

AI THE NEXT BIG INTELLIGENT REVOLUTION: AND ITS IMPACT ON THE WORKFORCE

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Abstract - As, the technology was daunting the global workforce is facing threat with the latest innovations from time to time almost in each and every sector, it is from services to manufacturing or hospitality to banking or even space, we refer to this as the fourth industrial revolution termed as I - 4.0. It should be accepted that 4.0 is completely reshaping and transforming the globe given an indication that in future the globe will be dictated by these smart and intelligent machines, and there is no doubt this 4.0 completely forces the global workforce to reshape them with required skills and capabilities. Considering the recent developments from amazon's Alexa to apple's Siri, AI is not a phenomenon of tomorrow but it is a reality of today.

In this paper the authors tried to discuss how AI is showing its impact on different sectors across the globe, and how it is signing dire warnings to the workforce. And from the organizations point of view it has to re - educate and re - skill their workforce completely and more intelligently to compete with this smart machines that take us beyond AI to the next big revolution that the globe has to witness in near coming days.

Key Words: Artificial - Intelligence, Work - Force, Organizations, Industrial 4.0, Robotics.

1. INTRODUCTION

To start Artificial Intelligence with a quote AI like other technological revolutions it will not change the workforce. Perhaps it completely changes the way we live. (Charles Schwab) in World economic forum meet (February, 2018). At present everybody is talking about industry 4.0 the word that rules the world for the next generations. If we observe during the 18th century industrial revolution started with steam engine and now it has crossed three industrial revolutions and entered into the fourth perhaps the most advanced and to name as the most intelligent revolution by Smart & Intelligent machines I - 4.0 (As, per the article published in Eenadu Regional newspaper on March 31st, 2018).

I - 4.0 Revolution runs on these wheels: Artificial intelligence, Robotics, Design - Digitalization, Internet of things, Self-driving vehicles, Drones, 3 - D printing, Nano and Bio Technology material sciences, Quantum Computing, Drug - Delivery, Gene computing and Virtual reality. Due to the advent of these intelligent software and algorithms it is completely transforming the working patterns across the

globe showing a clear domination and threat to human workforce. AI definitely cuts down the business costs, increases the productivity levels and no doubt it completely reshapes the way the world does its business. (As, per the article published in Eenadu Regional newspaper on March 31st, 2018).

One can debate how this I - 4.0 is different from past Industrial - Revolutions. Previous revolutions are related to "ENERGY", which transformed the muscle power to machine power betterly we can term it as Automation. As, a result production has increased at a larger scale, and the basic infrastructural facilities have also developed in a larger extent. Due to this transformation only the past Industrial - Revolutions witnessed Golden Era especially in manufacturing sector. As a result urbanization increased, millionaires were born, and the later stage is witnessed with digital, Computing, and Mobile revolutions has taken place, completely transforming the lives of humans, but not the manufacturing sector across the planet. But with the advent of "INDUSTRY - 4.0" no doubt it completely transforms everything and way we lives. It is the time that the organizations has to reshape and rebuild their workforce, otherwise everything will be obsolete. (As, per the article published in Eenadu Regional newspaper on March 31st, 2018).

Douglas (2017) The Industry 4.0 now is completely showing its impact on each and every sector by reshaping and redesigning it workforce in the terms of skill sets, adaptability with these smart and intelligent machines. But as per the survey conducted by KPMG revealed that there is a huge gap between executive support for 4.0 and the employee awareness, if it is a reality it is viewed as a serious problem. This survey revealed shocking facts that executives has average understanding of 4.0, but the employees level has below average level in understanding the 4.0. Now it is the challenge for the organizations how to reshape the capabilities of their workforce to integrate with 4.0. However, success only begins with the wide spread proper employee engagement programs.

