Impact of Artificial Intelligence on Indian Labour Market

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Abstract – This research paper will examine the double-edged effects of Artificial Intelligence on the Indian labour market by weighing the immense potential for increased productivity against the shockwave of 120 million jobs potentially at risk by 2030. Through a qualitative study of international and national documented cases in a desk research manner, the thesis reveals a pressing need for a "Skill Mismatch Crisis" coupled with a "regulatory vacuum" since current legislation such as the Factories Act and the Digital Personal Data Protection Act of 2023 neglect the challenges posed by algorithmic labour management practices, gig economy insecurity, and monitoring at the workplace. Analyze large-scale employment datasets (such as PLFS or EPFO) and online job vacancy data to measure shifts in job demand, wage polarization, and the "displacement effect" across different sectors., the paper points out how constitutionally entrenched equality and privacy rights may possibly be usurped against vulnerable categories. The paper propounds an aggressive three-legged policy initiative design for the Indian government toward a more equitable economic development through a massive upscaling program accompanied by comprehensive security provisions within the gig economy.

Keywords – Green bonds, sustainable finance, India vs global markets, renewable energy investment, climate funding, ESG.

I. INTRODUCTION

Indian labour market is one of the largest and most dynamic in the world. Trends around Indian labour market is anything but simple.

In 2025, the Indian workforce was estimated at around 56.2 crore individuals contributing to the growth of diverse sectors in the country. According to the Periodic Labor Force Survey, the labour force participation rate (LFPR) rose to 55% in August 2025, an index among countries that will supply nearly two-thirds of new workforce entrants in the coming year, according to World Economic Forum's Future of Jobs Report 2025. The rise in worker population, WPR, which reflects the share of employed persons in the population, also increased from 51.2% in June to 52.2% in August 2025, contributing to the overall national improvement. (PLFS,2025; WEF,2025)

Historical precedents like "Engels' Pause" reveal that technological revolutions often create a prolonged "productivity-wage gap," where macroeconomic gains fail to reach the working class until institutional safeguards catch up. In the contemporary context, AI is driving a similar "skill premium" divide, disproportionately rewarding those with AI-complementary skills—such as complex problem-solving and emotional intelligence—while threatening the wages and job security of middle-skill workers in routine-intensive roles. For India, the critical takeaway is that collective prosperity is not an automatic byproduct of innovation but a result of institutional adaptation; the success of this transition depends on whether frameworks like the National Education Policy (NEP) 2020 and the IndiaAI Mission can proactively bridge the inequality gap through agile, inclusive governance and large-scale reskilling.

India needs to add 7.85 million jobs every year until 2030 to sustain economic growth and social inclusion according to economic survey 2023-24. The growing population leads to the growing labour force which ultimately leads to the higher demand of employment. Employment becomes the necessity in the growing Indian labour force. The main giant threatening and limiting the employment opportunities is the artificial intelligence and machine learning. (Economic Survey 2023)

According to NITI AAYOG CEO BVR Subhramaniam ;" if you do nothing you are bound to lose jobs. Don't look at it as just 2 million jobs as this 2 million probably support an ecosystem of 20 to 30 million others. As their income moves through the economy with demand for both goods and services and create sustenance for many more. Are you going to be minus 2 million or are you going to be above 8 million to 10 million to 20 million? We can go up or down. Job profiles are changing. The nature of expertise is changing. Processes will change. So massive changes are coming."

Here BVR Subramaniam talks about the two ways the Indian labor force would take the Indian economy. Either there would be increase in employment if the labor force would change with the time or there would be employment crisis if the labor force stick to the traditional approaches. Thus the question arises, Which direction India is moving?

II. REVIEW OF LITERATURE

India is presently at a critical economic crossroads as it finds itself in a fast-paced AI transition that has the potential of job displacement in technology and CX (NASSCOM-BCG, 2024), as well as leaving its 490 million informal

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workers extremely vulnerable as a result (NITI Aayog, 2025). Even though AI has immense potential for enhancing labor productivity and overall GDP growth, this is possible only if it is coupled with overcoming a massive skill deficit and as a result of meeting the "AI for All" requirement (NITI Aayog, 2018; 2021). For overcoming possible socioeconomic challenges and making use of demographic advantages, India has no other choice but to emphasize an intense National Reskilling Engine with simultaneous fast-tracking of social security structures for gig laborers on a massive scale with a view toward converting automation challenges into an engine for sustainable and balanced economic growth.(Chakrabarti, A., et al. (2024)

