

AI AND THE FUTURE OF WORK IN INDIA: POLICY CHALLENGES AND PATHWAYS FOR INCLUSIVE LABOUR TRANSITION

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ABSTRACT

Artificial Intelligence (AI) is increasingly reshaping labour markets across the world, but its impact is particularly complex in developing economies such as India. Unlike advanced economies, where technological transitions occur within relatively structured labour systems, India presents a unique case marked by deep structural challenges such as widespread informality, persistent skill mismatches and uneven sectoral distribution of employment. These underlying characteristics significantly influence how AI interacts with the labour market. This paper examines the multifaceted impact of AI on the Indian labour market by situating technological change within this broader socio-economic context. Drawing upon recent labour force statistics, policy documents and emerging academic literature, the study highlights the dual nature of AI as both a generator of new opportunities and a source of disruption. On one hand, AI-driven advancements are creating new forms of employment, enhancing productivity and encouraging the formalisation of economic activities. On the other hand, these developments are accompanied by the displacement of routine and labour-intensive jobs, particularly those concentrated in the informal sector.

The analysis further demonstrates that while AI has the potential to accelerate economic growth and increase demand for high-skilled labour, it also risks deepening existing inequalities. Labour market polarisation, widening income disparities and the exclusion of low-skilled workers from emerging opportunities are among the key concerns. These outcomes are not accidental but are shaped by the interaction between technological change and pre-existing structural vulnerabilities within the Indian economy. A central contribution of this paper is the concept of India's "double vulnerability," which refers to the coexistence of a large low-skilled workforce and the high susceptibility of such jobs to automation. This dual condition makes India particularly exposed to the disruptive effects of AI compared to many developed economies. In light of these findings, the paper emphasizes the importance of policy intervention. The impact of AI is not predetermined; rather, it depends on institutional capacity, governance frameworks and the ability of the workforce to adapt to changing demands. Inclusive policy measures focusing on reskilling, labour protection and equitable access to digital infrastructure are essential to ensure that technological progress translates

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into broad-based development. The study concludes that while AI holds significant promise as a driver of economic transformation, its contribution to inclusive growth in India will ultimately depend on how effectively this transition is managed.

Keywords: Artificial intelligence, labour market, India, automation, informality, skill mismatch, double vulnerability, inclusive growth, policy.

INTRODUCTION

India today finds itself at a critical juncture where demographic potential intersects with rapid technological transformation. With more than half of its population in the working-age group, the country has long been viewed as a major contributor to the global labour force.

However, the accelerating development of Artificial Intelligence (AI) is beginning to fundamentally alter this trajectory, raising important questions about the future of employment in a labour-abundant economy like India.

Unlike earlier waves of industrialisation, which primarily replaced manual labour, AI represents a more profound shift. Its capabilities extend beyond physical tasks to include routine cognitive functions such as data processing, analysis and decision-making. This significantly broadens the scope of automation, affecting not only blue-collar jobs but also a wide range of white-collar occupations. For India, this transformation is particularly significant because a large proportion of its workforce is concentrated in low-skill, repetitive and informal jobs — categories that are especially vulnerable to automation.

At the same time, AI is not merely a disruptive force. It is also emerging as a powerful driver of economic growth, innovation and efficiency. By enabling new industries, redefining job roles and increasing productivity, AI has the potential to reshape the structure of the economy in positive ways. This dual character of AI — as both an opportunity and a challenge — makes its impact inherently complex and difficult to assess in simplistic terms.

The Indian labour market itself is already characterised by a number of structural challenges. High levels of informality, persistent underemployment, regional disparities and a disconnect between education and employability continue to shape employment outcomes. In such a context, the introduction of AI does not occur in isolation. Instead, it interacts with these existing conditions, often amplifying underlying vulnerabilities rather than eliminating them.

Against this backdrop, this paper seeks to explore three key questions. First, how is AI transforming the structure and nature of employment in India? Second, what opportunities does it create in terms of job generation and productivity enhancement? Third, what risks does it pose, particularly in relation to job displacement, inequality and social exclusion? By addressing these questions, the paper argues that the impact of AI cannot be understood through a simple binary of job creation versus job loss. Rather, AI should be seen as a structural force that is reshaping labour markets in complex and uneven ways. The outcomes of this transformation will depend not only on technological advancement but also on policy choices, institutional strength and the adaptability of the workforce.

STRUCTURE OF THE INDIAN LABOUR MARKET

The structure of the Indian labour market is shaped by deep-rooted complexities that significantly influence how technological changes, particularly Artificial Intelligence, affect employment. These structural features create an uneven foundation, meaning that the impact of AI cannot be understood in isolation but must be examined within the broader economic and social realities of the country. The labour market in India is not only vast in scale but also marked by imbalances in sectoral distribution, skill levels and employment quality.