Stephen (2018) In a post entitled " Machine Learning: Bane or blessing for Mankind? " that famous cosmologist Stephen hawking along with his other colleagues Russell and others opined that implementation of these intelligent machines especially in the areas of Military operations will be appropriate, because it reduces the destruction at a larger rate. (Stephen f. deangelis, enterra solutions

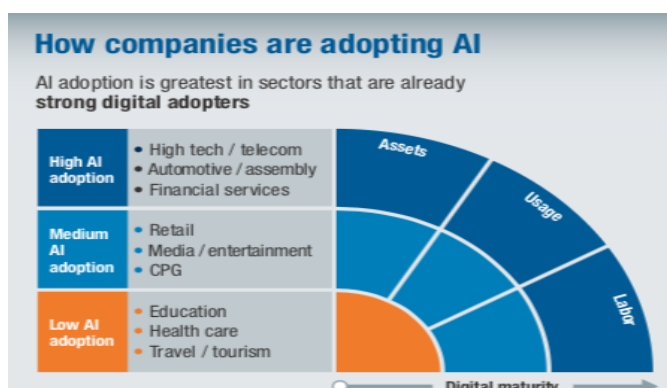
artificial intelligence is changing the world, and humankind must adapt). During a speech by Bill Gates at American Enterprise institute opined that the government and people or not ready to view the future, due to the developments of these intelligent systems which rules the globe.

By Victoria Wagner Ross, San Diego Technology Examiner, 14 March (2014). The greatest fear caused by AI the total number of jobs across the globe is affected by AI, and it is estimated alone in US itself half of the jobs will be washed away due to AI. Ross (2014) by citing the oxford university study she explained that: Nearly 702 occupations will be affected due to the introduction and implementation of AI, Robotics in the workplace.

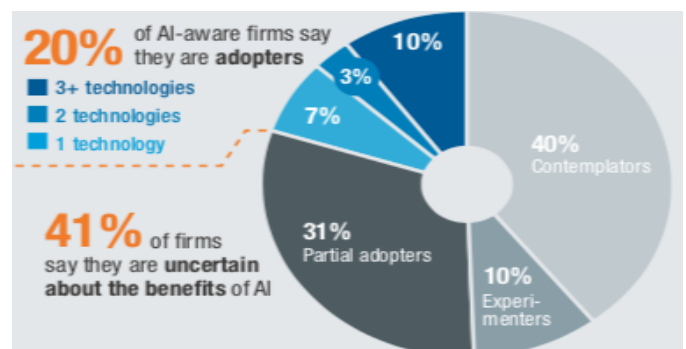
Allegis Group, August 23, (2017) Reading the indecipherable Tea Leaves a free whitepaper available on website of Allegis is an excerpt from "AI and the World of Work: Embracing the Promises and Realities," : Thanks to AI with its entry it has changed the landscape of the jobs and the workforce. CEO'S, Businesses, Governments, workforce across the globe are threatened by shifts that these intelligent advanced machines brings. Here are some of the statistics by analyst community:

S.NO	STATISTICS ON THE WORKFORCE REDUCTION
1.	According to the Organization of Economic Co-operation and Development: Only 5 -10% of labor replaced by the intelligent automation.
2.	According to World Economic Forum, 2016: 60% of the children entering the schools will work with the jobs that do not yet exist.
3.	According to Oxford Martin school of Economics, 2013: 47% of all US - Job functions will be fully automated within the next 20 years.
4.	According to a study by KPMG, 2016: 100 Million global knowledge workforce will be affected by the robotic automation process by the end of 2025.

(Source: According to article published by Allegis Group, August 23, (2017) Titled: AI'S Impact on jobs).



(Source: According to a discussion paper published by McKinsey Global Institute titled: AI the next digital frontier? Authored by Jacques, Eric, SreeRamaswamy, Chui, TeraAllas, Peter, Henke, Monica Trench, June (2017).



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LITERATURE REVIEW

According to Matt Jones (2017) AI is completely transforming the businesses across the globe to be more competitive and to stay in the competition. In near coming future there exist no repetitive jobs because these jobs will be definitely replaced by AI. In near coming future AI is present everywhere it can diagnose diseases, do report writing in the professional service industries etc. Matt also opined that there are certain jobs which requires highly emotional skills like training, counseling and other services where AI cannot show its impact because how smart and intelligent the machine may be but the emotional and human approach can be never replaced by AI.

