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TRANSFORMING GLOBAL LABOUR MARKETS (2025–2030) WITH REFERENCE TO TECHNOLOGICAL INNOVATION, AI, GREEN TRANSITION, DEMOGRAPHIC SHIFTS, AND ECONOMIC IMPLICATIONS FOR JOBS, SKILLS, AND WORKFORCE ADAPTATION – A COMPREHENSIVE ASSESSMENT

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ABSTRACT: India's labor markets are set to undergo rapid transformation between 2025 and 2030 due to technological innovation, AI adoption, and green transition. Demographic shifts, emerging sectors, and workforce adaptation are crucial for inclusive economic growth. This research article explores how global labor markets will change from 2025 to 2030 due to new technologies like Artificial Intelligence (AI) and automation, environmental efforts like the green transition, and shifting populations. It examines how these factors will create new jobs, make some jobs disappear, and require workers to learn new skills. The study uses data from international reports and studies to understand these changes and suggest ways to prepare workers and economies. It finds that around 170 million new jobs could be created, while about 92 million may be lost, leading to a net increase. Key sectors like technology, healthcare, and green energy will grow, but routine jobs like clerks and manual workers may decline.

Demographic changes, such as aging populations in rich countries and young populations in poorer countries, will also impact employment. The article emphasizes the importance of reskilling workers and developing policies to ensure inclusive growth. It highlights the need for cooperation among governments, industries, and educational institutions to build a resilient and sustainable labor market that benefits everyone in the future. The study examines urgent and rapidly evolving issues that are becoming increasingly significant in today's interconnected global landscape.

KEYWORDS: Labor Markets, Artificial Intelligence, Green Transition, Jobs, Demographic Shifts, Employment and Economic Growth

1. THE THEME OF THE ARTICLE

The world of work is changing quickly, and these changes will continue from 2025 to 2030. New technologies like Artificial Intelligence (AI), automation, and green energy are transforming industries and jobs. At the same time, global challenges such as climate change, shifting populations, and economic uncertainties are shaping the future of employment. Some jobs will disappear while many new ones will be created, especially in fields like technology, healthcare, and renewable energy. This study looks at how these factors will impact jobs, skills, and workers around the world. It aims to understand the opportunities and challenges that come with these changes. For example, while automation may replace certain routine jobs like clerks and cashiers, it will also create new roles for skilled workers such as AI specialists, renewable energy engineers, and healthcare professionals.

Additionally, demographic shifts, like aging populations in some countries and young populations in others, will influence the demand for different types of jobs. The goal of this research is to help governments, businesses, and workers prepare for these changes. It emphasizes the importance of reskilling and training so that people can adapt to new job requirements. By understanding the trends and making smart policies, we can create a future where technological progress benefits everyone and supports sustainable economic growth. This report provides a clear picture of what to expect in the global labor market over the next few years and offers ideas on how to make the most of these changes for a better future.

2. STATEMENT OF THE PROBLEM

The world of work is changing very quickly due to new technologies, economic challenges, and environmental concerns. These changes are affecting jobs, skills, and how people work across the globe. Many traditional jobs may disappear as robots, artificial intelligence (AI), and automation take over routine tasks. At the same time, new jobs are being created in areas like technology, green energy, healthcare, and digital services. This shift makes it difficult for workers and governments to plan for the future. Many workers need to learn new skills to keep their jobs or find new ones. However, not everyone has access to training or education that matches the new job requirements. Developing countries and lower-income regions face bigger challenges because they may lack resources for skill development and job creation. High-income countries have aging populations that reduce their workforce, while developing countries have young populations but may not create enough jobs for their growing workforces.

