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“A Study of Effect of Automation and Artificial Intelligence on the Labour Market with reference to Indian Start-Ups”

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ABSTRACT:

The 21st Century has witnessed a massive introduction of automation and adoption of Artificial Intelligence in the manufacturing sector. This has changed the very face of the industrial organizations. Its implication has several dimensions in various aspects and labour market is not an exception to it. Automation and the general use of technology in the manufacturing and service industries were spurred by the Industrialization. Automation generally refers to the integration of equipment into a self-regulating system. Automation has affected almost every aspect of contemporary life and altered the industries in which it has been used. It generally recommends integrating machines into an autonomous system. The process that robots, especially computer systems, mimic is known as artificial intelligence (AI). Advances in AI techniques have not only led to an explosion in efficiency but also opened up entirely new economic potential for some larger businesses. "Startups employ more people than large corporations." This article aims to examine the effects of automation and artificial intelligence on the employment market, with a particular focus on Indian start-ups. Start-Ups are largely responsible for the increase in employment in India, and in 2024, this trend is expected to continue India is home to a flourishing startup culture that is driven by a strong sense of entrepreneurial spirit, aspiration, and inventiveness. Youths' mindsets need to gradually shift in order for them to pursue creativity and launch their own businesses. Although this is a drawn-out procedure, making a conscious effort to complete it will be beneficial. In this sense, the university-established incubation centres can be beneficial. Without a doubt, the labour market will get better in the long run.

KEYWORDS: Automation, Artificial Intelligence, role of the start-ups, change in the mindset of youths. Government support.

1. INTRODUCTION:

The related field of mechanisation, which originated during the Industrial Revolution, gave

rise to the technology of automation. In the history of powered machines, every new advancement has resulted in a greater need for control devices to maximise the machine's power.

The adoption of automation and introduction of artificial technology in the manufacturing industry has witnessed a sea change in the labour market. The objective of this paper is to take a review of the impact of automation and Artificial Intelligence on the labour market specially referring to the Indian Start-Ups.

Automation is the use of machines to carry out tasks that were previously done by humans. In general, automation refers to the incorporation of devices into a self-governing system. Almost every element of modern life has been impacted by automation, which has revolutionised the sectors in which it has been implemented. In general, it suggests incorporating machines into a system that is autonomous. The word is commonly used in the context of manufacturing, but it is also used outside of manufacturing in relation to a range of systems where human labour is significantly replaced by mechanical, electrical, or computerised action. Automation, broadly speaking, is a method that involves carrying out a task using preprogrammed commands along with automatic feedback control to guarantee that the instructions are carried out correctly.

Artificial intelligence (AI) is the process that machines, particularly computer systems, simulate. The term artificial intelligence (AI), which was first used in the 1950s, refers to a broad category of developing technologies, such as machine learning and deep learning, that seek to replicate human intelligence. Artificial intelligence (AI) is capable of many things that humans cannot, including accuracy and efficiency. In addition to contributing to an explosion in efficiency, advances in AI approaches have given some larger businesses access to completely new economic opportunities. AI expands the scope, complexity, and quantity of jobs that can be automated, hence improving automation technologies.

2. REVIEW OF LITERATURE:

Sanjeev Bikhchandani,¹ article titled, "Startups generate more employment than big companies". He said that Using Zomato and Policy Bazaar as examples, Bikhchandani said that they generated thousands of jobs. However, since this was not in the formal sector, they were not counted. "But that is also livelihood, and it was done by a startup.

Milan Patel, Dr. Hemal B. Pandya, have in their research paper concluded that, the concept that the employment boom represents a long-term, sustainable change inside the Indian startup ecosystem rather than a passing fad is supported by the steadily increasing trend in job creation. The

¹E-Business Standard, article by Sanjeev Bikhchandani, titled, Startups generate more employment than big companies" available on https://www.business-standard.com/specials/bs-events/startups-generate-more-employment-than-big-companies-sanjeev-bikhchandani-124032800969_1.html

data presents a compelling story: entrepreneurs are driving India's economic growth and job creation, not just taking part in it.

