintenance and support fees for the system can be estimated at 15% of the total system cost or $6,900.

Our new annual cost is Labor ($4,160) plus Loan Payments ($17,298) plus Annual Maintenance/Support ($6,900). The total annual cost of the automated system is $28,358.

The annual cost of our existing manual system is $52,936. Subtracting our new cost of $28,358, we see that **we can realize an annual savings of $24,578.** This amounts to savings over a three-year period of $73,734. If we add the tax credit from the federal Section 179 program - 30% of our technology (system) cost or $13,800.00, we find that, happily, **our total savings for the three-year period amount to $87,534!**

We now can decide if this purchase makes sense to the company. In the above example, the elimination of errors will fund the cost of the new system beginning in the first month. We have just improved internal processes and saved our company money as well.

This is one example of technology helping you improve processes and save you money at the same time. What areas of your company need improvement? Places to look are areas where there is an abundance of paper documents, high postage or delivery cost, or double entry of information.

Customer service analysis should include % of on-time deliveries, response time for complaints and questions, sales funnels, accurate sales forecasting, and central storage of customer data.

Distribution analysis should include shipping and receiving procedures, physical inventory tracking, and optimum stock levels.

Manufacturing areas of focus are: operating efficiencies, scrap percentage, materials management, on-time deliveries, and shop floor scheduling.

These are only a few areas where technology can have a great impact. Data collection methods are no longer limited to entering in a computer or computer terminal. Handheld devices and stationary or handheld scanners are options that bring data collection and analysis to all areas of the organization. These devices are very easy to use, and anyone can be trained to use them. Properly used, these devices will eliminate today's back-office data entry.

If you are not using newer technology in your business, I suggest that you look at your organization for areas where this technology will make a difference. If you're not sure where to start, enlist the assistance of a firm that specializes in analysis of processes and making improvements through the use of cost-effective technology. With proper analysis, you should be able to improve cash flow and business processes by implementing new technology.

ROI Analysis – Employee Time Collection

	Effort	Weekly Cost	Annual Cost
Current Process			
Time collection	3 days	$480	$24,960
Inaccuracies - manual process	0.50%	$538	$27,976
Total Current Cost		$1,018	$52,936
Proposed Process			
Time collection	.5 days	$80	$4,160
New system cost	$46,000	$332	$17,298
Annual maintenance/support		$133	$6,900
Total Projected Costs		$545	$28,358
First Year Savings	$24,578		
First Year only Sec 179 Credit	$13,800		
Total First Year Savings	$38,378		
Three Year Savings (Includes Years 2 & 3 @ $24,578 each)	$87,534		