

Refutation of Artificial Intelligence' Myth "Artificial Intelligence will ultimately replace human employees " (Reality and Fiction)

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Abstract

Always with the technology's developments there are many myths going around between people. The artificial intelligence (AI) is not excluded from that. The biggest myth is that Artificial Intelligence will take the human's job. In this paper, we investigated many of the literature reviews and official reports to refute this myth and find out the truth part and fiction. We compared the case in the past with the appearance of computer and the nowadays case with the AI

appearance to find out the similarity between the two cases. The results found that fiction was covering the truth in this myth in many aspects as has been happening in the past with computer appearance. We presented some recommendations that should be taken to prepare the future for the new technology. In the end, we discussed all these facts and gave a clear view of the real role of the AI applications and systems in the human life.

Keywords: Artificial Intelligence, Myths, workplace.

1. INTRODUCTION

Technological developments have significantly advanced since the 1990s with more weighty improvement in the way people achieve different everyday jobs [1]. Moreover, all technological developments aim to offer help and support for humans. In addition, the new information technology' systems have formed the way we are working and living. Newly, AI algorithms have involved close attention of researchers and have been applied successfully to solve problems in engineering and business [2]. Moreover, artificial intelligence is the development of computer systems that leads to perform tasks that always need human intelligence. The concept of AI as an area of science was closer to fiction. However, the idea of AI is no longer a fiction but a reality that has become part of our daily life. On the other hand, because many myths have been spread among people, some people have been against artificial intelligence applications and systems. One of the most effected myths was that artificial intelligence would replace itself with the most employees. The aim of this paper is to investigate this myth to find truth and fiction.

2. RESEARCH AIM AND METHODOLOGY

The aim of this research is to refute the Artificial Intelligence' myth '' Artificial Intelligence will replace itself with most employees''. In order to achieve this goal, we will search the articles and scientific reports that have been written about this myth to find out what are the reasons behind it? What is the real part of it? This research may clarify the reality of the conception of AI and present future requirements and skills to join the AI revolution smoothly.

3. LITERATURE REVIEW

First, we will list from literature review some of the AI myths, in general, to give a view of the myths about AI. Then we will study deeply our under study's myth. Pettey [3] listed some myths, which have been spread in the business sectors as follows: (1) an AI system can solve the business' problems, (2) everyone wants an AI strategy, Artificial Intelligence can be real, (3) AI technologies

can set their own goals, (4) AI has human characteristics. Bentley [4] listed others myths that created the fear of AI applications as follows: (1) AI is self-modifying and will make itself super-intelligent, (2) with enough resources (neurons/computers/memory) an AI will be more intelligent than humans. From these myths, we can be sure that people exaggerate by predicting the possibility and ability of artificial intelligence (at least for the time being) and this helps to frighten the general public of these enormous possibilities.

AI myth: Artificial Intelligence will take out most employees and replace itself with them

The myth ‘‘Artificial Intelligence will take out most employees and replace itself with them’’ has the most impact on human life. The fear of losing the job makes it too difficult to accept the AI from humanlike. Before discussing this myth, we should return to the computer age when it started to appear in all the organizations and companies. The spread of the computers in businesses was starting with a huge fear of it by the employees because of the idea or myth that said the employees would be replaced by the computers. However, the happenings proved that this was not completely true and people always develop themselves for the new jobs that are created by the new coming technology. With the spread of computers in the past, many jobs were created due to the existence of the computer, instance, ‘data entry’, which took the place of the old job named ‘clerk’ that has been cut down. Moreover, many high-level jobs have been created, for example, programmers, designers, system maintenances, system builders, and system analysts.

The Truth’ Part of The Myth

The myth has not been created from imagination only; always there is a true part of its creation. Let us start discussing the truth’s part of this myth. The threat that automation will eliminate a broad swath of jobs across the world economy is now well established. As artificial intelligence (AI) systems become ever more developed, another new jobs will

almost certainly occur [5]. First, the companies choose to save money, so the idea of being able to replace a human with AI application and robot that can work all the time with little pay, no benefits, and often faster with fewer errors is enticing is a great and valuable idea. Second, Robots and AI applications can also be helpful as they can easily do jobs, which they are repetitive, monotonous, or dangerous and leave the interesting jobs to the humans. Furthermore, AI applications have a great ability to support human in his critical tasks. To continuing with the investigation of the truth part of the myth, we will list some of the jobs, which have been taken away from the human by AI applications or systems in some developed countries. Wakefield listed some of them [6].