Size and Composition of the Workforce

India possesses one of the largest labour forces in the world, with over 640 million individuals employed during 2023–24. However, the composition of this workforce reveals significant structural distortions that continue to shape employment outcomes. A defining characteristic of the Indian labour market is the overwhelming dominance of informal employment. Nearly 80 to 90 per cent of the workforce is engaged in informal jobs, where workers typically lack job security, social protection and formal contractual arrangements. This widespread informality reflects not just the nature of employment but also the limited reach of institutional safeguards within the economy.

The sectoral distribution of employment further highlights underlying imbalances. A substantial proportion of workers — roughly 42 to 45 per cent — remain employed in agriculture, even though the sector contributes only about 15 per cent to the country's GDP. This indicates a clear mismatch between labour allocation and economic output. In contrast, the services sector dominates in terms of GDP contribution but absorbs a relatively smaller share of the workforce. Meanwhile, manufacturing continues to remain underdeveloped relative to its potential, limiting its ability to act as a major source of employment generation. Taken together, these patterns point toward a structural productivity gap. A large share of workers is engaged in low-income and low-productivity activities, which constrains overall economic efficiency and limits opportunities for upward mobility.

Labour Force Participation and Unemployment Trends

Key labour market indicators provide important insights into the overall employment scenario in India. The Labour Force Participation Rate (LFPR) remains around 55 to 56 per cent while the Worker Population Ratio (WPR) is approximately 53 per cent. These figures suggest that a significant portion of the working-age population is either employed or actively seeking employment. The unemployment rate declined from around 6 per cent in 2017–18 to approximately 3.2 per cent in 2023–24, with more recent estimates placing it at about 5 to 5.2 per cent in 2025 based on current weekly status. However, a closer examination reveals that these numbers do not fully capture the underlying challenges within the labour market.

There are notable differences between rural and urban unemployment rates, with rural unemployment estimated at around 4.3 to 4.6 per cent and urban unemployment ranging between 6.7 and 6.8 per cent. This gap reflects differences in economic opportunities, industrial concentration and access to formal employment across regions. More importantly, the relatively low unemployment rate masks deeper structural issues such as disguised

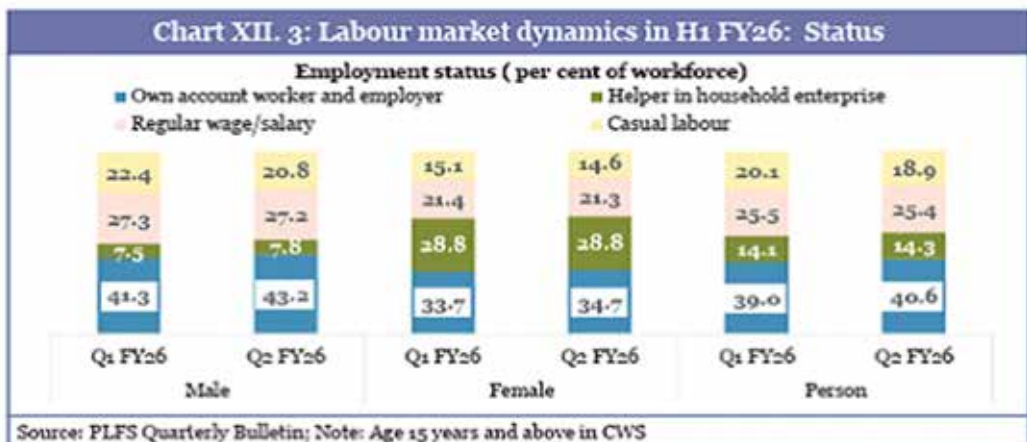
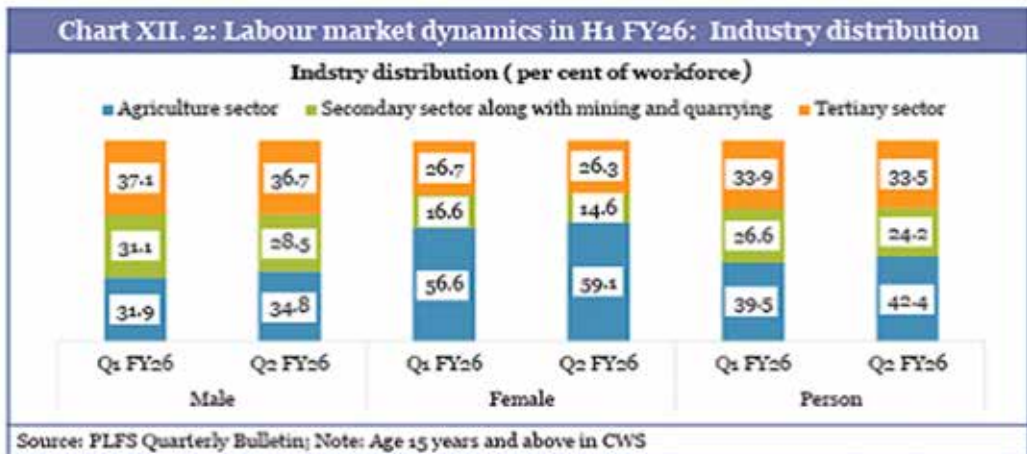
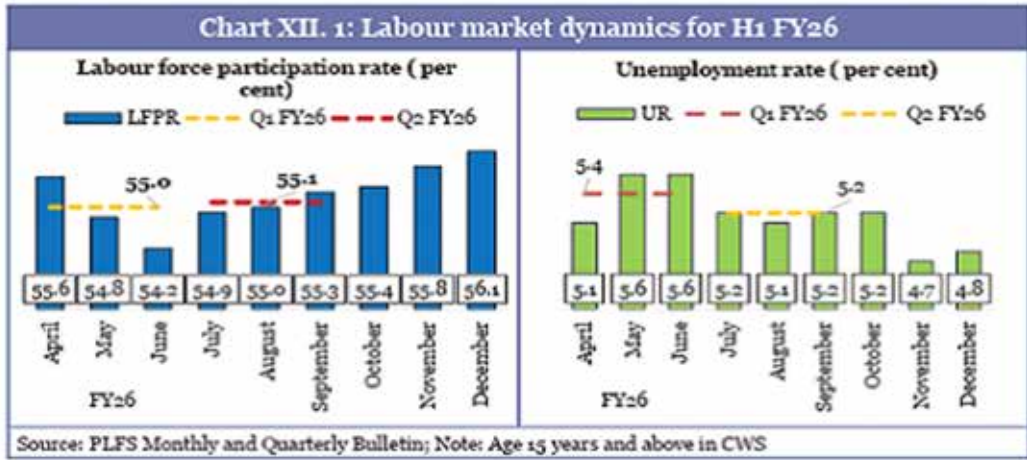