According to Jeanne Meister (2017) HR leaders across the globe has opined that in coming future due to the introduction of chat – Bots in various Hr – functions like recruitment, employee services, development and coaching will drastically re shape the way present workforce works. And as per the recent survey conducted almost majority 92% of the Hr – Leaders of various organizations opined that Chat – Bots would be a part of their Hr – Team.

According to Calum McClelland (2016) Everybody now a days is talking about the AI, Robotics and the threats caused to job doers across the planet. This, fear not new it is from the past when Industrial – Revolution has taken place. To start from the factory system, next to automation and next to computers and present AI, the way transformations has shaken the globe and its effect on the workplace. It, is true technology must and will be continuously evolving from time to time and despite of the fears every technological revolution has ended up in creating more jobs than were destroyed.

According to a report published by PWC one or more of its members on February (2018), titled the macro economic impact of Artificial – Intelligence: As per the report it clearly investigated that AI will completely transform the way we live and work. Here the biggest question to answer and understand is to what extent the AI will show its impact on the economies whether it is developed, under – developed or developing doesn't matter. As per the report that investments in AI will reach nearly \$ 50 billion by the end of 2020. It is also expected that by the end of 2030 majority of the economies across the globe will impact by AI resulting in massive mass – unemployment almost in all sectors that results in industrial un-rest due to loss of many jobs across the globe.

According to a discussion paper published by McKinsey Global Institute titled: AI the next digital frontier? Authored by Jacques, Eric, Sree Ramaswamy, Chui, Tera Allas, Peter, Henke, Monica Trench June (2017): Artificial Intelligence the next big storm that had already shaken the globe by its implementation in various sectors, throwing a bigger challenge for the companies to digest it and transform themselves intelligently as AI does. We have already observed the shifts that AI brings in the various sectors due to the implementation of AI, and this report outlined on five AI technology systems: Robotics and Autonomous vehicles, Computer Vision, Machine Learning, Language and Virtual Learning areas.

According to a report published by IBA Global Employment Institute titled: Artificial Intelligence and Robotics and their impact on the work place authored by Gerlind, Biacabe, Ulrich Bormann, Muntz, Niehaus and others on April (2017): This report clearly outlined the impact caused by these intelligent machines on the work places and almost every job is affected due to AI Introduction. Doesn't matter you belong to blue or white collar every job will be totally affected, and sooner the

adoption to AI by the companies that sooner the humans are replaced by the intelligent algorithms. As per this report it outlined that nearly 1/3rd of current jobs requiring a bachelor's degree will be replaced and performed by these intelligent machines, Robots or the intelligent software in near future. It is to be understood that no job will be loosen unexpectedly or suddenly it is over a period of time, but the impact of AI and Robotics on the workplace will differ from industry to industry.

According to an article published in Fortune India magazine, April (2016) titled: While you were out: Artificially Intelligent, by Stanley Bing: According to the author has given us a live example how AI shows its domination across different diversified sectors, and to quote a example a Dental Insurance company virtually assisting its clients with a specially designed AI software named “ BETTY” (Chat – Bot). In this article Bing clearly outlined the conversation between Betty and Bing the virtual AI has assisted Bing's questions relating to Dental Insurance. So, from this it is proven that how AI can replace the human jobs so intelligently and sophisticated when compared with the manual operations.

According to an article published by Ravin Jesuthasan and John Boudreau titled “ Thinking through how Automation will affect your workforce”, Published in HBR, April 20, (2017): According to the authors Today's Hr – Leaders and executives are panic about the AI and its impact on the global workforce. But the authors clearly outlined that first we have to identify the areas, works and then the jobs where AI can be successfully implemented. Once the above stated is identified then it's the time for the organizations to re- design themselves on all aspects. The final conclusion of this article is AI will not happen by overnight in every job, but it will happen, by identifying the area where AI has to be introduced and implemented.

According to an article published in HBR by Mark Knickreim on January 24, (2018), titled: How will AI change work? Here are 5 schools of thought: In, this article the bigger challenge that most of the CEO'S faces today is how to engage and manage their workforce with the advent of AI, Big data analytics and Advanced Robotics. If measured in statistics in US alone itself nearly half of the jobs across different sectors will become obsolete. According to Accenture survey conducted among 1,200 C-Level executives across the globe, 75% opined that currently organizations are investing huge sums of dollars in AI and in other Advanced and Intelligent Technologies. (Accenture survey “ Rewarding the Revolution”) Published on January 23rd (2018).