Additionally, the green transition, moving towards cleaner energy and environmentally friendly industries, creates opportunities but also requires workers to gain green skills. Demographic changes, such as aging populations and youth bulges, further influence the demand for different types of jobs. Furthermore, geopolitical issues like trade restrictions and conflicts can slow down economic growth and limit job opportunities. As a result, many uncertainties remain about how the global economy and labor markets will develop by 2030. In simple words, the main problem is how to help workers and countries adapt to these rapid changes in jobs and skills, so everyone can benefit from a more sustainable and inclusive economy. This study investigates urgent and rapidly developing challenges that are gaining greater significance in today's globalized environment.

Objective of the article

The overall objective of the article is to analyze and forecast the transformative impacts of AI, technological advancements, green transition, demographic shifts, and geopolitical fragmentation on global labor markets between 2025 and 2030. It highlights emerging job opportunities, declining roles, and the need for reskilling to ensure inclusive economic growth. The article emphasizes with the help of secondary sources of information and statistical data pertaining to the theme of the article.

3. RESEARCH METHODOLOGY OF THE ARTICLE

This article adopts a descriptive and analytical research methodology to examine and forecast the transformative impacts of AI, technological advancements, green transition, demographic shifts, and geopolitical fragmentation on global labor markets between 2025 and 2030. The research primarily relies on secondary sources of data, including reports from international organizations such as the International Labour Organization (ILO), World Economic Forum (WEF), United Nations (UN), OECD, government publications, academic journals, and reputable industry studies. These sources provide reliable statistical data, trends, and expert insights relevant to labor market transformations. The methodology involves data collection, synthesis, and comparative analysis. Relevant statistical information on employment trends, job creation, and job decline across various sectors is systematically gathered and tabulated. This data is analyzed to identify patterns in emerging job opportunities, declining occupations, and skill requirements.

The study also explores how demographic changes, technological innovations, and environmental transitions influence workforce dynamics, highlighting the demand for reskilling and upskilling. A qualitative analysis of policy reports and industry assessments complements the quantitative data, helping to understand broader economic and societal implications. The research emphasizes simple interpretation of statistical findings for clarity and practical understanding. By combining secondary quantitative data with qualitative insights, the article provides a comprehensive outlook on global labor market transformations. This approach ensures that forecasts are evidence-based, grounded in credible sources, and relevant to policymakers, employers, educators, and workforce planners aiming to navigate changes in the evolving job landscape. The gathered data are thoroughly examined and interpreted to produce valuable insights that aid in the development of informed, evidence-driven policies.

Transforming Work in the Era of AI and Global Change (2025–2030)

In today's global context, work is evolving quickly with the rise of new technologies, especially Generative Artificial Intelligence, which is reshaping industries and how tasks are performed. At the same time, the workforce is challenged by economic uncertainty, shifting global dynamics, environmental concerns, and changing social expectations. Although certain traditional jobs may decline, fresh opportunities are emerging in fields such as technology, renewable energy, and digital services. To navigate these changes effectively, cooperation among governments, businesses, educators, and workers is essential. By building the right skills, people can adapt to new realities and take advantage of future economic opportunities. From 2025 to 2030, global labor markets will be shaped by technology, economic uncertainty, geo- economics' fragmentation, demographic changes, and the green transition.

Digital access is expected to transform business operations for 60% of employers, while advances in AI, robotics, automation, and energy technologies will increase demand for skills in AI, big data, cyber security, and digital literacy (Yoganandham -2023). Rising living costs and economic slowdowns may displace around 1.6 million jobs, raising the need for creativity, resilience, flexibility, and agility. The green transition will drive growth in renewable energy, environmental engineering, and electric/autonomous vehicle jobs, with environmental stewardship becoming a key skill. Demographic shifts, including aging populations in high-income countries and expanding young workforces in low-income countries, will boost healthcare and education roles. Geo-economics fragmentation will further increase demand for cyber security, leadership, and human-centered skills. Overall, 170 million new jobs are expected, 92 million displaced, leading to a net growth of 78 million jobs globally. Between 2025 and 2030, jobs are expected to grow most in frontline roles like farm workers, delivery drivers, construction workers, salespeople, and food processing workers, as well as in care and education jobs such as nurses, social workers, personal care aides, and secondary and tertiary teachers.