The world is witnessing a global structural transformation due to the emergence of AI, which is, in essence, radically altering the world of labor with automated and novel forms of work. Although international organizations, including the IMF and the influential consulting firm McKinsey, point to the extreme vulnerability of white collar and repetitive jobs (IMF, 2024; McKinsey Global Institute, 2025), the general consensus tends to stress a net shift of jobs in a positive manner, estimating that there will be a loss of 92 million jobs, but at the same time, there will be the creation of a whopping 170 million jobs as the labor force realigns itself to work in sync with AI through novel job forms. (World Economic Forum, 2025)

Comparing these transformations to the former industrial revolutions, academics have argued that the key to success will not be the availability of the new technology but the availability of adaptable institutional frameworks to effectively address the transitional impact of these changes, thus utilizing the productivity capacities of AI to ensure a favorable distribution of the economic outcome, as opposed to the disruption of the status quo. (Acemoglu & Restrepo, 2019; Acemoglu, 2025)

The rapid adoption of AI across all sectors in India's IT, healthcare, and finance is opening up vast opportunities, projecting the creation of about 4 million new jobs related to customer service by 2025 (NITI Aayog, 2025; NASSCOM, 2025). Driven by a very high corporate intent to deploy AI tools, this expansion points toward a technology-enabled job model. To date, however, the "skill mismatch crisis" acts as a valid reason for concern, having outdated academic curricula and weak industry linkages lower the levels of competency (India Graduate Skill Index, 2025; NITI Aayog, 2018/2025). The disengagement currently becomes an outstanding threat against the employment rate, given the expectations of the modern labor market, which wants a resource that can adapt to technologies quickly and be highly technically proficient.

Scholarly literature indicates that the AI transition may accentuate socio-economic differences, especially affecting informal sector workers, women, youth, and people in rural areas. To mitigate this, there is a "Governance Imperative" to attain a balance between innovation and ethical norms of accountability, fairness, and transparency in AI-related developments and applications. International guidelines issued the flexible and guiding principles that can be scaled to keep pace with AI developments (OECD, 2024; UNESCO, 2021). In India, the "AI for All" approach by NITI AAYOG and the NEP-2020 document have a clear strategy to achieve socio-economic inclusivity in AI-led developments, but their effectiveness will be based on alignment between skill training and market requirements that keep shifting in the evolving world of AI innovation. (NITI Aayog "Roadmap for Job Creation," 2025; NASSCOM, 2025).

YUVAi and Future Skills PRIME are vital tools to achieve AI literacy and a mindset conducive to 'life-long' improvements in this subject to ensure that the vulnerable sections are protected and enabled to attain balanced progress in this space. (IndiaAI Mission, 2026; PIB Delhi, 2025).

III. OBJECTIVES OF THE STUDY

To examine the relationship between AI and Indian labour market.
To examine the Impact of AI in Indian Labour Market
To examine the skill mismatch in AI in Indian labour market

To examine the relationship between AI and Indian labour market.
The main aim is to examine the two-fold effect of AI on the Indian job market by tracing the substitution of routine jobs in the IT/BPM sector and finance space, as well as the creation of high-growth jobs such as Data Science and AI Governance. This study attempts to measure the extent to which AI supports human productivity at varying scales of businesses ranging from startups to Global Capability Centers (GCCs), thereby reversing the paradigm from one of job substitution to one of economic value addition. Lastly, the study examines the paradigm shift occurring within employment security patterns—a comparison between the formalization of high-skill jobs and those at risk of becoming precarious within the platform and informal economy.

To examine the Impact of AI in Indian Labour Market
The next objective is about an exhaustive assessment of the revolutionary impact of Artificial Intelligence and Automation on the Indian job scenario, detecting the significant paradigm shift from an age of "job replacement" to an age of "human augmentation." The objective involves an exhaustive analytical study of how Automation is disrupting traditional Employment Zones like Manufacturing and BPO services by increasingly replacing tasks that involve humans carrying out repetitive and routine tasks, even as there is an increase in Employment Zones like Healthcare and Agriculture. Most importantly, the objective will address the issue of detecting the level of skill polarization, wherein higher-skill jobs involving high-tech areas of cognition will see an increased demand, even as entry-level jobs involving clerical skills experience a

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downward trend. The objective will finally provide an analytical roadmap about how India is poised to harness its unique feature of establishing a "demographic dividend," ensuring complete reskilling and upskilling of its workforce and mitigating threats of unemployment.

To examine the skill mismatch in AI in Indian labour market

The third set of objectives encompasses India's workforce systemic readiness and legal frameworks to bridge the AI skill mismatch both through specialized technical training in AI and through "AI fluency" among the general population. In addition, this task evaluates the performance and effectiveness of programs like the India AI Mission in re-skilling and upskilling various parts of the workforce to meet the changing industrial requirements. Beyond talent, the study hopes to update outdated labor laws, investigating ethical risks such as algorithmic bias in recruitment and the privacy implications of AI-driven worker surveillance. Eventually, it aims to propose forward-looking policy frameworks to ensure transparency and social security, particularly for gig economy workers whose livelihoods depend on interactions with non-transparent algorithmic management systems.