3. DISCUSSION:

The state of automation technology has advanced to the point where many other technologies have emerged from it, gained recognition, and established a position of their own. One of these technologies is robotics; it is a subset of automation when the automated device has some anthropomorphic, or human-like, traits.

The 20th century saw several important achievements in a variety of sectors, including the development of a mathematical control theory, the digital computer, advances in sensor technology, and software for writing computer programmes. The advancement of automation technology has benefited from each of these advances.

4. INDIAN EMPLOYMENT SCENARIO:

India's unemployment rate increased from 7.4% in March 2024 to 8.1% in April 2024, as per the Consumer Pyramids Household Survey conducted by Centre for Monitoring Indian Economy Pvt. Ltd. (CMIE). Both rural and urban areas of India saw increases in the unemployment rate. The rate of unemployment in rural areas increased from 7.1% in March to 7.8% in April. The urban unemployment rate increased to 8.7% from 8.1%.

Even with increases in the total labour force participation and employment rates, India's working conditions are still subpar due to factors including stagnant or falling earnings, a rise in women's self-employment, and a bigger percentage of youth unpaid household work.

The India Employment Report 2024 was produced in collaboration between Human Development and the International Labour Organisation. According to the estimate, the country's working-age population—that is, those between the ages of 15 and 59—rose from 61 percent in 2011 to 64 percent in 2021. It is significant to remember that estimates place this percentage at 65% by 2036. More than 8 million youth are added to this category annually. Now, in this kind of situation, the percentage of education—which rose from 18% in 2000 to 35% in 2022—would be a crucial figure to examine. But throughout the same period, the proportion of young people involved in economic activity fell from 52% to 37%.

5. INDIAN START-UPS:

India's conception of startups has evolved significantly over the last 20 years, from a niche industry to a thriving ecosystem that has propelled the country's economic growth and raised its profile internationally. This evolution can be divided into three primary phases:

As per the Harun India study, there are currently 96 "Chitta" and 51 "Chinkara" startups in India, along with 83 "Unicorn" startups, whose market value exceeds one billion dollars. There were

84 unicorns, 51 chinkara, and 71 Chitta startups in this number last year. The market capitalisation of upcoming businesses with the potential to become "unicorns" is 4.67 lakh crores, a 16% increase over the previous year.

The number of new businesses and startups becoming "Unicorn" start-ups has surged over the past several years. As on the Harun India Future Unicorn Index 2023, 147 firms will become "Unicorns" in the next five years, while 51 startups have the potential to become Unicorns in three years.

Direct Job Creation:

Numerous jobs in a variety of industries, including as technology, e-commerce, healthcare, and education, are directly created by startups. Over 863,608 jobs have been created by Indian start-ups in the last ten years, making a substantial contribution to the employment situation in the nation.

Indirect Job Creation:

Startups have an impact on employment in ways beyond direct hiring. From their service providers, supplier networks, and ancillary businesses, startups often create indirect jobs. For instance, a food delivery startup may employ delivery personnel, but it also indirectly generates employment for staff members of eateries, providers of food packaging, and logistics companies that assist with its operations.

6. ROLE OF START-UPS IN GENERATION OF EMPLOYMENT:

The rise in employment in India is mostly attributed to Start-Ups, and this trend is anticipated to continue in 2024. The following is the impact of startups on the creation of jobs:

- ❖ **Job Creation:** According to a CII analysis, the Indian startup scene is expected to provide an astounding 50 million jobs by 2030 [Indian startups to generate 50 million jobs and add \$1 trillion to economy by 2030: CII study]. This emphasises how important it is for companies to create job possibilities.
- ❖ **New Sectors, New Opportunities:** In addition to well-established industries, startups are also generating employment in novel and developing fields like Fintech, SaaS, and e-commerce. This broadens the employment environment and provides Indian workers with a range of professional options.
- ❖ **Skilling the Workforce:** Numerous firms create work cultures that support on-the-job learning or offer training programmes to close the skill gap. This gives workers the newest skills they need to succeed in the digital economy.
- ❖ **Growth Across Industries:** The effects are felt in a number of industries, including manufacturing, IT, healthcare, and education. This diversification guarantees that a greater range of educational backgrounds and skill sets can find employment possibilities.