According to an article published by Maureen Dowd (2017), in Vanity fair magazine: Maureen (2017) opined according to Elon Musk founder of Tesla and Space X was frightened that these intelligent machines scares him, and can lead to massive – unemployment, and can also bring drastic changes among the workforce, and can also create

competition between humans vs. machines for survival. Musk also stated in his opinion on AI "Without oversight, Musk believes, AI could be an existential threat: "We are summoning the Demon".

According to an article published by Stephen Hawking in the Economic – times March 14, (2018) titled AI could end Human – Race: Recently, in an interview given by the famous cosmologist told to BBC – News in 2014 the development of full AI could end the human race, and also in another interview to Wired magazine, AI will reach a life that it will definitely outperform the humans in all forms and in all sectors across the Globe. In another interview given by Hawking to CNBC opined that AI is the best and worst thing happened to the society and quoted in the following way "Worst event in the history of our civilization" unless the society finds the best possible way to control these self – acting intelligent machines that rules the universe.

According to an article published by Economic Times by Shelly Singh on January 23rd, (2018) titled: "Will AI take over Jobs?": As, per this article AI will definitely creates mass – unemployment in almost all sectors and to quote an example to prove this majority of the companies like Apollo Munich, Birla sun – life, ICICI Lombard GIC, Maruthi and many others are actively implementing AI in their daily business needs to Improve efficiency and productivity at a larger scale. The main advantage of AI is it can perform 24*7 jobs repetitively, and can totally eliminate the human involvement at any stage. The final theme of this article is that AI will definitely rewrite the working patterns in all sectors but the integration between both humans and smart machines must be done to make this world a better safer and happier place.

According to a chat with Surabhi Agarwal and Shelley Singh on the sidelines of the ET Global business summit by Steve Wozniak February 26, (2018), quoted that "I argue with the "A" and not the "I" of Artificial Intelligence: In the opinion of Steve (2018) he totally disagreed that nothing in this universe can match with the human intelligence because machines cannot think by themselves, and their intelligence must be created and driven by the humans only. These, smart machines will sure re-define the way in doing the businesses and work and jobs, but can never replace the human brain intelligence. He also opined that in this universe that there is no machine existed and said what I should do today, because machines can never think naturally, because it is artificially simulated intelligence, which is driven by the human – intelligence.

According to an article published by Former RBI Governor Raghuram Rajan on Friday expressed fear that Artificial Intelligence would take up jobs--both high skilled and unskilled, published on Eenadu paper on 23rd March (2018): With advances in Machine Learning, Artificial Intelligence and Robotics, this was going to change still further, as they take up the jobs, ranging from those in unskilled sweatshops to high-skilled professions like

medicine, the former RBI Governor said. "What jobs will humans are able to do in 10-15 years that are immune from threat? Jobs that require high intelligence and creativity; jobs that require human empathy and jobs where human working for us bolster our status in some way," he said, delivering the keynote address outlining his vision for India at: Future Global Digital Summit, organized by the Kerala government.

The Impact of AI on Global Labor Market

Ulrich and others (2017) No, doubt due to this intelligent and very advanced self-acting machines will definitely poses threat to millions of jobs across worldwide. In positive notion any technological revolution has created many new jobs but here the answered question is: Is this 4.0 is a positive or a negative sign, and whether the governments, people and organizations are ready to face the challenges posed by AI. AI in particular western countries where the labor is high, already AI and Robotics has shown its impact. To quote a Example: - In Automotive industry Germany is the king, where by employing labor the production working hour costs is €40, but due to the use of Robotics the costs has substantially decreased to €5 to €7 per hour, indicating the difference between man vs. intelligent machines. Ulrich and others(2017). Malcom Foster (2018) As, per the recent survey conducted Japan would stand first when compared to other nations in using the AI, to prove this at Tokyo's Shin – Tomi nursing home, the hospital uses 20 different models of robots to care for its patients. And positive waves are identified by the Japanese people see these robots caring for human as a positive as robots are depicted as friendly and helpful.

