



AI, Robotics and Employability – Dawit Fekadu

During the glorious time of the Roman empire, an emperor by the name Vespasian, who ruled between AD 69 and 79, was approached by a man who had invented a device for transporting columns to the capital, the citadel of Rome, at a relatively small cost. Columns were very large, heavy, and difficult to transport. Moving them to Rome from the mines where they were made involved the labor of a thousand people, at a great expense to the government. Vespasian did not kill the man like all the rulers before him; but regrettably refused to use the innovation, declaring, “How will it be possible for me to feed the populace?”. Let us now jump two thousand years of innovation and technology to the twenty-first century where we are living within a society of a different political and economic orientation. We have accomplished a lot with the proceeding four industrial revolutions. But in regards to employability, the substitution of human labor by artificial intelligence and robots is a keenly debated topic. So, what are the positive and negative impacts that are to be expected with this wave? And what are the implications for our continent, Africa?

Dooms Day?

A two-year study from McKinsey Global Institute suggests that by 2030, intelligent agents and robots could replace as much as 30 percent of the world’s current human labor force. As far as research goes, low and high-skilled jobs are less vulnerable to automation. For example, Low-skilled jobs including cleaning, food service, gardening, home health, and childcare are less likely to be automated as there is less incentive to robotize. Well for the high-skilled jobs, the complexity of the tasks puts them at a sweet spot. What has been declining, especially since the 1980s, is the number of jobs categorized in the middle, such as secretarial and manufacturing roles.

Fears and concerns regarding AI and automation are totally understandable. Historical endeavors like the Luddites along with economic theories hold that as industries are revolutionized by technology, prices for their services will decline, and society as a whole will benefit. Much like the creation of the internet, new technology can have the potential to have a widespread impact on society’s job security.

Example of the Autonomous Vehicle

Among the innovations incorporating AI; Autonomous Vehicles are getting wide-spread attention. While this technology can undeniably minimize risks, accidents, fuel efficiency, transportation costs - some are pessimistic about the technology saying that it may disrupt livelihoods.

Reasonable as it may be, companies developing AI technologies are claiming that huge opportunity is to be expected. Companies are currently hiring engineers, technicians, software developers, and designers to build this vehicle. As far as investments go, Ford recently announced that the automaker plans to spend \$4 billion on autonomous vehicles by 2023.

How fast new technology disrupts driving jobs is important, said Amitai Bin-Nun, vice president of autonomous vehicles and mobility innovation at Securing America’s Future Energy. Jobs will not disappear overnight. There are many steps between zero and full automation. There will be a need for maintenance technicians, fleet oversight, remote oversight, and service technicians to maintain and serve the fleet. **Start-ups surrounding this innovation are also notable.**



Africa's Destiny

This is not a new story. People have been fretting about the rise of the machine. But what does this foreseeable future regarding AI and robotics mean for Africa? Although we may not expect Ride, the biggest taxi-hailing company in Ethiopia, to be using autonomous driving technology soon, the fields of AI and robotics are being utilized pretty well through technology leapfrogging.

Among uplifting stories, Ethiopia's iCog Labs (which is an Artificial Intelligence R&D company), have been pioneering the field through countless machine learning, computer visions, and robotics projects. They have been able to create jobs for the tech-savvy youth as well. A Rwanda based drone delivery service Zipline also achieved a major milestone as it signed a deal with the government to deliver medicine and blood to otherwise difficult-to-reach areas and they have put every Rwandan within 30 minutes of life-saving medical supplies.

Africa can take advantage of relatively cheap, semi-skilled labor in its youthful population. With Industrial robots and artificial intelligence increasingly threatening manufacturing in emerging markets, a World Bank's Digital Dividends study pointed out that Robots could take two-third of the jobs in the developing world. Also, Ethiopia, long-touted as Africa's next manufacturing hub, is vulnerable to automation in important employment sectors such as agriculture and textiles.

Regardless, it still presents an opportunity for Africa to become a BPO/KPO and manufacturing hub. Rather than displacing employees, machines can empower lower-skilled workers and equip them to take on more complex responsibilities. In line with this, Africa's education will adapt to the needs of the near-future job market, focusing on the fields of science, technology, engineering, and mathematics (STEM) from an early age. AI, web-based training programs, for example, are teaching complex skills to a staff, graduates, and jobseekers.

Simply put, jobs that AI and robots can replace are not good jobs in the first place. As humans, we climb up the rungs of drudgery. Technology will always be improving so with significant training and education; one can move up the ladder and bring innovation to any role.