Figure 1 :PLFS Quarterly Bulletin, (Age 15 years and above), Current Weekly Status

unemployment, particularly in agriculture, where more workers are engaged than actually required. Underemployment is also widespread, with many individuals working fewer hours than they would prefer or in roles that do not fully utilize their skills. As a result, employment in India is often driven by necessity rather than productivity, making the quality and nature of jobs — not merely their availability — the central concern in understanding AI's interaction with the labour market.

Youth Unemployment and Skill Mismatch

Youth employment represents one of the most pressing challenges within the Indian labour market. Despite rising levels of education, young individuals face disproportionately higher rates of unemployment compared to the national average. A significant number of graduates remain either unemployed or underemployed, highlighting a disconnect between educational attainment and labour market outcomes. The employability rate in India is estimated at around 56 per cent, indicating that nearly half of the workforce lacks the skills required by employers.

This reflects a deeper structural mismatch between the education system and the needs of the labour market. While the education system tends to be degree-oriented and focused on theoretical knowledge, the labour market increasingly demands practical skills, adaptability and technical competence. This mismatch gives rise to a paradox often described as “educated unemployment alongside skill shortages.” On one hand, there is an oversupply of degree holders who struggle to find suitable employment. On the other hand, industries face shortages of workers with specific skills required for emerging roles. In the context of AI, this challenge becomes even more critical, as future jobs are expected to demand digital literacy, analytical thinking and the ability to adapt to rapidly changing technological environments.

Informality and Job Quality

The prevalence of informal employment is central to understanding the nature of work in India. Informal jobs are typically characterised by the absence of formal contracts, lack of social security benefits and low and unstable wages. Even within the formal sector, many workers are employed under informal arrangements such as contractual or temporary work. This widespread informality has several implications: workers face high levels of vulnerability to economic shocks; opportunities for upward mobility are limited; and income insecurity remains a persistent concern. In such an environment, the introduction of AI raises important questions about the disproportionate impact on workers who are already in precarious positions.

Structural Constraints

Beyond informality, the Indian labour market is shaped by several additional structural constraints. Limited access to vocational and technical training and relatively low levels of digital literacy, particularly in rural areas, restrict workers' ability to transition into new and emerging roles. Sectoral imbalance persists, with a large proportion of the workforce concentrated in agriculture while manufacturing has not expanded sufficiently to absorb surplus labour. Regional inequality further complicates the situation, as urban areas tend to offer more diverse and higher-quality employment opportunities compared to rural areas. The gender gap also remains a persistent concern, with female labour force participation estimated

at around 20 to 25 per cent, reflecting social norms, safety concerns and limited access to suitable employment. Taken together, these structural constraints highlight that the Indian labour market faces not merely a shortage of jobs but a shortage of productive, secure and skill-intensive employment — a weakness that significantly amplifies the disruptive potential of Artificial Intelligence.

ARTIFICIAL INTELLIGENCE IN INDIA: GROWTH, ADOPTION AND ECONOMIC SIGNIFICANCE

Artificial Intelligence has emerged as a powerful force shaping economic transformation in India. Its influence extends far beyond technological innovation, reaching into the very structure of industries, the nature of work and the patterns of labour demand. AI is increasingly becoming embedded within production systems and decision-making processes, thereby redefining how economic activity is organised and performed. However, the adoption and impact of AI in India are not uniform. They are shaped by existing institutional capacity, sectoral dynamics and disparities in access to technology. As a result, AI operates as both an engine of growth and a source of structural differentiation within the economy.