IV. METHODOLOGY

The proposed research follows a Secondary Research Approach (Desk-Based Research) (Scribbr, 2025; R Discovery, 2025) to critically analyze the multidimensional challenges caused by AI in the Indian labor market, leveragging the enormous availability of data, predictions, and historical research efforts because of the extremely rapid pace of advancements in AI. The rationale behind this research design being extremely effective in dealing with extremely complex research queries about technological transformation, mass layoffs, major sectors being reoriented, and a continually increasing gap in skills because of the difficulty in collecting comprehensive data to keep in pace with extremely dynamic phenomena such as Generative AI warrants no explanation. The research being proposed shall be designed to blend comprehensive data sources available in hand with inferences drawn through historical references to studies of previous industrial or technological revolutions such as in "Engels' Pause," (Allen, 2009; The Hindu/Civilsdaily, 2025; Crafts, 2021), presently escalating into a software-driven technological revolution in a manner being accounted for by contemporary predictions in research contributions offered through influential global forums such as IMF, World Economic Forum, or NITI Aayog.

V. RESEARCH DESIGN

The methodology integrates three distinct research designs to ensure comprehensive coverage. Descriptive Research establishes the current baseline by documenting the penetration of AI in India's key sectors- IT, Healthcare, and Finance -using current employment statistics and industry reports from government and corporate bodies like MeitY and NASSCOM (NASSCOM-EY, 2025; IndiaAI, 2025; PIB, 2025). For instance, recent reports published by NASSCOM give very granular insights into the AI skill penetration and adoption rates in the IT workforce, thus offering a clear snapshot of the present-day technological footprint. This descriptive foundation is critical for anchoring the subsequent analysis. The design then shifts to Exploratory Research to tackle the inherently uncertain future implications of Generative AI on white-collar employment (Goldman Sachs Research, 2025; McKinsey Global Institute, 2025; IIM-Ahmedabad, 2025). Since this technology is unprecedented, the study synthesizes expert projections -for example, from Goldman Sachs and McKinsey-along with theoretical models to forecast future employment vulnerability. The third component, Comparative Analysis , contrasts AI's impact on labour-surplus India with its effects on technologically advanced economies such as the US and UK, utilizing macro-level data from the IMF and World Bank to comprehend relative automation exposure indices and policy lessons, thereby placing India's unique challenges in context. (IMF AIPI, 2025; Federal Reserve Board, 2025)

Data analysis and Strategy

The Data Collection Strategy is designed in a way that it offers a multi-dimensional view by incorporating institutional perspectives from NITI Aayog, international automation standards from the IMF/ILO, and detailed industry projections from NASSCOM/McKinsey. The methods adopt Thematic Analysis wherein data is clustered into fundamental pillars: job disruption, skill gap, and readiness (NITI Aayog, 2025), but with a historical perspective that separates labor-intensive sectors like BPOs from more skill-intensive areas like Healthcare Diagnosis. An integrated perspective is drawn from theories like Engels Pause to interpret the effects of AI-induced changes in income inequality. (Allen, 2009; The Hindu/Civilsdaily, 2025; IMF WP/25/67)

Despite such a robust framework, the study is still based on some inherent limitations: mainly relying on nonlinear projections, the economic forecasting models may struggle to keep pace with rapid evolution in AI technologies. Further, the scope of data lag in official Indian employment statistics may turn out to be a kind of disconnect between the published figure and real-time speed of AI adoption (Liu, 2024; IJFMR, 2025). Most importantly, the study admits to the challenge of representing the informal sector, where it has noted that secondary data often fail to capture how AI influences, indirectly, the livelihoods of the unorganized workforce comprising the majority of India's labor market. (NITI Aayog, 2025; PIB, 2025).

VI. DISCUSSION

Relationship between AI and Indian Labour Market

The international job market is now facing a nonlinear shift with AI transforming from a background factor to an autonomous element with the potential to perform tasks that were exclusively human capabilities. Major institutions

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suggest a "winner takes all" situation with the potential loss of 300 million jobs globally and a significant shift in the needed workforce with 57% of jobs being affected in the emerging economies, warned Korinek and Stiglitz (Korinek & Stiglitz, 2021), with the increase in productivity being cornered by a handful of tech firms and further intensifying international socioeconomic disparities.

