ARTIFICIAL INTELLIGENCE: OPPORTUNITIES AND CHALLENGES IN INDIA

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Abstract:

The paper evaluates the opportunities and challenges of Artificial Intelligence in India. Artificial Intelligence has emerged as the technology with immense potential to provide low cost efficient, high speed transactions in diverse fields. Exploratory research design is used for the study. Published source are used for the study. Loss of employment is a short term adjustment required to evolve the ecosystem to leverage the benefits of AI for inclusive growth in India. Re-skilling and redeployment of resources will make AI a technology with potential to enhance ease of living in India.

Keywords: Artificial Intelligence, Efficient, Leverage, Jobs, Inclusive, Redeployment

Introduction:

Artificial intelligence (AI) is the new buzz word sweeping across the world as part of digital economy this AI has spearheaded into the realisms of the new century, which promises to play a major role in shaping the breakthrough transformation in various domains. Artificial Intelligence is an emerging field of computer science. The term Artificial Intelligence was coined by Mr. John McCarthy in 1956 (Hammond, 2015). AI was considered to be any program which is capable of doing something which normally would be done by human intelligence. The concept revolved around the concept of thinking machines. It is a sub field of computer science and explores how machines can imitate human intelligence (Marr, 2018).

Figure 1: Nature of Artificial Intelligence
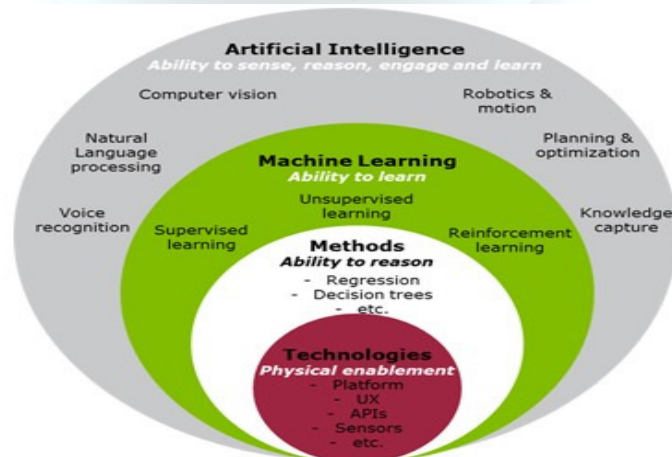
Source: Duin & Bakhshi, 2017

Significance: The study focuses on exploring opportunities and challenges of Artificial intelligence. Technology has been a leading indicator for growth and development. It is crucial to examine the scope and utility of AI for India.

Scope: The study covers AI opportunities and challenges in India.

Objective:

To evaluate the opportunities and challenges of Artificial intelligence in India

Literature Review:

Boden (1998) argued that creativity is an intrinsic feature of human intelligence and creativity is a challenge for AI. Ayachit (n.d) examined ICT innovation in banking sector. It was argued that technology changes are building the foundation of a new era in banking. It was argued that banks should bridge the gap between rural and urban banks. Singh (2015) examined scope and challenges of AI in India. It was argued that government should set up centers of innovation in collaboration with universities and start ups and prepare a supportive ecosystem for development of AI.

Abrar (2017) highlighted the automation will lead to huge job losses in India. It was quoted that as per World Bank research India will lose 69% jobs and China will lose 77% jobs due to automation. Seth (2017) stressed that machine learning and AI will have adverse consequences with regard to protecting privacy of individuals online and offline. Kalyanakrishnan et al. (2018) stressed on the need to develop regulatory framework for supporting emergence of Artificial Intelligence.

Research Methodology:

Exploratory research design is used for the study. Published sources are used for exploring adoption of artificial intelligence by firms in India.
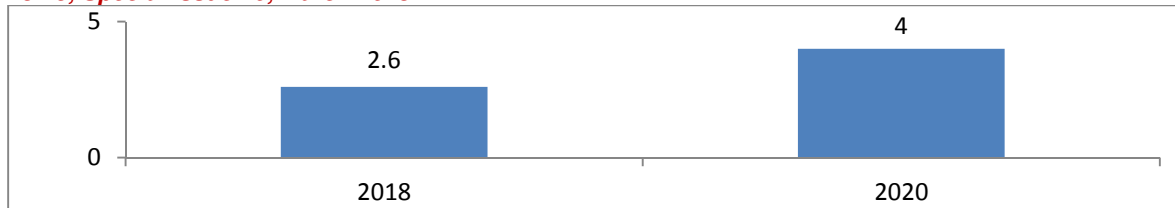
Findings:

The adoption of AI has picked up in India. The Chatbot market size is estimated to grow from $700 million in 2016 to $3 billion by 2021 (Singh, 2018).