The Department of Economic Affairs said in 'The Indian Economy: A Review January 2024' that as of October 2023, the 1.14 lakh firms approved by the government under the 'Startup India initiative' had generated over 12 lakh jobs.

7. IMPACT OF AUTOMATION ON INDIAN INDUSTRIES:

Automation becomes a powerful force in today's quickly changing technology landscape, radically altering the nature of employment and how industries function. These days, automation permeates every aspect of our life, bringing efficiency to procedures and raising the bar for output. The way industries integrate these technologies causes a seismic shift in the job landscape. Conventional occupations are being reassessed; many new, specialised employment are growing, while others are in danger of becoming obsolete. Automation is driving this fast evolution, which not only enhances human potential but also replaces manual activities, freeing us up to concentrate on strategic and inventive initiatives.

Fundamentally, automation represents the significant influence of technological advancement. Although many people only associate automation with computers processing enormous quantities of data or robots manufacturing automobiles, automation actually refers to much more. It includes complex software algorithms that speed up decision-making, robots that mimic complex human tasks, and self-optimizing systems that produce better results.

Automation is crucial to determining how India will develop in the future as it navigates the line between tradition and technology. In India, the impact of automation on employment is noticeable in both the industrial and service industries. The way that India has embraced automation, from startups using Artificial Intelligence (AI) to improve customer experiences to rural sectors using automated gear for agriculture, shows that the country is undergoing change and is ready to take advantage of automation's benefits. Automation may cause the job market in India to change, according to recent studies.

8. EMERGING OPPORTUNITIES FROM AUTOMATION:

In India, automation has heralded the arrival of new career opportunities. Due to automation's impact on employment in India, there is a growing demand for educators, trainers, and consultants with expertise in these cutting-edge fields. Jobs in the modern age may require a different skill set, but they also present more growth potential and bigger rewards.

The workforce in India, which is renowned for its adaptability, is moving forward. As more people become aware of the difficulties presented by automation, demand for AI, digital marketing, and analytics courses is rising. Conventional roles are changing, with an emphasis on lifelong learning.

9. LONG-TERM EFFECT OF AUTOMATION AND AI ON EMPLOYMENT IN INDIA:

Experts are currently debating and researching how automation and artificial intelligence will affect the creation of jobs in 2024.

Job displacement: Certain jobs, especially those involving mundane work, are likely to be replaced by AI and automation. Although estimates vary, some sources claim that by 2025, millions of jobs could be lost worldwide.

Job creation: But AI is also anticipated to generate new employment prospects. These will probably be found in industries where AI suffers, such as data analysis, cybersecurity, and occupations requiring social skills, creativity, and critical thinking, as well as AI development.

Forecasts point to a future in which humans coexist with automation rather than it replacing them. Positions may shift, but human creativity will always be essential.

10. SUGGESTIONS:

The government of India as well as the State Governments should continue to give encouragement to the upcoming Start-ups. There are limitations for the government to provide employment to the vast number of graduate's turnout every year. The efforts to create entrepreneurial ability during the academic career need to be stepped up. Gradually mind set of the youths need to be changed to go in for creativity and establishing their own start-up. This is a long-drawn process but consciously attempted it will pay good dividend. The incubation centres established in the universities can play a positive role in this regard.

11. CONCLUSION:

India has a thriving startup scene that is full of aspiration, creativity, and a strong sense of entrepreneurial spirit. India has emerged as the third largest startup ecosystem globally, fostering the growth and realisation of audacious ideas and aspirations.

In this historic historical juncture, when change appears to be calling us from all sides, our ability to identify, come to terms with, and manage the employment consequences of automation will be our main guide. Rather than only being passive observers, we actively contribute to this evolution and have the ability to influence the outcomes to our advantage.

As of March 2024, the startup ecosystem in India had 114 unicorns, valued at a combined \$350 billion. 45 unicorns were born in 2021, and 22 unicorns in 2022. Of these 114 unicorns, 19 startups are either not publicly listed or were bought by a publicly listed business.

In conclusion, even though AI will probably cause some job displacement, the long-term effects on the creation of new jobs are complicated. The emphasis will probably move to the transformation of jobs and the creation of new opportunities that make use of AI and human collaboration. India is leaving no stone unturned to pay the way forward.

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