For India, this challenge is existential in terms of policy, with the World Economic Forum reporting that 120 million jobs are set to be displaced by 2030 (World Economic Forum, 2025; 2026). This challenge is exacerbated by the "Employment Imperative" needing approximately 78.5 lakhs of new non-agricultural jobs every year, with its vast IT workforce fully engaged in routine and marginal work (Ministry of Finance, 2024; Economic Survey, 2025). Learning from the past with "Engels' Pause" would indicate that without institutional resilience and joint public-private collaboration, these shocks would result in wage polarization over several decades. Therefore, it is the need of the day for India to develop strong social infrastructure to use AI-powered change for inclusive economic change.

In the Indian context, such dynamics are stagflationary because of the sheer size of the country's workforce and its structural vulnerabilities. While the danger to the global market for generating '30% hours of work' through AI applications is already clear for the developed regions of the world, it is equally applicable to the Indian economy because of the service sector. It is not only desirable but essential for the Indian economy to ensure a balanced application of AI because the desirable outcomes of ensuring shared prosperity or even the chasms between the rich and poor will be harped upon because of the already existing disparities.

institutional projections reflect a large displacement risk for employment in India, where the World Economic Forum predicts close to 120 million jobs are under threat for the year 2030. This makes for a high-stakes "employment imperative" since India has the need to produce close to 7.85 million new non-farm jobs every year simply to match its ever-growing labor force. The disruption potential of AI directly conflicts with this need for job creation, especially in the services industry where most of the IT labor force is engaged in routine maintenance and testing, both of which are most amenable to computerization.

Additionally, apart from the short-term pressure it creates in the labor market, mass displacement threatens India's consumption-driven model macroeconomically. With income falling, there will be subdued demand, possibly triggering deflation and hence stalled investment. For the country to stick to its growth path, there is a need to transform its job market from the less skilled and repetitive job market to an AI-enabled, skilled job market, where increased productivity is linked to better job outcomes and not unemployment.

Potential no. of displaced jobs due to automation in 2030
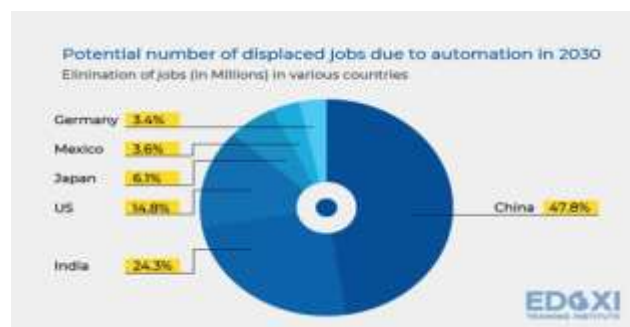
Source : World Economic Forum – Future of jobs report, 2025 (EDOXI)

This graph shows that out of total no. of job displaced due to automation in 2030, India's part is 24% which is second largest job displacement in the world second to only China which has 47.8 %.

Beyond the immediate employment crisis, large-scale job displacement is a serious macroeconomic risk to India's growth trajectory. Given that the Indian economy is very consumption-driven, a sharp decline in household spending-induced by widespread job losses-could trigger severe macroeconomic consequences (Ministry of Finance, 2025; EY-India, 2025). The reason is that such a shock could knock the economy off its long-term growth trajectory, as reduced consumer demand interacts with structural unemployment in creating a deflationary pressure and dampening investment.

Given the high uncertainty of AI's nonlinear evolution, prudent policymaking needs to adopt a "precautionary principle," overestimating potential disruptions in order to build resilient defenses rather than risking reactive, insufficient responses. By treating AI as a "Digital Public Infrastructure" (DPI), policymakers can democratize access to technology and data, making sure the productivity surge accrues to all sections of society including the informal sector. Only thus can the risk of automation be transformed into a catalyst for inclusive, broad-based growth consonant with the vision of "AI for All." (NITI Aayog, 2025; IndiaAI Impact Summit, 2026).

Therefore, it follows that the coordination of such a policy suite should be in-service to ensure massive, sustained investment in education and a "National Reskilling Engine," building a labor force that is not only digitally literate but also characterized by high-complementarity skills to be applied in collaboration with AI. Second, in regard to such transition, strong enabling institutional frameworks are called for: protection of those workers who will be displaced by means of adequate social safety nets; guidelines regarding ethical standards. Success depends upon a "Triple Helix" coordination of government, industry, and academia, guaranteeing that the dividends from AI trickle down into societally relevant goals and do not remain confined within narrow technological enclaves (IndiaAI Mission, 2026; DRIIV, 2025).