Growth and Economic Potential of AI in India

India is rapidly positioning itself as a significant participant in the global AI ecosystem. Various policy estimates and industry reports suggest that AI could contribute between USD 500 to 600 billion to India's GDP by 2035. This projection reflects not only the scale of technological adoption but also the broad applicability of AI across sectors. The country benefits from a relatively strong base in terms of human capital; India ranks among the leading nations in the availability of AI-related talent and the penetration of digital skills. Between 2020 and 2024, there was a noticeable surge in demand for roles related to data science, machine learning and AI development. Government initiatives such as Digital India have played a crucial role in building digital infrastructure and promoting technology adoption, while increased private sector investment has accelerated innovation and implementation across industries.

Sectoral Adoption of AI

The adoption of AI in India varies significantly across sectors. In the Information Technology and Business Process Outsourcing (IT-BPO) sector, AI has begun to transform operations through chatbot-driven customer support, AI-assisted coding tools and process automation. While this improves efficiency, it also introduces the risk of job displacement, particularly for roles involving repetitive functions. The financial services sector has witnessed substantial integration of AI technologies in fraud detection, algorithmic trading and credit scoring, though these advancements reduce demand for routine clerical roles. In healthcare, AI is contributing to improved service delivery through diagnostic tools, predictive analytics and automated medical imaging, shifting labour demand toward highly skilled professionals.

Agriculture presents a different scenario. AI applications such as precision farming, weather prediction and crop monitoring have the potential to improve productivity, but adoption remains limited due to infrastructure constraints, low digital literacy and financial

barriers. Manufacturing is increasingly incorporating robotics and smart production systems that reduce dependence on manual labour in repetitive tasks. Overall, while some industries are rapidly integrating AI and benefiting from increased productivity, others remain constrained by structural limitations — a pattern with important implications for employment and inequality.

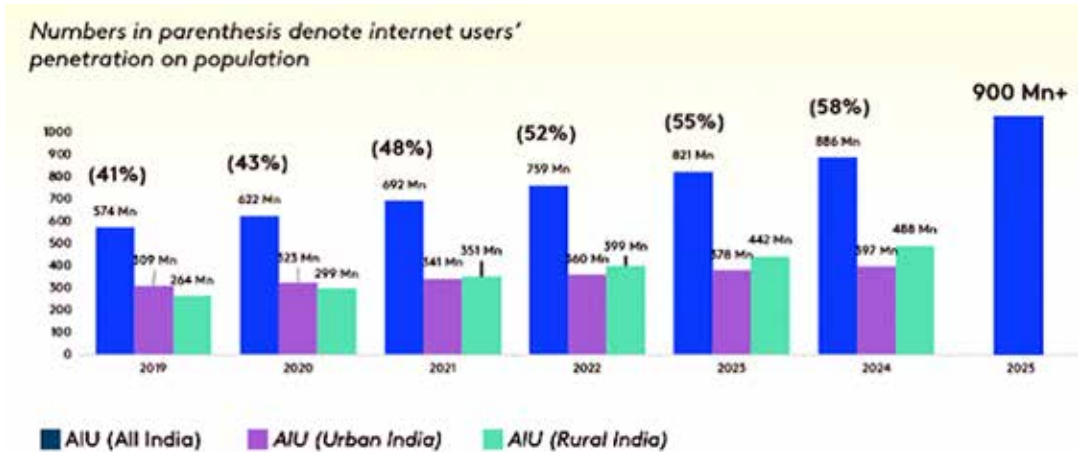


Figure 2: Internet Population in India

Source: KANTAR INTERNET IN INDIA 2024 (Internet and Mobile Association of India)

Nature of AI: Automation versus Augmentation

A critical distinction in understanding the impact of AI lies in differentiating between automation and augmentation. Automation refers to the replacement of human labour in tasks that are routine, predictable and rule-based. Augmentation, in contrast, involves the use of AI to enhance human capabilities rather than replace them, as when AI-assisted decision-making systems allow professionals to analyse large volumes of data more efficiently. In the Indian context, AI is expected to function through a hybrid model that combines both processes. While certain tasks will be fully automated, many roles will undergo transformation rather than elimination. The demand is shifting toward higher-order cognitive abilities, including analytical thinking, problem-solving and adaptability — a gradual movement away from routine task-based employment toward more skill-intensive roles.

Uneven Adoption and Structural Divide

Despite rapid advancements, the adoption of AI in India remains highly concentrated within urban areas and formal sectors where access to capital, infrastructure and skilled labour is relatively higher. This uneven diffusion creates a significant technological divide. Workers with higher levels of education and digital literacy are better positioned to benefit from AI-driven opportunities, gaining access to new roles, higher wages and improved working conditions. Low-skilled workers in informal employment, however, remain largely excluded from these benefits. The result is not merely a difference in access to technology but a widening gap in economic outcomes — a dynamic crucial to understanding why AI may contribute to increasing inequality rather than reducing it.

