

How to Buy Capitol Equipment - By Harry Miller Mereen-Johnson Machine Company

As a young man I learned quickly that my father prized his tools and machinery. Some of the more precious ones dated to his father's father. With them, he made a living and they were the reason he quickly completed a job well. Dad was a craftsman, he chose specific types and brands of machinery because they were proven and only bought new technology when he understood the real value and it made sense for what he needed. Decisions to buy depended on experience. Experience on how they felt and worked how easy they were to care for and his personal knowledge of their quality. Dad said, good equipment running at top efficiency for its life is something you can be proud of.

The decision to add or replace your manufacturing equipment is one that needs preparation and careful consideration of not only can you afford it but also to research the value the new equipment will bring to your business. New capabilities, cost savings or a reduction in scrap or set-up, what you want to accomplish, how long you plan to own the equipment and what it will be worth when you want to sell all can be estimated and the process of deciding support a good decision for years and decades to come.

Replacement, capacity expansion and to establish capabilities for new business are three reasons to invest. Replacement of an existing machine to continue operations is easy to justify. The option to outsource the operation is one possible alternative for replacing existing equipment. Capacity expansion and new capabilities justification should include a business plan in the evaluation process. When looking for replacement capacity, the machine's ability to grow with your business must be considered as well.

Buying a machine is best when it proves to be a good decision and is done once. One proven way is to create your decision team. The team helps with gaining commitment and in defining machine requirements from different perspectives. Depending on size you may need a representative from manufacturing, maintenance and or facilities department, purchasing and a financial person.

The team should make a list of your unique requirements including but not limited to:

- Determine the desired output quantity per hour/day/shift/week/month. This is typically estimated in pieces, linear or board feet. Remember if you are thinking about expansion – what is your current requirement and if you add to that your new requirements what is the total.
- What level of precision do you require? For example if you are ripping lumber for a molder application what molder allowance is acceptable?
- Decide on the material you need and or want to use. List the species, surface preparation, length, thickness and width variation within a unit of lumber.
- Plan now for the safe as well as efficient orientation of the machine.

- How often do you change from one tooling configuration to another? State in times per day/shift/week.
- Do you want to automate any part of the process?
- How about manufactured part identification or optimization?
- What space is available for the equipment? Will you need to re-layout the shop floor?
- What utilities are available or desired? Electrical supply, available clean air, dust collection capacity, the work environment all affect performance.
- Will your personnel require specific training above what is typically offered by the manufacturer?
- What level of information integration will you use? Examine the flow of work order information and describe to the manufacturer how you plan to instruct the operator or in some cases the machine itself what and how much is to be machined.
- What is the maintenance schedule and what is the duty cycle of wear components? What is the replacement cost of those wear components, include installation if appropriate?
- Do you have a specific budget in mind? Do you have approval to buy? How qualified a buyer are you?
- Do your maintenance personnel have the right skills, experience and tools to perform the regular maintenance? Is additional training required?
- Go back through your list and mark every response with a Must Have, Willing to Change or Like to Have.

Prepare a written request for proposal including your team's agreements on all the above important requirements.

Provide a list of your requirements to a select group of manufacturers for an explanation of available models and have them explain why the model and options they recommend is the best fit for your specific set of requirements. Once you have narrowed the selection to a few, ask for references and find people you know that own the machines in question and who will speak to you. Your team should interview the references on questions they consider important.

Now that you have the short list, you may begin to calculate the total cost of ownership for the equipment. This analysis as well as your estimate of the business opportunity will provide you with a clear indication of the best investment.

What is the purchase of this machine worth to me?

On the income side of any investment there are three inputs:

1. **Make more:** Any machinery investment increase should result in your ability to deliver more goods in a given time frame with fewer resources. Machinery manufacturers will have a stated optimal operating speed for your application. Calculate the variable operating profit for the increase. Why variable and not operating profit? You may use either but if depreciation is included be sure the depreciation matches the life of the machine and is independent from the tax calculation.
2. **Waste Less:** Any improvement in machining technology should result in an improvement in the use of material and other resources. For material calculate the decrease in scrap or increase in yield stated by the manufacturer or from a source you know. Test these statements in your interviews with current owners who recently installed the type of machinery from the manufacturers you are thinking about. For people savings calculate the number of people needed in the operation before and after machines installation. Include the full cost of benefits in this calculation. As a note you do not need to remove people to generate savings, a person put to a higher use is a savings. For energy and other utilities manufacturers have calculated the energy consumption for your comparison. A key component here is set-up time. How often do you change tooling configurations? Set up ease and time is a key component. Estimate total output with no set-up and then total output with your average per day per selected machine. This will provide a comparable cost for set-up. Separately calculate the maintenance time including tool changes, lubrication and other regularly scheduled maintenance as suggested by the supplier.
3. **Cost Less:** A purchase of equipment should result in a reduction of time and money spent to fix or repair. All capital equipment has components that with use, wear out. The manufacturers' warranty needs to be fully understood. Have the manufacturer identify the critical wear components including expected life and cost to replace including freight. Can you do this work or does the manufacturer require they install the part? Other items you need to estimate the cost to replace wear items given how long you expect to own the machine lubrication and scheduled maintenance. Are replacement parts readily available? Where are they made and inventoried? What is the lead-time? Is there a discount for buying a limited inventory of replacement parts when buying the machine?

For additional information, contact Mereen-Johnson Machine Company
Phone-(612)529-7791 Fax-(612) 529-0120 Email- info@mereen-johnson.com
or visit our web site - www.mereen-johnson.com