Impact of AI in Indian Labour Market

India finds itself at the threshold of a crucial moment where it must meld the requirements of Artificial Intelligence integration in a situation where it has a surplus workforce and an environment where the technological and economic dynamics are changing at a rapid pace. On the one hand, AI induces a transformational and accelerating effect that has a potential worldwide affect on the factor of productivity, but it is also raising concerns related to job security with the increasing usage of AI leading to more and more automating of jobs currently being performed by human resources. Results from the IMF forecast that around 40% of employment worldwide is at threatened AI, and countries with a more developed economy are facing a greater threat with 60% immediate effect. Emerging economies, although with 40% initial threat, face a "readiness gap" because of the "lack of digital infrastructure and talent." (Cazzaniga et al./IMF, 2024; Georgieva, 2024).

The immediate impact of disruption in these dimensions is quite drastic, with Goldman Sachs projecting that AI will be capable of automating jobs to the scale of 300 million full-time jobs worldwide. In the UK and the US, a staggering two-thirds of jobs are vulnerable to varying degrees of automation (Goldman Sachs Research, 2023; 2024). However, in a nation like India, with a whopping 500 million people in the work force, there is an "Employment Imperative" at play in the face of this technological shift. There needs to be more than the basic automation that happens in the country and the enhancement of human-AI co-working to achieve equitable outcomes in the AI and digital revolutions.

Artificial Intelligence: Artificial Intelligence refers to the computer program developed with the intention of doing tasks that would require human intelligence in the future, such as learning, problem-solving, processing language, and more. Automation refers to using technology to automate jobs; jobs that require human interaction at a minimum.

Artificial intelligence and automation have pervasively integrated with daily life. Platforms such as Facebook and Instagram rely on AI-related concepts such as pattern recognition to recommend people to connect with, and programs such as Netflix and Prime Video rely on historical data to recommend viewing material. Google's predictive search functions are able to predict what a person searches for in real time, and online shopping platforms rely on artificial intelligence to optimize filtering and browsing experiences. Together, these functions make interaction more seamless and easier to enjoy

Taken together, AI and automation are shaping an industrial revolution that will make machines capable of executing more than just repetitive work but also assisting in decision-making functions.

According to an estimate by a Goldman Sachs study, AI could put at risk about 300 million jobs globally in total. In the U.S. and Europe, two-thirds of existing work roles may be exposed to automation. A UK survey of 22,000 job types puts the number of vulnerable jobs at nearly eight million, with about 11% of tasks already automated.

According to research from the University of Pennsylvania, white-collar workers who earn about USD 80,000 per year are very susceptible-especially in customer service, accounting, retail, sales, and research (Eloundou , 2023; Felten , 2023). McKinsey estimates that up to 14% of the world's workforce could be forced to change occupations because of AI-driven labor market changes by 2030.

How many people use AI at work?
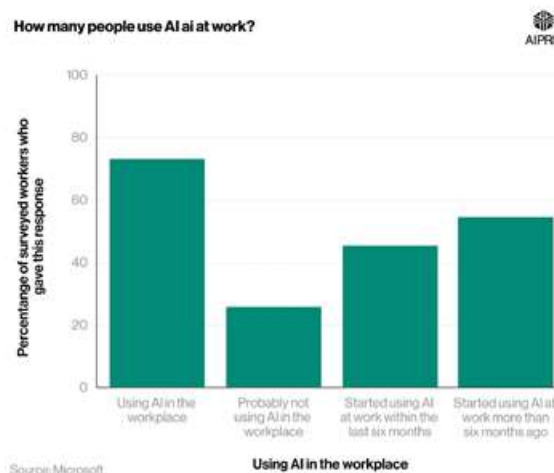
Source: Microsoft,2024(AIPRM)

This graph shows how many people use AI at work, which clearly can be seen 75% of workers use AI at work out of which 55% are those who were using AI for more than six months ago, this is the data for one of the largest tech company Microsoft, which can be taken as a sample of what other large tech companies are upto and it is heavily relied on AI.

The Indian IT sector has traditionally employed millions of engineering graduates and has been a mainstay for over 5.4 million employees. However, the shift to AI-enabled systems is gradually altering this situation. While corporations are investing heavily in employee reskilling, experts warn that there is a possibility of "white-collar recession" by 2027. (Economic Times, 2026)

AI is also changing blue-collar jobs in manufacturing, retail, and healthcare. Nearly 300 million workers might be affected, but widespread job elimination is unlikely; instead, AI is expected to complement human labor and improve productivity.

AI-driven automation is giving rise to a seismic shift in the Indian job market that is set to erase nearly 1.8 crores of jobs by the end of 2030." There is a "Decoupling of Revenue from Headcount," as "Agentic AI is fueling a

cognitive dimension to the existing process of 'mechanization' in sectors such as textiles and electronics." Moreover, there is "Decoupling" in the IT sector too. "Algorithmic Management is redefining the unorganized sector workforce of nearly 490 million workers." There is a "Need for Mission Digital Shram Setu." "A digital ID and Blockchain-based social security are the necessities for a population that is increasingly vulnerable to the opaque 'AI Governance.'" (NITI Aayog, 2025; PIB, 2025).