India in the Global AI Landscape

India occupies a unique position in the global AI landscape. On one hand, it possesses several advantages: a strong IT services base, a large pool of STEM graduates and a cost advantage in digital services. On the other hand, investment in research and development remains relatively low compared to leading economies, skill gaps persist in advanced AI domains, and unequal access to technology continues to restrict widespread adoption. This dual reality places India simultaneously as an emerging leader in AI capabilities and as a labour economy vulnerable to technological disruption. Artificial Intelligence in India should therefore not be viewed as a uniform force of transformation but as a selectively diffused technology whose impact varies across regions, sectors and skill groups.

OPPORTUNITIES OF ARTIFICIAL INTELLIGENCE IN INDIAN LABOUR MARKETS

Artificial Intelligence presents a range of transformative opportunities for the Indian labour market, particularly in terms of enhancing productivity, generating new forms of employment and enabling a structural shift toward a more formal and knowledge-driven economy. However, these opportunities are neither automatic nor universally accessible. Their realisation depends heavily on institutional capacity, the availability of skills and equitable access to technology. As a result, while AI has the potential to act as a catalyst for economic transformation, its advantages are likely to be unevenly distributed.

Employment Generation and Emergence of New Job Roles

Contrary to widespread concerns about large-scale job loss, AI also creates new categories of employment, particularly within technology-driven and high-skill domains. As industries integrate AI into their operations, entirely new roles are emerging that did not exist in traditional labour markets. These include positions such as AI and machine learning engineers, data analysts, data scientists, AI system trainers, prompt engineers and professionals specialising in cybersecurity and AI governance. Policy estimates suggest that AI could generate millions of new jobs in India by 2030, particularly within the expanding digital economy. However, these jobs are highly skill-intensive, requiring advanced technical knowledge and analytical capabilities, which reinforces the importance of education and training in shaping labour market outcomes.

Productivity Enhancement and Economic Efficiency

One of the most significant contributions of AI lies in its ability to enhance productivity and improve economic efficiency. By automating repetitive tasks, reducing the likelihood of human error and enabling data-driven decision-making, AI allows organisations to operate more effectively. Studies indicate that AI can increase worker productivity by as much as 30 to 40 per cent in certain sectors. For the Indian economy, this means firms can produce more output with the same level of labour input, improving competitiveness both domestically and globally. In high-skill sectors, this may also lead to higher wages, representing a broader transition from labour-intensive growth to productivity-driven growth.

Transformation of Work: From Routine to Cognitive Tasks

Artificial Intelligence is not only changing how many jobs exist but also fundamentally altering the nature of work itself. Tasks that are routine, repetitive and rule-based are increasingly being automated, reducing demand for such roles. At the same time, there is a growing emphasis on skills that cannot easily be replicated by machines — including analytical thinking, creativity and problem-solving. Workers are increasingly expected to engage in tasks requiring judgement, adaptability and the ability to interpret complex information. This transition reflects a broader movement toward a knowledge-based labour market, where the value of human labour lies in its non-routine capabilities. This shift has long-term implications for education systems, skill development and workforce preparation.

Formalisation and Digital Integration of the Economy

Another important opportunity created by AI is its contribution to the formalisation of economic activity. Through the use of digital payment systems, data tracking mechanisms and platform-based work arrangements, AI enables greater transparency and accountability within the economy. This process can expand the tax base, improve regulatory compliance and bring more workers and businesses into formal systems. For a country like India, where informal employment dominates, this represents a significant structural shift toward economic modernisation. Digital integration also facilitates better monitoring of economic activity, allowing for more effective policy implementation and governance.

Expansion of Gig and Platform Economy

The rise of AI has played a crucial role in enabling the expansion of the gig and platform economy. Digital platforms powered by AI have made it easier to connect workers with opportunities in sectors such as ride-sharing, delivery services and freelance work, lowering barriers to labour market entry for groups such as youth, urban migrants and semi-skilled workers. At the same time, this form of employment is characterised by flexibility rather than stability. Workers often lack job security, social protection and predictable income. The gig economy therefore represents an expansion of employment opportunities without a corresponding expansion in employment security.

Inclusion Potential

Artificial Intelligence also carries the potential to promote greater inclusion within the labour market, though this potential remains conditional. By enabling remote work, expanding access to digital employment and supporting technology-driven entrepreneurship, AI can create opportunities for individuals previously excluded from formal labour markets — including workers in rural areas who can participate in digital work without migrating to urban centres. However, these possibilities depend on the availability of internet connectivity, digital literacy and technological infrastructure. Without these foundations, the inclusion potential of AI remains limited, and in the absence of equitable access, AI may reinforce existing patterns of exclusion rather than overcome them.

CHALLENGES AND RISKS OF ARTIFICIAL INTELLIGENCE IN INDIAN LABOUR MARKETS

While Artificial Intelligence offers significant opportunities for economic transformation, its integration into the Indian labour market also presents a range of structural challenges. These challenges are particularly pronounced because they do not emerge in isolation but interact with pre-existing conditions such as high informality, skill disparities and sectoral imbalances. Rather than producing uniform outcomes, AI is likely to generate differentiated and stratified effects across various segments of the workforce.

