

Views on the future of robotics

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According to Groover (2001, 457), the future function of the robots will not just be limited to the operative manufacturing tasks. He adds that they may be able to offer feasible means with regards to service provision or exploitation of resources which cannot be given currently. For instance, in future, handling the hazardous radioactive wastes will be done routinely by robots especially since human manual workers could not be exposed routinely to the wastes. Furthermore, mobile robots can provide a greater level of flexibility as compared to “hard” automation or teleoperators

A study carried out on 2013 by Oxford University showed that 47 percent of jobs within the U. S. faced the risk of being computerized. Furthermore, most respondents predicted that the robotics advancement and computing applications could lead to the displacement of manual workers for the next few decades with the potential of implicating both the society and workers. Furthermore, the ultimate limit whereby algorithms and robots intrude on manual workers could be dependent on many factors, but this may shift to reality for the next six decades. Pew Research Center also carried out a survey and found out that 65 percent of the Americans expected that the computers and robots might take over in 50 years making it even harder for humans to do any jobs.

Most individuals believe that machines may dominate a huge part of the human employment while 80 percent expect their professions or jobs would stay unchanged and be in existence even after five decades. However, although 11 percent of current workers have rising concern that they may lose their manual jobs, workforce automation has led to other worries that

include low paying manual work, broad industry trends as well as employers mismanagement.

Hopfgartner (2015, 89) claims that the robots have not just joined the work environment but have also expanded skills by going up the corporate ladder which shows immense retention rates and productivity while increasingly pushing aside the human workers. For instance, a company like Momentum Machines has created a machine that can make gourmet hamburgers in only ten seconds; this presents a threat to some of the jobs of the fast food restaurants. Besides, the Universal Robots Company has created a manufacturing device which does not just paint, glue, grasp and screw, it has the ability to build parts from scratch. Evidently, the intelligent machines have begun taking on manual and complex labor whereby they are more specialized and sophisticated than the other robotics that were created in the past. Furthermore, Kandray (2010, 99) argues that the robotics and artificial intelligence could soon take over the entire economy. Katayama (2013, 245) agrees by claiming that around 47 percent of the jobs can be automated within two decades; specifically in developed countries.

On the other hand, robotics have the potential to create more jobs for instance, in the agricultural sector, mechanization has led to the employment of more workers even though the manual work is mainly compensated for by the machines that harvest and plant the crops. Nonetheless, there are some crops that cannot use machines to harvest and this large scale growth of the plants has led to the employment of more manual workers that assist in harvesting the land.

Despite the slow change on the current factory workspaces, the digital wave has slowly been able to revolutionize manufacturing and this has contributed to immense enhancements in productivity as well as an emergence of the paradigms of innovative production which deliver solutions that are more efficient and tailored. Nonetheless, the transformation may have profound implications especially for the manufacturing employment; this will affect everything workforce size to needed skillsets as well the factories locations. However, it still remains unknown whether the rise of robots could lead to unemployment in the manufacturing sector or if the training and education allows the workers to stay employable (Kull, 2015, 567).

According to Lawrenz (2013, 78), future factories may just have two employees this is because automation will make the human jobs obsolete not too far in the future. For instance, in the United States, manufacturing manual jobs have gone down by 15 percent from the year 1970 to today. Employment and productivity went up and down in 2000s and currently, an increasing gap has been identified which reflects the notion that humans are slowly being displaced by the machines in most jobs (Lawrenz, (2013, 98). (Luo, 2014, 909) estimates that 47 percent of the United States jobs risk being computerized this is because less people work within the manufacturing industry now as compared to 1997 and this can partly be blamed on automation. As a matter of fact, the Foxconn Company said that it will introduce robots so that they could take over the manual labor.

Therefore, various human manufacturing work like precision positioning, quality control and heavy lifting might be supported by or transferred to robots because they are considered to be more effective and efficient than

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the humans (Luo, 2014, 785). Moreover, they will be able to communicate easily with each other. Thus, the human workers could learn to work with robots side-by-side. Advanced automation can enhance the workers acceptance of collaborative and safe machines that have human-like physiognomies and works close to them. Nevertheless, this may change the reality of technologies and alter traditional blue collar jobs nature that can become more sophisticated and complex while being supported by the technology. However, it is difficult to predict if the technological advancements will need less or more skilled workers; but, the requirements might be different if focus is placed on adaptability and flexibility as well as less potential on craftsmanship and expertise.

Interestingly, robots are considered imperfect at times because their capabilities cannot be sufficient enough to displace manual workers fully (Miller & Miller, 2014, 89). Despite its continuous progress, robots that have been fully automated for manufacturing processes have not been proven to work and this has raised doubts on whether the growth of technology has gained enough traction. However, the revolution seems to be definitely taking place. Alternately, from a historical perspective, digital technologies have definitely influenced manufacturing employment.

According to Morabito (2016, 67), the current technological revolution is guided by Moore's law which states that doubling the cost and performance has to be carried out every year or 18 months even though it is assumed that the current society is in linear mode. Additionally, the technological transformation does not affect just the manufacturing sector. It potentially affects all service and knowledge jobs by raising more concern from the

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society. Morabito (2016, 222) believes that the current labor sector is at risk of becoming employed due to the absence of skills as well as social and political imbalances like these. Nee (2015, 87) notes that workers that are employed for physical or manual labor have concerns on the possible employment threats particularly with regards to their replacement by the robots or the other machines. 17 percent of manual workers are concerned about workforce automation and the threat it presents to their occupation while 11 percent of them show that they are very concerned. Contrary to this, 5 percent of the workers who are not working on the manual labor section show some concern over the threat presented by automation of the workforce.