To address these risks, India is focusing its strategy in four key areas of upskilling, digital infrastructure, social safety nets, and institutional transformation. With 85 percent of engineers considering the importance of upskilling as strategic in importance, the PMKVY 4.0 and Future Skills PRIME schemes are vital in redeploying the workforce in the tech-enhanced environment (India Today, 2025; Times of India, 2025). Concomitantly, the rollout in 2026 of the social security framework for gig workers, funded from fees pooled from the turnovers of aggregators, marks the beginning of an institutional game-changer in the gig economy. Through the integration of the NEP-2020 literacy agenda with the India AI Mission strategy, the old fear of your Job! can be converted into the promise of millions of jobs in an augmented reality of service work.

New Avenue for Job Creation
It works as a double-edged transformational force for Indians, which will benefit the economy by adding up to USD 500 billion to the country's GDP by 2025 and can potentially generate 20 million jobs for Indians in the IT sector, logistics, and agriculture. (NASSCOM-BCG, 2025; Ministry of Electronics & IT, 2025).Due to the application of human resources from low-value tasks to high-value decision-making, AI increases the quality of work and makes it easier for startups to enter the main healthcare sector. This changeover puts at risk around 60 million jobs in the global manufacturing sector and thealed-off low-skilled entry jobs for the Indian IT sector (ILO, 2025; World Economic Forum, 2025). The biggest risk is constituted by the 490 million workers from the working-class sector since they do not possess social protections to make the 'skill premium transition,' which is naturally friendly to high-skilled workers.

In order to effectively deal with this paradox, India needs to use the following multi-faceted approach, with Large Scale Reskilling and Strong Social Security being the focus. Because 87.5% of the engineers in the country feel the need for reskilling, the need for the government to support initiatives like the Skill India Mission and the FutureSkills PRIME initiative assumes utmost importance in making the country's populace AI literate. Along with this, the country also needs to ensure the presence of the "Strong Architecture of Social Security" with portable pension and health insurance arrangements to safeguard the interests of the informal sector in the time of technological transition. Also, with the increase in the reach of the Atal Innovation Mission to nurture rural enterprise, with the "AI for All"

vision from the NITI Aayog, the country will be better equipped to address the paradox by overcoming the digital divide and thus making prosperity more inclusive in nature, hence moving from broad-based growth to prosperity.

Skill Mismatch
One of the most daunting global challenges of the coming decade is a growing disconnect between the skills possessed by the traditional workforce and the competencies needed in an increasingly technology-oriented labor market.

The transition is likely to render 9.2 crore jobs obsolete globally in six years from now. Simultaneously, the evolving economy is likely to create 17 crore new roles requiring completely different sets of skills. The report on the Future of Jobs by the World Economic Forum projects that, by 2030, the global labour market will have changed irrevocably: while about 170 million new jobs will have emerged, the economy will have also dispensed with about 92 million existing jobs, yielding a net gain in employment of about 78 million jobs. Several forces drive this change: rapid technological innovation, demographic shifts, economic turbulence, and geopolitical tension. (World Economic Forum, 2025)

Still, the most immediate challenge will be the labor/skills gap. Almost 40% of the core skills needed for most jobs will change, while more employers already consider skill mismatch to be one of the leading barriers to organisational growth, according to a recent Forbes report. Although the demand for technical competencies like AI development, cybersecurity, and data analytics will increase sharply, human-centered competencies such as creativity, problem-solving, and adaptability will remain significant. Geoeconomic uncertainties and cost pressures will also impact hiring and operations and shape business decisions on offshoring, reshoring, and automation (Forbes India, 2025)

In the Indian context, although economic growth has remained relatively strong, it has failed to translate into adequate employment generation for the country's rapidly growing workforce.

One of the major reasons constitutes the persistent skills mismatch; a large number of workers lack either education, training, or relevant competencies for the needs of modern sectors. Surveys consistently show that a high proportion of educated Indian youth are unable to find gainful employment due to the mismatch between qualifications and nature of available jobs. (MoSPI/PLFS, 2025; India Macro Indicators, 2025)

Automation and AI are fundamentally restructuring the Indian labor market by shifting the demand from low-skilled, manual tasks to technology-specific roles. In the manufacturing and IT sectors, routine processes like assembly-line welding and basic data entry are being phased out in favor of high-value tasks such as digital production management, cybersecurity, and AI

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development. This trend extends into service industries like banking and retail, where chatbots and automated logistics are replacing clerical work, as well as agriculture, where the introduction of drones and automated machinery is creating new technical maintenance opportunities for rural youth.