Job Displacement and Automation of Routine Work

One of the most immediate concerns associated with AI is the displacement of jobs, especially those involving routine and repetitive tasks. Sectors such as Business Process Outsourcing (BPO), clerical and administrative work, retail operations and manufacturing assembly lines are particularly vulnerable. Estimates suggest that around 20 to 25 per cent of jobs in India are susceptible to automation, especially those based on predictable and rule-based functions. Unlike earlier technological changes that primarily affected manual labour, AI extends its reach to both blue-collar and white-collar occupations, targeting tasks involving data processing, basic analysis and standardized decision-making. This marks a significant shift: AI does not merely replace labour at the margins but directly targets the categories of work on which a large proportion of the Indian workforce depends.

Labour Market Polarisation

Another important consequence of AI adoption is the emergence of labour market polarization — a structural shift characterized by growth at the high-skill and low-skill ends of the employment spectrum, alongside a decline in middle-skill, stable jobs. In practical terms, this leads to a U-shaped employment structure. High-skill, high-wage jobs expand due to increased demand for specialized knowledge and technical expertise. Low-skill and often precarious forms of work continue to grow, particularly in sectors that cannot be easily automated. However, middle-skill roles, which traditionally provided stability and upward mobility, begin to shrink. In the Indian context, this is especially concerning given that the middle class is still in the process of consolidation and access to stable formal employment is already limited.

Skill Bias and Widening Inequality

Artificial Intelligence is inherently skill-biased, meaning that it disproportionately benefits individuals with higher levels of education and technical expertise. Workers who possess advanced skills, particularly in digital and analytical domains, are more likely to experience wage growth and improved employment opportunities. In contrast, low-skilled workers, rural populations and those engaged in informal employment face greater risks of stagnation or displacement. This creates a widening gap between different segments of the workforce, with income inequality increasing as economic gains concentrate among high-skilled individuals. It is important to recognise that AI does not create inequality in isolation; rather, it amplifies inequalities that are already embedded within the labour market, acting as a multiplier that intensifies differences in skills, access and economic outcomes.

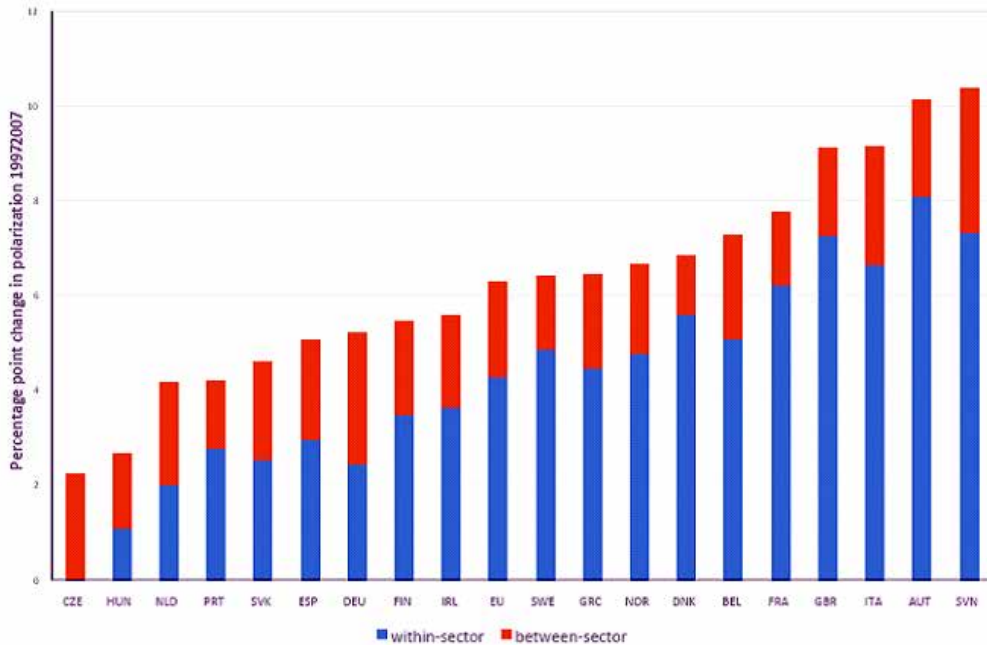


Figure 3: Employment distribution and polarisation patterns (1997-2007)

Source: OECD Social, Employment and Migration Working Papers No. 197

Informal Sector Exclusion

A critical limitation of AI-driven growth in India lies in its limited reach within the informal sector. Given that approximately 80 to 90 per cent of the workforce is engaged in informal employment, this represents a significant structural concern. AI adoption remains largely concentrated within formal enterprises and technology-intensive industries. As a result, the benefits of technological progress are primarily captured by the formal sector, while informal workers are either excluded or negatively affected. This creates a clear structural divide: the formal sector experiences gains in productivity and efficiency, while the informal sector continues to operate under conditions of low productivity and vulnerability. Over time, this divergence may lead to increased economic dualism, where two parallel labour markets evolve with limited interaction between them.

