

Automation and Jobs

Automation involves the use of various control systems in various processes such that it needs little or almost no human intervention. They are generally much faster than human labor and cost less. Labor comes with issues such as labor laws and labor unions which are of inconvenience to owners of manufacturing units and factories. Hence, manufacturing industries search for alternatives of labor in automated machines. This fuels the growth of automation.

Most famous example of automation is the car assembly line. But automation is also used in bottling plants, steel plants, power generation plants, oil refineries, glass manufacturing, paper mills, etc.

Automation earlier had only displaced “blue collar” jobs. But with the advent of Technologies such as Artificial Intelligence and Machine Learning, “white collar” jobs are now also at risk. These are jobs that are mostly routine. Such jobs generally need high school or college graduate level education.

A report put out in February 2016 by Citibank in partnership with the University of Oxford predicted that 47% of US jobs, 35% of UK jobs, 77% of Chinese jobs, and 57% of OECD jobs are at risk of automation. With large percentage of people at risk of getting unemployed, it is only natural that the divide between the high income 7% and the low income 56% groups are set to increase. What governments and organizations need to do is to incentivise and provide affordable retraining and education. Universal Basic Income where every individual gets a minimum income is another idea that needs to be tested.

The AI is overtaking the human in physical as well as in sectors that were earlier considered difficult to be mechanized. These are jobs which need some level of pattern recognition. COIN is a software developed by JP Morgan. Machine Learning is going through troves of data and processing them. The Program “COIN” stands for Contract Intelligence. It is able to interpret commercial-loan agreements. It does the same job that took 360,000 hours of work each year by lawyers and loan officers. The Program reviews documents in extremely less amount of time and that too with much lesser errors. Development of these kinds of software can potentially replace even the well skilled employees of the job market.

The Machines are even encroaching the culinary industries apart from manufacturing industries. A Robot named “ Flippy” popularly known as the burger making robot, can cook the perfect patty every time. The AI system in Flippy and with the help of its sensor and cameras enable it to analyze its environment and can even distinguish between different meats and buns. It can recognize which patties are done cooking. This is helping a Cali-burger restaurant to make food faster, safer and with fewer errors. Cali Burger plans to hire Flippy in 50 locations within 2019 which is currently employed one in its restaurants. It is operating successfully. These kinds of robots will replace cooks in the fast food restaurants who generally have a very repeatable kind of job.

Self driving sector is the another field where low skilled labors are susceptible to getting replaced. Companies like Google, Uber and Tesla are already known for testing and improving self driven cars. Eventually drivers will be getting replaced by these kinds of AI driven cars. One of the most affected sector is expected to be the trucking industry. Daimler already has a partially self driven long haul delivery vehicle called Freightliner Inspiration. Although trucks like Inspiration are partly autonomous as of now, fully automated vehicle should become available in the very near future. Self-Driving Trucks Could Cost as many as 7 million jobs in the US alone. Similar fate would also be faced by the taxi industry.

The acceleration of automation has created insecurity of jobs within the labor market. Hence, preparations are to be made to face this new challenge. Much of it has to done at the government level by changing or bring new policies. It is to be noted that not as many new jobs have been created when compared to jobs that been replaced after the economic downturn of 2008.

Policies are now being talked of to deal with the chronic unemployment that could occur with the rise of automation. Some of these policies are even controversial but they should still be taken into consideration. Some of these polices are Universal Basic Income, Negative Income Tax, Government Job Guarantees, a Broader Social Safety Net, and the Robot Tax.

Universal Basic Income is perhaps the most popular of the polices that are currently being discussed within various government policy-makers. Its is presently being tested on a small scale in few countries like Canada, Finland. The idea is that every citizen, regardless of employment or income status, receives a periodic cheque from the government that is enough to survive on. It could

inspire citizen to take risks, start businesses, change jobs, return to school or try a new career that is aligned with their personal interests.

Negative Income Tax is a proposal where every person is required to report their assets and their liabilities regardless of their social status. If an individual is considered to be poor as per the assessment, he shall be asked to limit his expenditures. After that, he shall be getting money from the government. Basically people who are rich will pay income tax and at the same time, people who are poor will get income from the government. Hence, the name Negative Income Tax. It is expected that this would cost governments much lesser than what it would be to implement Universal Basic Income.

Governments could also step in to create jobs. This is viewed by some as a leftist policy. The sectors that the government could create jobs in would be sectors like elderly care and childcare, health, education and the arts. The sectors are sufficiently well-paid to sustain a decent living.

A broader Social Safety Net involves putting in universal healthcare, affordable education and accessible childcare options. Countries in European union have performed much better in this regard when compared to the United States and most other developing nations.

Robot tax was first proposed by Bill Gates, the Founder of Microsoft. Since he proposed this idea, it has been widely debated. In this policy the companies shall have to pay an extra tax for automating processes and replacing human labor. This money could later be used to retrain the displaced labor force and sustaining them during the period of unemployment.

Higher Unemployment pushes forward populist leaders who promise very high employment opportunities which are mostly unattainable. It is to be remembered that Hitler won support in Germany when unemployment rates were high. In recent US elections Donald Trump got more votes in states where unemployment rates were higher. Development of Automation in various sectors is inevitable. But what may be avoided is large scale unemployment. But to avoid that Governments and Institutions need to act fast. Automation is replacing jobs faster than it ever did before. Time is running out!

REFERENCES

- [https://www.oxfordmartin.ox.ac.uk/downloads/academic/The Future of Employment.pdf](https://www.oxfordmartin.ox.ac.uk/downloads/academic/The_Future_of_Employment.pdf)
- <https://www.bloomberg.com/graphics/infographics/job-automation-threatens-workforce.html>
- <https://www.bloomberg.com/news/articles/2017-02-28/jpmorgan-marshals-an-army-of-developers-to-automate-high-finance>
- <http://www.dailymail.co.uk/sciencetech/article-4905576/Burger-flipping-robot-Flippy-gets-job.html>
- <https://www.sciencealert.com/self-driving-trucks-could-cost-as-many-as-7-million-jobs-in-the-us-alone>
- <http://www.businessinsider.com/policy-responses-to-automation-and-robots-taking-jobs-2017-4>