While automation displaces repetitive labor, it acts as a force multiplier in human-centric fields like medicine and education, where technology supplements rather than replaces human expertise. Advanced tools such as robotic surgery and digital teaching aids necessitate a new class of "hybrid" professionals who can integrate domain knowledge with technological proficiency. Ultimately, India's primary economic challenge lies in managing this transition, ensuring that the workforce is reskilled to move away from redundant manual operations and toward the "unlimited avenues" provided by a high-skill, tech-driven economy.

Training gap in Indian Labour Market
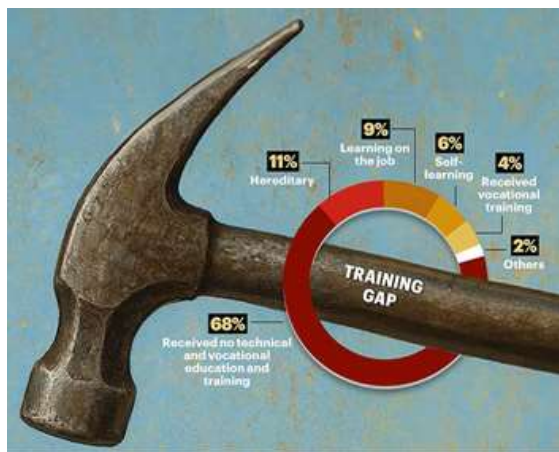
Source: PLFS data, 2023-24(India Today)

This figure shows the training gap in Indian Labour market, out of the total 68% of the labours received no technical and vocational education and training, 11% are hereditary labours, 95 are those who are learning on job, 6% are self-learning, and only 4% received vocational training.

"Skill mismatch" is where workers' abilities do not match available jobs. This problem is particularly severe in India. Large numbers of students get graduate degrees or other certificates without being able to find suitable employment thereafter. For example, only a small fraction of graduating engineers are assessed to be employable without further training. There is a dual nature to this problem: inadequate skills to perform in modern, technology-related jobs on the one hand, and the possession of advanced qualifications on the other, which are followed by employment in low-skilled jobs merely because better opportunities do not exist (Ministry of Finance/Economic Survey, 2025). Automation has heightened the problem: with the disappearance of entry-level factory employment, even workers with basic education lack relevant options.

Skill mismatch also feeds into increasing social inequality. Those who have digital or technical skills will get high-paying jobs, whereas those with obsolete or general qualifications will be left behind, leading to an increase in the chasm in income disparity. As such, the India Skills Report 2024 finds only 45.9% of graduating students are job-ready. Likewise, NITI Aayog estimated in 2020 that over 50% of the country's youth lacks employability skills. In 2023, the International Labour Organization mentioned that nearly 30% of India's youth belongs to the NEET category—Not in Employment, Education, or Training. While automation is creating new opportunities in programming, machine operation, data management, and related fields, India's workforce often lacks the capabilities needed to fill these roles. As a result, structural unemployment has characterized job vacancies without suitable candidates. The gap needs a major strengthening of education and training systems in order for workers to acquire the necessary skills being demanded in the increasingly digital and automated economy. (ILO-IHD, 2024; World Bank, 2025)

VII. FINDINGS

The "Nonlinear" Employment Crisis
The study points toward an "imminent Employment Imperative," which requires India to provide an additional of 7.85 million non-farm employment every year to keep up with the labor force. Nevertheless, due to the emergence of AI as a front agent rather than a back agent, Indian employment may witness a loss of 120 million by 2030. This could fuel a "winner-takes-all" market that places productivity increases only with certain tech companies and could result in an "Engels' Pause" in wages.

Sectoral "Decoupling" and Vulnerability
IT & White-Collar: A "white-collar recession" is forecasted by 2027 as AI-first delivery models "decouple" revenue from headcount, automating entry-level coding and testing.

Manufacturing: The use of "Agentic AI" is adding a cognitive layer to mechanization, which is replacing almost 1.8 crore jobs in textiles and electronics through automated process optimizers.
The Unorganized Sector: 90% of the Indian workforce, which is 490 million in number, faces "Algorithmic Management" where the AI system underlines their livelihood with no conventional legal protection.

The "Training Gap" and Structural Skill Mismatch
A significant realization is the skill deficit faced by the Indian economy. Though there are chances that 170 million new job opportunities are to be created globally, the chances of fulfilling that are presently faced by the Indian economy due to the fact that:

The 4% Reality: Only 4% of the Indian workforce has received formal vocational training, while a staggering 68% have had no technical or vocational education.