Expansion of Precarious Work

While AI has facilitated the growth of platform-based employment, it has also contributed to the expansion of precarious forms of work. Gig economy jobs, though widely accessible, are often characterised by instability and lack of protection. Workers in this segment typically do not have access to job security, social protection or stable income, and their earnings may fluctuate based on demand and algorithmic allocation of work. Platform-based systems often exercise control over workers through algorithms, determining tasks, performance metrics

and compensation structures. This creates a paradoxical situation: workers are integrated into modern digital systems yet remain outside traditional labour protections, classified as independent contractors in formal terms but experiencing conditions that resemble controlled employment in practice.

Digital Divide and Uneven Access to Technology

The benefits of AI are closely tied to access to digital infrastructure, including internet connectivity, devices and technological literacy. However, India continues to face a significant digital divide. Clear disparities exist between urban and rural areas in terms of reliable internet access and digital resources. Gender gaps also persist, with women having lower levels of digital technology access in many regions. Affordability remains a barrier for large sections of the population. These disparities restrict individual ability to participate in AI-driven opportunities and, without targeted efforts to expand digital access, may result in a substantial portion of the population remaining excluded from the benefits of technological advancement.

Institutional and Policy Constraints

The capacity of India to effectively manage the transition to an AI-driven economy is also constrained by institutional limitations. Existing frameworks for skill development, labour protection and technological regulation are not fully equipped to address the challenges posed by rapid technological change. Reskilling infrastructure remains inadequate relative to the scale of transformation required. Labour protections, particularly for informal and gig workers, are often weak or inconsistently implemented. There is a lack of regulatory clarity surrounding the use and governance of AI systems, and coordination between the education system and industry is limited, leading to a gap between the skills being produced and those demanded by the labour market. In the absence of strong institutions and coherent policy frameworks, technological change may lead to disruptive rather than inclusive outcomes.

POLICY RECOMMENDATIONS: TOWARDS INCLUSIVE AI-DRIVEN LABOUR MARKETS IN INDIA

The impact of Artificial Intelligence on India's labour market will not be determined by technological progress alone. It will depend crucially on the policy frameworks and institutional mechanisms that guide its adoption. Given the structural characteristics of the Indian economy — including high informality, persistent skill gaps and regional disparities — policy intervention becomes essential to ensure that AI-driven transformation remains inclusive rather than exclusionary.

Large-Scale Skill Development and Reskilling

One of the most urgent priorities is addressing the widening gap between the skills demanded by the labour market and those possessed by the workforce. Efforts must focus on expanding digital literacy across rural and semi-urban areas, strengthening vocational education and training systems and promoting lifelong learning through continuous reskilling frameworks. Greater collaboration between industry and educational institutions is necessary to align curricula with evolving market needs. Equal emphasis must be placed on developing complementary human skills such as critical thinking, problem-solving and adaptability

alongside technical competencies such as data analysis and basic understanding of machine learning.

Strengthening Labour Protection and Social Security

The expansion of gig and platform-based employment has highlighted the limitations of traditional labour protection systems. As more workers move into flexible but insecure forms of employment, there is a need to rethink existing frameworks to ensure adequate protection. Extending social security benefits — including insurance and pension schemes — to gig workers is an essential step toward reducing vulnerability. Establishing minimum wage standards for platform-based work and ensuring greater transparency and accountability in algorithmic management systems are equally important. Creating mechanisms for worker representation within digital platforms can also strengthen bargaining power and improve working conditions.

Promoting Inclusive Digital Infrastructure

Equitable access to technology is a fundamental requirement for ensuring that the benefits of AI are widely distributed. Investment in digital infrastructure must be prioritised, particularly in underserved regions. Expanding internet connectivity in rural areas, improving access to affordable digital devices and bridging the urban-rural divide and gender-based gaps in digital usage are key steps in this direction. Without such interventions, AI risks reinforcing existing inequalities by concentrating opportunities among those who are already connected and digitally literate.

Supporting Labour-Intensive and Transitional Sectors

While the growth of high-technology sectors is important, policy must also recognise the role of labour-intensive industries in absorbing large segments of the workforce. Supporting sectors such as manufacturing, small and medium enterprises and agriculture is essential for ensuring a balanced transition. Encouraging the development of labour-intensive industries such as textiles and construction can help create employment opportunities for workers who may not immediately benefit from AI-driven growth. Promoting the adoption of appropriate technologies in agriculture can improve productivity without displacing labour on a large scale, thereby allowing for a more gradual and inclusive transition toward an AI-integrated economy.

Encouraging Responsible and Ethical AI Development

As AI becomes more integrated into economic and social systems, it is important to ensure that its development aligns with broader societal goals. Establishing ethical guidelines for AI deployment can help address concerns related to fairness, accountability and transparency. Regulating data usage and protecting privacy are equally important in maintaining public trust. Ensuring transparency in AI-driven decision-making systems can reduce the risk of bias and discrimination, and responsible governance of AI is therefore essential not only for preventing misuse but also for creating a sustainable and inclusive technological ecosystem.