Deloitte (2016) AI previously viewed as science fiction often shown in Hollywood movies, but now became a reality where the entire globe is changing its shape according to AI. AI now – a- days can be treated as our family member because it can guide maps, friend recommendations, job recommendations and product recommendations based on the past history. If we want to understand what AI can do is that in the year march 2016 Google's Deep Mind Alpha Go eclipsed the 1997's achievements of IBM's deep blue when it defeated Lee Sedol in a five – game match of go. Siri in apple and Cortana in windows are the best examples of AI assistants that we carry in our pockets indicating the future AI prospects in all sectors.

Peter Stone and others (2016) It is estimated that AI will service 50 to 60% percentage of jobs by 2030. This report studied 8 sectors where AI is successfully implemented Transportation, Healthcare, Education, Low resource communities, Public safety and security, Employment and workplace, Home/service robots and Entertainment. Imagine in these 8 sectors already created panic by affecting many jobs in these above sectors in advanced economies. But how to control the massive unemployment created by AI is an unanswerable question?

TCS Global Trend Study (2017) Due to AI South East Asian Nations like (Cambodia, Indonesia, Philippines, Thailand and Vietnam) 56% of the workers loose jobs due to the impact of AI, Robots and other advanced technologies in the next two decades to come. In the above countries indicated above three sectors are likely to be affected by Cognitive Technology: 1.Textiles, 2. Footwear and 3. Clothing. The following table gives a clear view the percentage of jobs lost due to Cognitive Technology by the year 2020.

FUNCTION	% OF JOBS ELIMINATED DUE TO COGNITIVE TECHNOLOGY BY 2020	% OF JOBS CREATED DUE TO COGNITIVE TECHNOLOGY BY 2020	NET CHANGE IN JOBSBY 2020
Corporate Level	23%	18%	-5%
Procurement	21%	14%	-7%
Legal	21%	15%	-6%
IT	20%	15%	-5%
HR	19%	14%	-5%
Distribution & Logistics	19%	15%	-4%
Finance & Accounting	19%	14%	-5%
Strategic planning and corporate development	18%	14%	-4%
Marketing	18%	13%	-5%
Manufacturing or operations	17%	12%	-5%
Customer service	17%	13%	-4%
Sales	17%	12%	-5%
R & D	17%	13%	-4%

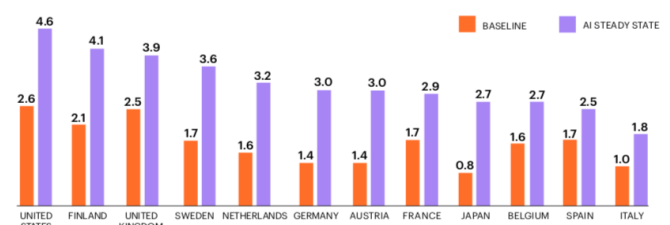
(Source: TCS Global Trend Study: Part - 1, Getting Smarter by the Day: How AI is elevating the performance of Global Companies, 2017).

From, the above table the statistics reveals that out of all functions the % of jobs eliminated is very high in Corporate – Level, followed by Procurement, Legal, IT and HR. And in the similar the % of jobs will be also high in the selected functions, and the net change in jobs is affecting at a higher rate all the functions the highest being Procurement, and the lowest being Distribution & Logistics, Strategic – Planning, Customer service followed by R & D.

Jonathan Gilliam and others (2018) The total number of jobs impacted by AI is estimated to be over 326 Million, by 2030. In this nearly 67% (218) million represents unskilled, and remaining 33% (107) million represents the skilled labor. If, we study the loss of jobs among the regions across the globe China, North – America and Latin - America will be higher with 50% of job losses. Southern Europe and Developed Asia will have a lesser impact on the jobs by AI. UK – RAS White Papers (2017) The impact of AI is not confined to one particular sector it shows its presence in various sectors like Manufacturing, Transportation, and Healthcare but also jobs in agri - food, logistics, security, retail and construction. Here the main thing to understand by the nations across the globe the economic impact change caused due to AI, and understanding the social, legal and ethical issues of AI and Robotics by maximizing the benefits and controlling the adverse effects caused by AI and Robotics.

