

Manufacturing sector is expected to lose more workers

[Technology](#)



Interestingly, the technological advancements have been predicted to reduce the jobs that are centered in the information sector whereby almost 65, 000 workers will lose their jobs in the next decade. Despite the fact that technology has revolutionized most businesses, it is done through transforming the operations rather than increasing the jobs. On the other hand, technology has the ability to improve efficiency and boost productivity but this can only be done if a number of employees required in generating higher or similar production levels.

The manufacturing sector is another area that is expected to lose more workers. It has been predicted that around 550, 000 jobs will be lost in the agriculture, hunting, fishing and forestry sectors. At the same time, these sectors have the ability to develop new job opportunities in this coming decade. However, fields like education and healthcare are known to be slow when it comes to embracing technological revolution but they are gradually embracing new models.

With regards to the labor economics field, the replacement of manual labor by robots and Artificial Intelligence is an issue of great concern. Despite this argument being an extension of several studies on links between labor and ICT, a number of jobs that face the risk of being replaced by advanced computerization have gained attention from the policy practitioners and the media. It is estimated that around 47 percent of United States employment could be at risk of becoming computerized. Nonetheless, technological progress and automation are not responsible for obsolescence for the manual labor. As a matter of fact, labor and automation seem to be highly complementary especially for the employees who are creative, adaptable
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and solution oriented. Historical lessons have shown that the Industrial Revolution has led to the creation of improved products and services; the product innovations can result in the unforeseeable new occupations.

A demand for employees with high skills has been growing for the last 50 years making it a matter of high priority. In the past, manual dexterity and strength were enough to make sure one secured employment as well as comfortable living standards. Nonetheless, right now jobs need mathematical and verbal and interpersonal and organizational skills. Additionally, the emerging globalization, technologies as well as information revolution have an increasing demand for workers with high-tech skills. Coincidentally, most workers are open to increased job opportunities that are available within the wide spectrum of all industries.

The development of technology has increased rapidly and this has introduced opportunities with regards to introducing new technologies. Therefore, the life cycles of products are shortened and as a result, robotics that is more flexible goes on demand. However, not all product sectors will be equally affected by shortened life cycles. Furthermore, the duration of production is considered as a factor whereby an increase in the product customization, as well as the required flexibility by small businesses, could be granted by future robots.

Even if the machines can take hold of various human activities in some occupations, it does not mean that all jobs are at risk of being replaced. Interestingly, the number of job occupations increases instead especially the one that has only been automated partially; this is because the general

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demand for their activities is still growing. For instance, a large-scale distribution of the bar-code scanners as well as the other related point-of-sale across the United States back in the 1980 era has reduced the costs of labor in every store by approximately 4.5 percent while the cost of groceries has gone down by 1.4 percent. This has also activated a couple of innovations which include increased promotions. However, cashiers are still required, as a matter of fact; their employment went up by a 2 percent rate between the years 1980 to 2013.

Around a fifth of the duration that is spent within workplaces entails performing the physical activities as well as operating machinery within a predictable environment: the workers perform particular actions within settings that are properly suitable and where the changes are significantly easier to anticipate. Furthermore, through adoption and adaption of the technologies that are currently available, it is estimated that the automation technical feasibility of such activities is at 78 percent which is ranked the highest overall. Due to the fact that the physical activities that are predictable figure prominently within sectors like manufacturing, accommodations and food service, and retailing, it means that they are more susceptible to the automation on the basis of the technical considerations.

For instance, in manufacturing, operating machinery or performing the physical activities within the suitable environment represents a third of the overall time of the workers. These activities may vary from the packaging of products to the loading of materials onto the production equipment to maintaining or welding equipment. Based on the prevalence of this kind of

predictable or repetitive work, around 59 percent of the general manufacturing activities can become automated if technical considerations are applied. Therefore, general technical feasibility may mask a considerable variance. In the manufacturing sector, 90 percent of the cutters, welders, brazers, and solders, for instance, have the technical potential of becoming automated, but the representatives for the customer service the feasibility is below the 30 percent mark. This potential may vary among different companies. Manufacturers have shown a broad range of the adoption levels starting from the companies which have little or inconsistent use of the automation to the sophisticated users who are the companies' top managers.

Surprisingly, the manufacturing sector is not the first to face the risk of being entirely automated but rather the service sector is at the top spot. The food service and accommodations is where around half of the labor time entails physical activities that are predictable as well as machinery operation; this includes preparation, cooking or the serving of food, cleaning areas of food preparation, preparing cold and hot beverages as well as collecting the dirty dishes. An analysis that was carried out by Canadian Chamber Of Commerce showed that 73 percent of all activities the workers perform the accommodations and food service possess a potential of becoming automated based on the technical considerations (2014, 987).

For example, the automated cafeterias or automats have been used for a long time now and the restaurants have started testing new and sophisticated concepts such as self-service ordering and robotic servers.

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Some solutions like the hamburger cooking robot from Momentum Machines have been reported to assemble as well as cook around 360 burgers each hour. Therefore, some food preparation and cooking activities can be automated. Even though the technical potentiality for automation is high, a business case has to be taken into consideration for both the costs and benefits of the automation and the dynamics of labor-supply. In a variety of the activities mentioned, their current wage rates are ranked lowest and this reflects on the required skills as well as the labor supply size. Ultimately, the restaurant employees that cook could earn around 10 dollars an hour and a business case which is solely based on reducing the cost of labor may not apply.

Retailing could count as the third sector which has a high technical potential of being automated. It is estimated that 5 percent of all its activities can be automated in terms of manufacturing; however, this is dependent on a particular occupation in the sector. For instance, the retailers could reap the advantages of the efficient; technology-enabled stock management as well as logistics. Packaging products for stocking and shipping merchandise is amongst the more frequent or repetitive physical activities particularly in retailing, they have the higher technical potential of becoming automated. Also, maintenance of sales records, collecting product or customer information and the other activities of data-collection can be automated. However, retailing also needs social and cognitive skills. Offering advice to customers in terms of what is a preferable need emotional intelligence and judgment; hence, 47 percent of the activities of the retail salesperson has a technical potential of becoming automated. This rate is lesser than the 86

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percent mark that is placed on the sector's accountants, auditing clerks, and bookkeepers.