Education System Reform

In the long term, adapting to an AI-driven economy requires a fundamental transformation of the education system. Traditional models of rote learning are no longer sufficient in

preparing individuals for a dynamic and evolving labour market. Education must shift toward a skill-based approach that emphasises understanding, application and innovation. Integrating digital literacy and basic AI concepts into curricula can help prepare future generations for technological change, while promoting interdisciplinary learning can further enhance adaptability and problem-solving capabilities. The goal of education should extend beyond preparing individuals for specific jobs to equipping them with the ability to navigate continuous change and uncertainty in the labour market.

AI AND THE “DOUBLE VULNERABILITY” OF INDIAN LABOUR MARKETS

The analysis presented in this paper demonstrates that the impact of Artificial Intelligence on Indian labour markets cannot be understood independently of the country’s structural characteristics. AI does not operate in isolation but interacts with existing economic and social conditions, producing outcomes that are uneven and context-dependent. A key concept that emerges from this discussion is India’s “double vulnerability”: the simultaneous presence of a large proportion of the workforce engaged in low-skill, informal and routine employment, and the high susceptibility of these very jobs to automation and technological displacement. This dual condition makes India particularly vulnerable to the disruptive effects of AI when compared to developed economies, where a larger share of employment is already concentrated in high-skill sectors.

AI as a Skill-Biased Technological Change

Artificial Intelligence represents a form of skill-biased technological change. It increases demand for skilled labour while reducing demand for routine and low-skilled work. Highly skilled workers benefit from increased demand, higher wages and improved career prospects, while low-skilled workers face stagnation or displacement, widening the gap between different segments of the workforce. This reinforces the idea that AI is not neutral in its effects but redistributes economic opportunities in a manner that favours those with access to education, skills and technology.

Interaction with Informality

One of the defining features of the Indian labour market is its high level of informality. However, AI adoption is largely concentrated in formal, technology-intensive and urban sectors. This creates a structural disconnect within the economy: the formal sector adopts AI and experiences gains in productivity and efficiency, while the informal sector remains excluded or adversely affected. The result is the emergence of a dual labour market, where technological progress benefits one segment while leaving another behind, limiting the potential for inclusive growth and reinforcing existing economic disparities.

Beyond Job Loss versus Job Creation

Public discussions often frame the impact of AI in terms of whether it will create or destroy jobs. However, such a binary perspective fails to capture the complexity of technological change. The real impact of AI lies in transforming the nature of tasks within jobs, altering the distribution of employment across sectors and reshaping the quality and security of work. The key issue is therefore not simply the number of jobs but the conditions under which work is

performed — a shift in perspective that is essential for understanding the broader implications of AI for the labour market.

Inequality as a Structural Outcome

Artificial Intelligence has the potential to amplify multiple forms of inequality simultaneously. Income disparities may increase due to the growing premium on skills. Regional inequality may widen as urban areas benefit more than rural regions. Digital inequality persists due to uneven access to technology. Gender disparities may also deepen where access to digital resources remains unequal. These inequalities are not created by AI alone but are intensified through its adoption. AI acts less as a disruptor of existing structures and more as an accelerator of underlying inequalities within the labour market.

The Central Question: Inclusion versus Exclusion

Ultimately, the discussion leads to a broader and more fundamental question: will AI in India result in inclusive transformation characterised by broad-based growth and improved employment opportunities, or will it lead to exclusionary growth where benefits are concentrated and large segments of the workforce remain vulnerable? The answer depends on policy design, institutional strength and access to education and technology. The impact of AI is not predetermined; it is shaped by the choices made in managing its integration into the economy.

CONCLUSION

Artificial Intelligence represents a transformative force that is reshaping labour markets across the world, and India stands at a particularly critical point in this transition. As a labour-abundant economy with deep structural inequalities, the impact of AI in India is complex and multifaceted, marked by both significant opportunities and serious risks. On one hand, AI has the potential to enhance productivity, generate new forms of employment and support the transition toward a more formal and knowledge-driven economy. On the other hand, it poses substantial challenges in the form of job displacement, labour market polarisation, widening inequality and the exclusion of informal and low-skilled workers from emerging opportunities.

This paper has argued that the impact of AI cannot be understood through a simple framework of job creation versus job loss. Instead, AI functions as a structural force that reconfigures the nature, distribution and quality of work. In the Indian context, this transformation is shaped by the condition of double vulnerability, where a large low-skilled workforce coexists with a high susceptibility to automation. The future of work in India will therefore depend not only on technological advancement but also on the institutional and policy choices that accompany it. Without targeted interventions in areas such as skill development, labour protection and digital inclusion, AI risks reinforcing existing inequalities and creating a more fragmented labour market.

Conversely, with effective governance and inclusive strategies, AI can serve as a catalyst for equitable growth and economic transformation. The central challenge lies in ensuring that technological progress does not outpace social preparedness and that its benefits are distributed in a manner that is both efficient and just. Ultimately, the question is not whether Artificial Intelligence will shape the future of work in India, but how that future will be shaped — and for whom.

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