- Taxi drivers: The service would be a whole lot cheaper if you were not paying for the drivers in the car with the self-driving car. This can apply for the private driver’ job as well.
- Factory workers: In China, the first robot-only factory is being built in China’s Dongguan factory city. The factory aims to reduce the current workforce of 1,800 by 90%, according to Chen Zingui, chair of the board. As a result, most of the humans’ jobs will be taken away.
- Journalists: Companies such as Narrative Science offers software such as Quill that is able to take data and turn it into understandable’ reading. That means machines will do most of the tasks.
- Doctors: The robots have for years been helping doctors perform trust, for example, robots assist doctors with keyhole kidney surgery. The speed of the robot is a crucial factor in the success of such operations. For the moment, robot and man are working together in medicine but that may not always be the case in the future.
- The helper in the natural disaster: There are some jobs that people are forced to perform despite their seriousness and difficulty, such as the rescue operation during natural

disasters. The robot can perform them with great simplicity and accuracy.

Facts of Myth From Official Reports

The study of 46 countries and 800 occupations by the McKinsey Global Institute found that up to one-fifth of the global workforce will be affected in the developed countries. Moreover, by 2025, up to a quarter of jobs will be replaced by either AI software or robots as Boston Consulting Group predicts, while a study from Oxford University has predicted that 35% of existing UK jobs are going to be automated in the next 20 years [6]. In addition, Frinault [7] said in creating 1,000 jobs in Silicon Valley, many startups might be destroying 10,000 jobs elsewhere. Frinault argued that many industries have failed to recognize the potential of the blue-collar workforce, opting for automated replacements.

Moreover, Automation has in the past, mainly replaced routine and physical activities, while in the future automation is expected to broaden in scope and take on intellectual tasks previously controlled by humans. In addition, advances in automation have in the past focused on individual industries, for example, robotics in manufacturing. The new wave is expected to have an impact on many (if not all) sectors, reducing alternatives for workers without the appropriate skills [8].

The Fiction's Part of The Myth

On the other side, there is a bright part of the AI existence, is that the human remains the essence of business. Jobs requiring human interaction such as doctors, lawyers, and teachers will not be fully automated. Moreover, specialized lower-wage jobs, such as gardening, plumbing, and care work, will also be less affected by automation. On the other hand, the new technology will yield new types of jobs, similar to the introduction of the computer in the 1980s, which led to technology support work, and online business. Bughin [8] argued that AI applications still need smart people to use it in the proper way, so governments should set plans to retrain their citizens [8]. Moreover, AI will enable

humanity to make smarter decisions. Kaasinen [9] discussed the concept of machine learning, that it is well suited for the analysis of large masses of data and for supporting people in data-based decision-making. In medicine, for example, AI allows examination of different measurement data, and the machine can draw connections between data. Therefore, AI can be used for such a purpose as forecasting the development of a disease, when a patient's data is compared to data on earlier patients. It is typical of machine learning that the result is not exact, but it is a probability only. That is why a machine cannot give similar detailed explanations for its conclusions as a human expert can [9].

More Good Facts Of AI

The good news is that, there are many new jobs will also be created. Most of them look nothing like those that exist today. Furthermore, the variety of them will help the different levels of skills, qualifications, and abilities to involve. As Bughin [8] indicates, that it is impossible to imagine all of the jobs that have been created through automation. For example, creators and suppliers of technology (e.g. engineers for the Internet of Things, robot designers, and software developers), Enablers (e.g. data analysts and creators of business insights), Utilizers (e.g., relating to big data and advanced analytics), other related jobs include specialized legislators, legal experts, and accountants.

Moreover, Wilson and his co-authors [5] introduced in their research three new categories of AI-driven business and technology jobs. They labeled them as trainers, explainers, and sustainers. Humans in these roles will complement the tasks performed by cognitive technology, ensuring that the work of machines is both effective and responsible. The first category is defined as trainers where they include a job as customer-language tone and meaning trainer, smart-machine interaction modeler and worldview trainer. It still needs human workers to teach AI systems how they should achieve and perform their tasks and to emerging rapidly. Moreover, trainers help natural-language processors and language translators make fewer errors. On the addition, they teach AI algorithms how to simulate human behaviors.