Technology roles, including AI and machine learning specialists, big data experts, fin- tech engineers, and software developers, are the fastest-growing by percentage, while green and energy jobs like renewable energy engineers and electric/autonomous vehicle specialists are also rising. In contrast, jobs such as cashiers, administrative assistants, bank tellers, and postal clerks are declining. About 39% of current skills may become outdated by 2030, making skills like analytical thinking, resilience, flexibility, leadership, AI, big data, and cyber security highly important (Yoganandham -2023). Employers are prioritizing upskilling, diversity and inclusion initiatives, wage increases, and adapting to AI, which will create new roles while automating some existing tasks.

Global Labor Market Transformations: Trends, Challenges, and Technological Drivers in 2025 and Beyond

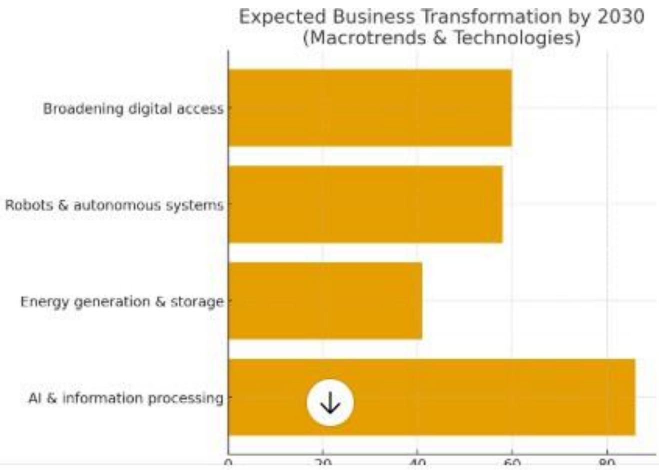
In 2025, the global labor market is undergoing significant changes, supported by a projected economic growth of 3.2% and easing inflation at 3.5%, although living costs remain high. Global unemployment has fallen to 4.9%, marking its lowest level since 1991, yet disparities persist particularly in middle-income countries are experiencing job growth, whereas low-income countries face rising unemployment. Women continue to face higher unemployment than men, especially in lower-middle-income economies, while youth unemployment remains high at 13%. NEET (Not in Education, Employment, or Training) rates vary widely, from 10.1% in high- income countries to 27.6% in low-income countries. The global jobs gap remains substantial, with an estimated 402 million additional jobs required, disproportionately affecting women in low-income nations. Labor-force participation has largely recovered since the pandemic, showing particularly strong growth in lower-income countries, underscoring the need for future job creation. Key drivers shaping the labor market include technological advancements, the green transition, geo-economics' shifts, economic uncertainty, and demographic changes, influencing trends in job growth, declining occupations, skills demand, and workforce strategies.