AI the new Fuel for Growth of Economies:

Mark & Paul (2017) As, the world is debating on I – 4.0 and its storm but on the other side the AI, Robotics can be regarded as like a factor of production and can provide fuel for growth for all economies. As per the Accenture research the impact of AI in 12 developed economies, revealed that AI will definitely doubles the economic growth of these 12 nations by 2035. The details of those 12 countries are: - 1. USA 2. Spain 3. UK 4. Belgium 5. Sweden 6. Austria 7. France 8. Netherlands 9. Italy 10. Finland 11. Germany 12. Japan. The following figure clearly outlines the economic impact of AI for the above 12 countries basing on the gross value added (a close approximation of GDP)



(Source: An article published by Paul Daugherty, Accenture chief technological and innovation officer, Mark Purdy, MD – Economic Research, A research study conducted by Accenture titled: AI, is the future of growth, 2017).

From, the above diagram it clearly shows economic potential of these 12 countries before and after AI. The orange color indicates the expected economic growth rate of 12 countries, and the Purple color indicated the expected growth rate of those 12 countries by adopting AI. USA stood first 4.6% in benefit of AI in terms of GVA, and Italy 1.8% takes the last rank in terms of GVA by the benefit of AI.

Paul Daugherty (2017) Not only AI increases the GVA of the nations but also increases the overall labor productivity of these 12 countries indicated above. Here, LP (labor –

productivity) means not measured in the terms of increased working hours, but by the use of innovative and smart intelligent and self – acting machines. The following figure shows the LP – Rate of the countries discussed:

COUNTRY LIST	LP RATE (LABOR PRODUCTIVITY)
United – states of America (USA)	35%
Finland (FIN)	36%
United Kingdom (UK)	25%
Sweden (SWE)	37%
Netherlands (NED)	27%
Germany (GER)	29%
Austria (AUS)	30%
France (FRA)	20%
Japan (JPN)	34%
Belgium (BEL)	17%
Spain (SPN)	11%
Italy (ITY)	12%

(Source: An article published by Paul Daugherty, Accenture chief technological and innovation officer, Mark Purdy, MD – Economic Research, A research study conducted by Accenture titled: AI, is the future of growth, 2017).

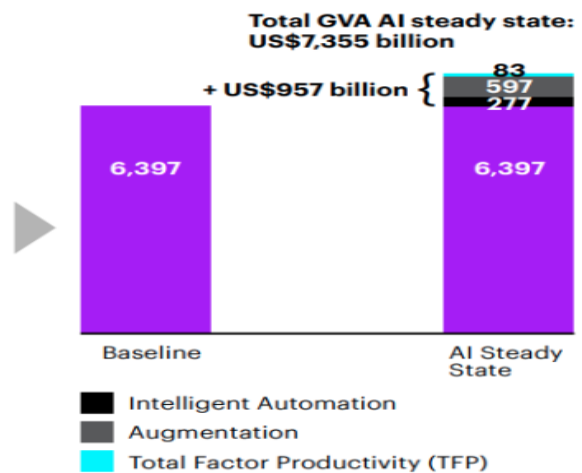
From, the table it is evident in the terms of LP –Rate Sweden stood 1st with 37% increase, and the last rank is Spain with 11%. This rate of increase in LP is due to the technological infusions and innovations that the respective countries adopt, and it is to be noted that these innovations may vary from country to country.

India’s Growth Rate Transformation by AI:

Financial Express (2017) According to Financial Express article AI will definitely boost up the growth rate both in India and China. Global IT giant Accenture also opined that AI will increase the India’s GVA (Gross Value Added) by 1.3% lifting up the country’s income by 2035. A study conducted titled “Rewire for Growth” AI will add \$ 957 billion to Indian Economy by reshaping and redefining its nature of work in all sectors, by 2035. Coming to the ranking position in AI start – ups India ranked third among G20 Countries list. But according to the Accenture report India is still lagging behind in the terms of AI, when compared to G20 Countries and also stressed that the Government should frame a National Policy on Artificial – Intelligence.