The second category of the new jobs is the explainers. They include jobs as context designer, transparency analyst, AI usefulness strategist. It will bridge the gap between technologists and business leaders. Explainers will help to provide transparency, which is becoming all the more important as AI systems' opacity increases. Many executives are nervous with the "black box" nature of sophisticated machine-learning algorithms, especially when the systems they power recommend actions that go against their decisions and lead to unintended negative consequences, the forensic analyst would be expected to conduct a "clarify" on the event to understand the causes of that behavior, allowing it to be corrected. The final category of new jobs is sustainers. It includes jobs as automation ethicist, automation economist, and machine relations manager. These jobs will help ensure that AI systems are operating as designed and that accidental costs are addressed with the appropriate urgency. Also, they evaluate the noneconomic impact of smart machines, both the upside and downside, evaluate the cost of poor machine performance, and promotes algorithms that perform well to greater scale in the business and demotes the algorithms with poor performance.

However, Jobs like trainers may not need a college degree. People with a high school education and who are essentially adopted could be taught the necessary skills in an in-house training program. In fact, the effect of many of these new positions may be the come from a "no-collar" workforce that slowly replaces traditional blue-collar jobs in manufacturing and other professions. On the other hand, a number of new jobs, like the ethics compliance manager, for example, are likely to need advanced degrees and specialized skills. Therefore, just as organizations must train their workers for emerging no-collar roles, they must reimagine their human resources processes to better attract, train, and retain highly educated professionals whose will be in very high demand. As with so many technology transformations, the challenges are often more human than technical [5].

New Jobs Coming Along With AI Will Need More Skills

Artificial intelligence applications continue to advance and improve the quality of life across multiple industry settings. As a result, those with the skills to translate digital of information into meaningful human experiences will find a career in artificial intelligence to be satisfying and rewarding. Some of the qualifications and skills are already required for the IT sector are various, for example, math, including probability, statistics, calculus, logic, algebra, and algorithms. In addition, networking or graphical modelling, neural nets, engineering, physics, and robotics. Moreover, computer science, programming languages, and cognitive science theory and coding. These skills will enable the people to be involved in various jobs which have been appeared since the IT revolution, and increased with AI wave, for example, research scientists and engineering consultants, software analysts and developers, computer scientists and computer engineers, algorithm specialists, mechanical engineers and maintenance technicians. In addition, manufacturing and electrical engineers, medical health professionals working with artificial applications. Also, clinical technicians working with robotic tools, hearing aids and vision restoration devices, military and aviation electricians working with flight simulators, drones, and armaments. All of them use artificial applications to seek help in a great way. From these facts, we can understand that AI is not a new invent, but it is the advanced development of the existing technology.

AI Is A Supporter Rather Than An Occupier

Although we can see AI occupies the place in many jobs or in other words take the large part of some jobs, it still offers many help for human in many ways where human needs the help and support. There are many inventions of AI that still new and difficult to believe rather use.

For example, the self-driving cars. With self-driving, the number of accidents

occurring has greatly reduced [10]. AI as the technology behind self-driving cars has improved everyday life in several ways. In addition, GPS is another example of the benefits of AI in human lives. GPS is very useful in long drives and trips with almost no fault [12]. GPS is always a good partner for drivers. Another invention is the robots, which are being invented to assist human in carrying dangerous situations. Robots have taken over positions that are hazardous to human beings [11]. Robots are doing the dangerous and boring tasks out of the human. In the future, the robots will be in great support to the human. Furthermore, the knowledge of AI is well applied in the banking and financial institutions to manage and organize statistical data accordingly. AI technology has reduced the number of errors and increasing the chances of achieving accuracy. Moreover, AI has significantly contributed to the field of medical research and diagnosis of complex neurological disorders [13]. Even in education sector, rather than replace teachers, as the fear-mongers claim, AI can help with the more boring tasks, for example, handle record keeping/grading and providing customized tutoring, catered to each student's needs. In this case, teachers will spend more time in teaching. In addition, the role of AI in higher education is to enhance human thinking and to augment the educational process, not to reduce it to a set of procedures for content delivery, control, and assessment [14]. In addition, AI started to help lawyers in all agencies do more than ever before. Some of the specialists have predicted that law firms are going to benefit from artificial intelligence to handle the huge amount of information [15].