Figure 2: Market Size of Chatbot in India (Million)
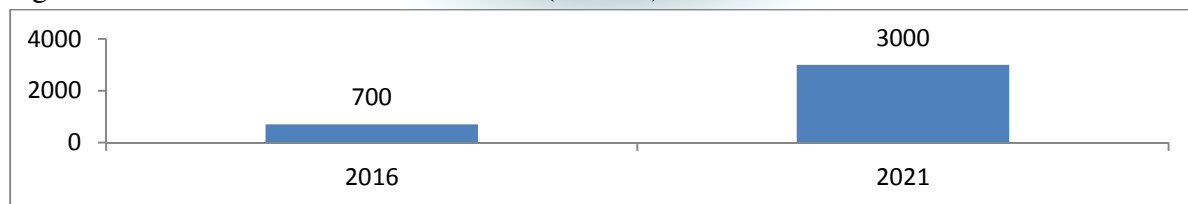
Source: Singh, 2018

Figure 3: Size of Public Cloud Market in India (billion)

Source: Economic Times, 2018

The public cloud market is estimated to increase from $ 2.6 billion to $4 billion by 2020.

Opportunities:

1. Capability to handle large volume of transactions by the firms.
2. Availability of open source cloud, open stack. Both public and private firms around the world are using open stack.
3. Standardisation. Standardisation has grown with establishment of Open Network Automation Platform (ONAP).
4. Economies of scale. Low cost of transactions will enable other firms to leverage cloud computing technologies for providing services to the consumers.
5. Extensive use of cloud technology, artificial intelligence, chatbot will improve efficiency of banks and improve financial inclusion.
6. Improve customer satisfaction.
7. Chatbot

Chatbot: Chatbot is an application of AI being adopted by Indian banks.
Figure 4: Global Usage of Chatbot (%)
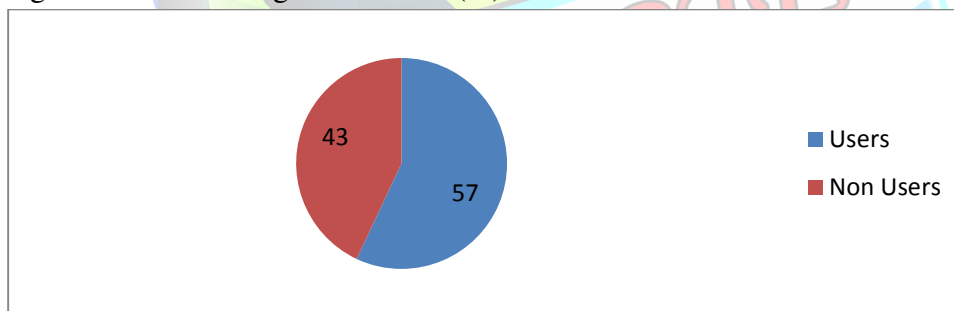
Source: D'Monte, 2017

Globally firms are fast accepting Chatbot. 57% firms globally are preferring use of Chatbot as shown in figure 4. In India banking system has moved to experiment with Chatbot and the response is encouraging. Eva the HDFC Bank's AI chatbot had handled more than 2.7 million cutomer queries in six months after inception. SBI Intelligent Assistant (SIA) can handle 864 million in a day or 10,000 enquiries per day (Monte, 2017).

Need in India:

AI has the potential to add $957 billion, or 15 percent of India's current gross value in 2035. The combination of the technology, data and talent that make intelligent systems possible has reached critical mass, driving extraordinary growth in AI investment so as to charter a new growth story for India (Accenture, 2017).

CHALLENGES:

However Indian academics, researchers, labs, and entrepreneurs face a different challenge than the corporations that dominate the space the infrastructure necessary for an AI revolution in India has been neglected by policymakers.

Skill development for future jobs

Not everyone is as sanguine as Brynjolfsson and McAfee about the coming AI revolution. The recent victory of AlphaGo (a computer program developed by Google DeepMind) over the world champion in Go has prompted fears of the threat posed by intelligent machines that are capable of superhuman tasks. The direst warning comes from noted physicist Stephen Hawking, who apocalyptically predicts the end of the human race with the development of "full artificial intelligence". In Foxconn as many as 60,000 workers have been displaced by robots in one Foxconn factory alone in the Kunshan region of China. China was projected to have more installed industrial robots by the end of 2016 than any other country, with more than 30 robots for every 10,000 industrial workers. If China were to increase that density, employment would be further damaged.

India will have to experiment with the kind of innovative instruments that Kaplan proposes if it is to prepare itself for the challenges from a machine intelligence-driven economy in the near future. India is a country with diverse languages. Adopting AI in different regional languages would be a challenge.

Conclusion:

Artificial Intelligence is a technological revolution that has potential to disrupt the way transactions and business operations are done. India is a laggard in the field of AI, as compared to US and China. The problems faced by India due to shortage of resources and inefficiencies in delivering services and interaction with stakeholders can be solved by using AI at a lower cost and higher speed. The loss of jobs is imminent in the short run, but new jobs may emerge to use the human intelligence for activities that may emerge out of demand supply dynamics of diverse human needs. AI is a potent technology. Policy maker need to pay proper attention to channelize the benefits to overcome the resource shortages and inefficiencies to enhance ease of growth and development. AI should be used for constuption (constructive disruption) and not a tool to make rich more powerful by eliminating jobs. AI should pave the way for inclusive growth of all sections of society for accessible education, healthcare, and justice to create efficient and inclusive and sustainable development.

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