

Advantages and Disadvantages of Automation in Manufacturing

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In the past 20 years, technology has changed the nature of manufacturing. In the old days, manufacturing and fabrication were all done by hand by people. Now that computers and technology have penetrated the industry, automation has become the competitive advantage in today's manufacturing world. Automation has allowed for companies to mass produce products at outstanding speeds and with great repeatability and quality. Automation has become a determining factor in whether or not a company will remain competitive within the manufacturing industry. Although automation is constantly setting the standards for the industry and has many advantages, there are also some negative aspects about automation.



Automation Advantages

- Reduction in production time – having a machine that is automated definitely speeds up the production time since no thinking is needed by the machine, there is better repeatability, and less human error.
- Increase in accuracy and repeatability – when an automated machine is programmed to perform a task over and over again, the accuracy and repeatability compared to an employee is far greater.
- Less human error – no one is perfect, and we are all prone to making mistakes. Which is why a machine that performs repeated tasks is less likely to make mistakes than an employee.
- Less employee costs – by adding automated machines to an operation, means less employees are needed to get the job done. It also indicates less safety issues, which leads to financial savings. With having less employees, there are numerous costs that are diminished or reduced such as payroll, benefits, sick days, etcetera.
- Increased safety – having automated machines means having less employees who perform tasks that can be dangerous and prone to injury, which can make the work environment safer.
- Higher volume production – investing in automated equipment creates a valuable resource for large production volumes, which in turn, will increase profitability.

Automation Disadvantages

- Less versatility – by having a machine that can perform a certain task limits to the flexibility and variety of tasks that an employee could do.
- More pollution – different types of machines operate using motor which may require gases or chemicals in order to operate. This can cause an increase in pollution in the workplace.
- Large initial investment – automated machines can be one of the most costly operating costs for a company. With automated machines running anywhere between thousands and millions of dollars depending on the type and degree of automation.
- Increase in unemployment – by increasing the amount of automation, there are less employees required causing high unemployment rates.

- Unpredictable costs – there can be several unpredictable costs that may exceed the actual cost saved by the automation itself. Some of these costs could include research and development costs of automating a process, preventative maintenance costs, and the cost of training employees to operate automated machines.

While automation has become a resource for remaining competitive in the manufacturing industry, there are definitely some factors to be considered in order to be competitive and to get a return on the investment.

Depending on the operations, automation may or may not be a good fit. If it is a small operation with low production quantities, the initial investment of purchasing an automated machine would not be economical. On the other hand, if the operation has a larger facility with many employees on the shop floor two fabricate medium to large runs, automated machines would be better suited.

Here at [Vista Industrial Products, Inc.](#), we have had the opportunity to invest in automation to increase our productivity, repeatability, [quality](#), and provide shorter lead times. Due to the size of our operation and state-of-the-art manufacturing [facility](#), automation has been a great fit for our business model. We have a great ratio of automation and employees to cater to our customers' needs. Given that we can fabricate low mix/high volume and high mix/low volume runs for our customers, we have the flexibility we need to get the job done.

If you are looking for a company with a wide range of automation for your fabrication needs, please keep us in mind. We have automation for [sheet metal punching](#), [forming](#), and [machining](#). Please [contact us](#) today for a [quote](#)!

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