Amit Dua (2018) In a Union – Budget speech February, 2018 Finance Minister Arun Jaitley opined that Artificial –

Intelligence, Machine Learning and other advanced technologies are given prime importance to boost up the economic growth of the nation, and NITI – Aayog will establish a separate research and developmental programs to conduct on these areas. The Government of India has also invested heavily \$ 480 million for the year 2018 – 19, on AI, Machine Learning, and Quantum Computing, Big Data intelligence, 3D – Printing, Block Chain and Internet of Things. It is a common fear that AI takes away many jobs; in the same way it creates many more new jobs. According to the Gartner study India needs more AI professionals. The following figure shows the India’s GVA by the end of 2035. India’s GVA in 2035: \$ 957 Billion. And the total GVA AI steady state: US \$ 7.355 Billion.



(Source: How AI could change India’s Economy by Sandeep Radhakrishnan, Policy Researcher at Wonkery by Minance, January 2, 2018).

So, from the above graph it clearly indicates the India’s growth rate with AI is approximately & US \$ 957 Billion. The Black color indicates Intelligent Automation (277), Grey color indicates Augmentation (597) and whereas the Blue color indicates Total Factor Productivity in millions respectively.

Prakash Maiiya (2018) Opined as per the recent Intel Survey Report majority of the Indian Organizations (70%), are becoming ready to adopt advanced Cognitive computing capabilities within the next 18 months to come. If we see now in India for every one in five companies has deployed AI in some form or other. Although in India AI is still in a Nascent stage only and the companies in India are recognizing the importance of AI and reshaping according to it. India’s largest public sector bank SBI has recently planned to introduce AI platform YONO (You Only Need One) that benefits its users by providing all of its services through a single sign on. Lakshmi the first India’s “Humanoid Banker” introduced in City Union Bank (CUB) T – Nagar branch Chennai, can assist over 125 topics is the best examples how these intelligent assistants can augment the work of employees in organizations. Deena (2018) in its blog stated that AI could be successfully adopted at agriculture in India.

As India is an Agrarian economy where nearly 58% still rely upon agricultural sector alone. Recently, Microsoft in collaboration with International Crop Research Institute for the semi – arid tropics (ICRISAT), a sowing AI – APP was developed where the farmers can use this app in increasing their agricultural income, giving them greater price control over their crop yields. AI implementation on crop – yield was successfully tested at Kurnool in a groundnut crop in the state of Andhra Pradesh which resulted in the increase of 30 percent per hectare. Tech innovations and partnerships like that of Microsoft and TCS could help Indian farmers with information that is more data-driven and based on pure analytics. Whether such efforts lower the suicidal rates of Indian farmers or not is yet to be seen. But if the results are positive, it will be a boon to many agriculturally reliant Indian households that have faced huge losses. Deena (2018).

CONCLUSION:

Basing on the literature review from various sources on AI, Robotics and other intelligent machines often termed as I – 4.0 their impact on global economies revealed that the organizations has to completely Re - transform themselves completely in terms of their nature of workforce, jobs and its environment. The study also reveals that due to the impact of AI initial job – displacement will there throughout the globe replacing the current automation with advanced intelligent machines. In the same proportion the new I - 4.0 creates new jobs that requires new sets of skills and capabilities to compete with this intelligent machines. And it is also estimated that by the end of year 2030 326 million jobs will affected by AI. No need to worry about I – 4.0 that it also shows positive signs in the increasing the Global nation's GVA at a speeder rate. AI is not limited to one particular sector it is like a virus applied in each sector leaving its significant mark in terms of cost cutting, reducing wastage and enhancing the productivity rates globally. On the flip side AI, Robotics also suffers with some limitations that have to be overcome. Finally, to my opinion no industrial revolutions has threatened the mankind and this current 4.0 is not an exception all is needed how the nations across the globe implements and uses the AI & Robotics on a positive note in integrating Man vs. Machines.

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29. According to an article written by Prakash Mallaya titled: India Wants To Go All In On AI, But Must First Tackle Shortage Of Talent And Data, January 2nd, 2018.

30. In a blog by the Borgen Project article titled: Indian farmers use AI to increase their crop yields, by Deena Zaidi February,(2018).