Employability Crisis: Almost 50% of Indian youth are not deemed employable in the country, and 30% come in the NEET category, meaning Not in Employment, Education, or Training.

Macroeconomic and Social Risks

Consumption Threat: Large scale displacement is a potential threat to the consumption-based Indian economy. Deflation and halted investments are likely to take place with the rise of decreased income.

Skill Premium Inequality: The concept of a "skill premium"—where AI skills are rewarded with an increase in salary, whilst routine-based jobs are replaced, exacerbating the wealth gap—is also on the rise.

Strategic Policy Pillars for Resilience

The paper concludes that the process of transformation of the Indian economy will be conditional on the "Precautionary Principle" and the coordination of the "Triple Helix" of the government, industries, and academia Institutional Innovation: Implementation of the 2026 Social Security Framework for Gig Workers and the Digital ShramSetu.

Digital Public Infrastructure (DPI): Conceiving of AI as a public good to enable MSME and rural enterprises' access to it.

National Reskilling Engine: Harnessing PMKVY 4.0 and FutureSkills PRIME for converting the 85% of engineers looking for upskilling opportunities into a tech-enabled workforce.

Inclusion: Leveraging the vision for "AI for All" to inject 4 million new jobs in augmented services by the end of 2025.

VIII. POLICY RECOMMENDATIONS

India needs a comprehensive governance framework that is future-ready to ensure Artificial Intelligence evolves responsibly, accountably, and transparently. The following recommendations spell out the key policy actions required to achieve a balance between innovation and regulation while maintaining public trust for the long-term benefit of society.

Trust is the Foundation

Establishing public confidence and ethical behavior across the AI ecosystem.

Promoting Responsible Progress

We prioritize the responsible creation and widespread implementation of AI, advocating for innovation over undue restriction.

Equity and Impartiality

AI systems must be designed inclusively, actively working to prevent discrimination and algorithmic bias.

Clear Responsibility

This principle mandates clear accountability and liability across the full AI development and deployment lifecycle, often suggesting a liability structure that is graded according to the system's risk level.

Transparency and Clarity

AI systems should be understandable by design. They must offer transparency and explainability to both users and regulators to resolve the inherent "black box" issue.

Durability and Security

It is essential to implement robust safeguards to minimize the potential for harm and guarantee that systems are resilient and robust against malfunctions and failure.

Strategic Roadmap for AI Governance and Regulation in India:

What India needs is an agile, principles-based governance framework that substitutes rigid legislation with dynamic and multi-layered regulations undergirded by concerns for transparency, accountability, and safety. This proactive approach would mean policy would evolve through constant monitoring and periodic recalibration, hence effectively balancing rapid AI innovation with the management of ethical risks.

Addressing Emerging Risks and Fostering Innovation:

In the fight against deepfakes and misinformation in India, the government seeks to empower dedicated bodies such as the AI Governance Group (AIGG) and Technology & Policy Expert Committee (TPEC) to lead risk assessment initiatives and authentication guidelines for online content. The government promotes international coalitions and utilizes regulatory sandboxes to ensure a secure and supportive ecosystem for data-driven experiments without compromising the speed and power of technological advancements.

Global Diplomacy and Future Preparedness:

It is imperative for India to build on its international AI diplmacy by engaaging more proactively in international standard-setting discussions to advance and assert its interests at the international levels through bodies such as the UN and the G-20 summits. It is also important for India to engage in horizon-scanning to foresee potential tech risks and consequently design policies to future-proof employment and security.

IX. CONCLUSION

The overall outlook in this concern, when AI's effects on the Indian labor market are considered in terms of long-term prognosis, tends to be largely optimistic and encouraging, perceiving technology as a change-generating and -enhancing factor and in no way a threat to employment and labor. It goes without saying that automation and AI will definitely take over repetitive tasks and duties, but in this case, the trend indicates that new and different industries

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emerge as a result of advancing technology and innovation in the world today.

Nevertheless, the change poses the potential for displacement, particularly for low-skilled workers, in the immediate future. In order for the change not to have such adverse effects on employment, it is critical for the Indian government to invest heavily in capacity building, training, and becoming computer literate. This is vital if the structural change in the Indian economy is to result in employment. This should involve preparing the workforce for employment in areas with increased emphasis on knowledge.

In this automated era, the key to success would require a proactive social protection strategy and stakeholder collaboration. Building programs related to income support and transition is the need of the hour to counter the negative impacts. To make the productivity and innovation dividend of AI widespread and inclusive, India needs to harmonize the strategy of government, industry, and academia to make the era of humans and machines collaborating to produce record growth a reality.

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