Even though there is currently a lot of exaggerate surrounding AI, it is important to consider the many ways AI can improve the business so it should ride the disruption wave instead of drowning in it [16]. AI has been around for decades. The science is not new. So why all the noise now? Rudder [17] wrote that despite the big changes AI will bring to the enterprise and to individual jobs, much of these changes are not that hard. Moreover, like any tool, a big part of clarifying AI will be in training people to understand what it can and cannot do. Moreover, Collins [16] agrees that artificial intelligence is a positive force to

augment human capacity. He considers AI as the eyeglasses and hearing aids, AI will be seen as an extension of the human experience and abilities. AI may be the biggest disruptor the society has ever faced. Nevertheless, it is not just a disruptor; AI is also an accelerant with the potential to enrich human learning, discovery, and productivity personally and professionally.

There will be new opportunities and chances created by the ‘robotification’ of tasks. So the human should be trained to meet these prospects. Moreover, this will allow people to focus on what they are good at - building relationships and caring for customers. The need for human empathy in core professions like law enforcement, nursing, caring, and complex decision-making are always needed [18]. In the future human might wonder ‘how was life without AI help’?

4. DISCUSSION AND RESULT

The myth that said ‘artificial intelligence will occupy many of the jobs of humans and leaves them jobless’, has a truth part which cannot be denied and at the same time there is a large part contains the exaggeration. Like many technological and non-technological inventions, artificial intelligence is designed to support human and does many hard and dangerous jobs with much precision and speed. In addition, the companies find the artificial intelligence is the most appropriate for them. However, artificial intelligence has created many jobs for generations that grow with technology. The Jobs need to be tracked and run along with continuous development by humans.

Before the spread of computer use in most companies and organizations, the situation in most of these institutions was very confusing. Many paperwork was too much to write and sometimes to rewrite and to archive. It was difficult to find a document as quickly as required. The communication process was very poor and no one could be reached as quickly as possible. The computer came to reorganize the work to a great extent and took out a lot of tedious routine work from the

employee. With the widespread use of the internet, support for the work environment has increased to the extent that a person could not have imagined. However, with this vast amount of information flows and complexities, current technology has become too weak to absorb all this. Studies and research have sought to help humans cope with this huge number of complications. The discoveries of artificial intelligence systems and applications came to support the human in the management and follow-up of this huge amount of work. As an expected result, many of the jobs associated with the new technology are generated. These new jobs come to manage, organize, maintain and develop the new technology. Without them, no work could be achieved. Moreover, no one can stop the technology developments, so the humans should start to educate themselves regarding the new wave of the AI applications and systems. As have been listed in the report by McKinsey & Company [8] there are many steps must be done to prepare the future for the AI applications, and it is the government' responsibility as well as the individuals. For example:

- Continue to secure leadership in the next generation of digital infrastructure and ensure that platforms are interoperable creating scale for the new technology to take place.
- Encourage experimentation, and nurture talent to develop the creation of jobs in the local and global economy.
- Educate and train for the future of work to improve science, technology, engineering and maths (STEM), influence automation technologies in education, emphasize continue learning, and support on-the-job training and self-educate.
- Support worker transition by develop social models and policy to smooth job transition.
- Digital leaders should participate in shaping global policy for the use of new technologies, including a code of ethics for AI and robots, and parameters around open data, privacy, and cybersecurity

5. CONCLUSION

To sum up, there is a lot of exaggeration connected with this myth. It is partly true that artificial intelligence will replace itself with most employees; however, AI could not work without the human control and supervision. In addition, AI will bring many new jobs. The case we have today, we had it in the past and it will keep happening with every new technology in the future. This is the way the developments go, many jobs disappearing and others appearing. Indeed, there are some jobs disappeared in their old style and appeared in a new style. In this case, different skills are required to match the new requirements. The new skills are not difficult to gain, as it was the case was in the past, because the technology now is becoming well known and the generation grew up with it. Therefore, some extra skills will help most of the young adult to join the AI global easily. The future with AI applications will lead humanity to better life and support. Finally, we have arrived that the myth is not true completely and the fiction has taken a large part of it. All that we need is to drive the new generations' attention to the new technology and AI skills and the qualifications from an early age.

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