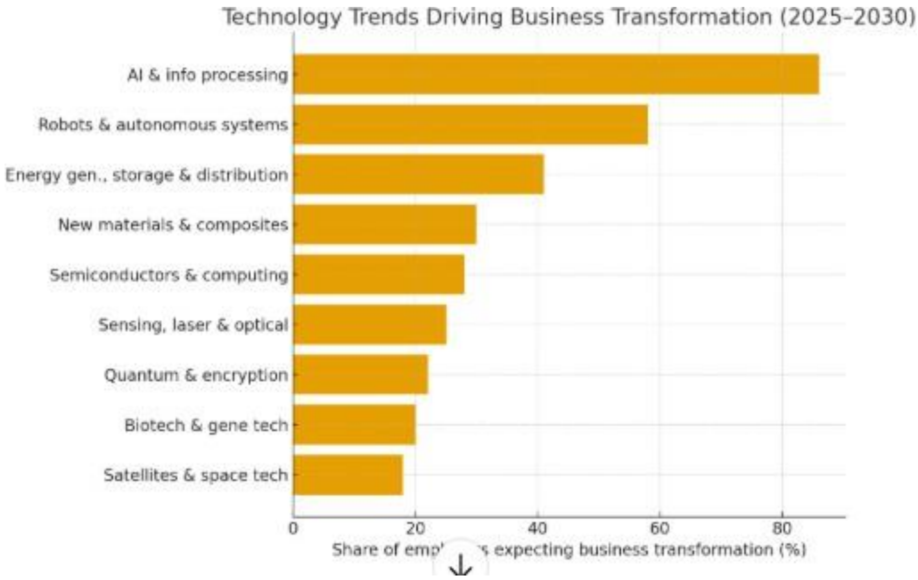
Global labour markets are undergoing a profound transformation driven by technological change, the green transition, demographic shifts, and geo-economics' uncertainties. By 2030, these macro trends are expected to reshape industries, employment patterns, and the skills demanded by firms. Survey evidence highlights that 60% of employers identify broadening digital access as the most critical driver of business transformation, outpacing other forces such as demographic change, slower economic growth, or rising trade restrictions (Yoganandham - 2024).. Digital access acts as a foundation for new technologies that alter production and labour dynamics. Among technological trends, artificial intelligence (AI) and information processing stand out, 86% of employers expect these to transform their operations by 2030. Robots and autonomous systems follow, with 58% anticipating business transformation, while 41% cite energy generation, storage, and distribution technologies as major disruptors. Generative AI (GenAI), in particular, has accelerated adoption rates across sectors.

Economic and Labour Market Implications of AI and Technological Transformation (2025–2030)

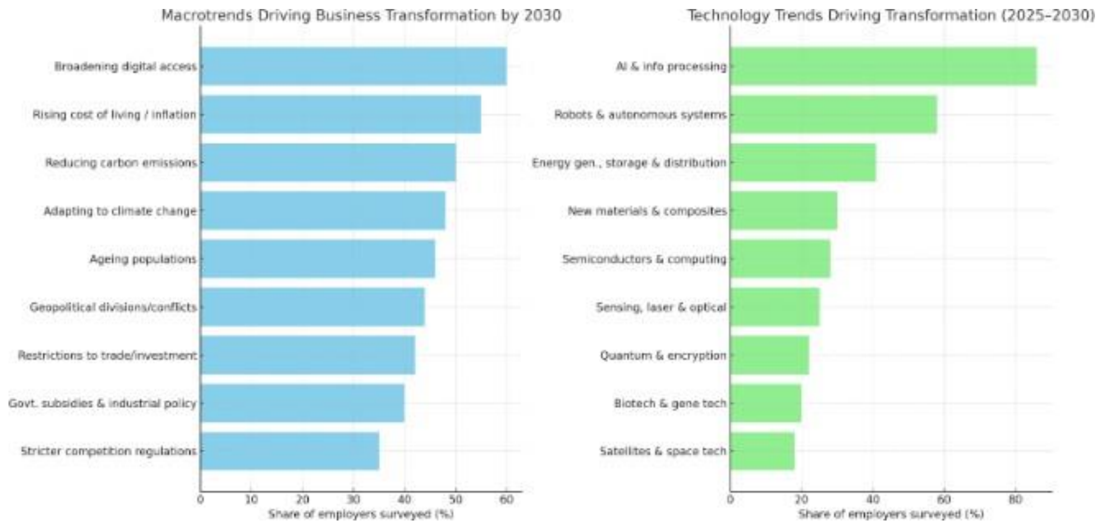
Since the launch of effective technologies, investment flows into AI have surged nearly eightfold, alongside significant spending on servers and energy infrastructure to sustain its diffusion. Despite rapid investment, adoption remains uneven. Advanced and middle-income economies are seeing widespread uptake of GenAI among firms and individuals, while low- income countries remain marginal users. Sectoral disparities are also evident that information technology leads in AI adoption, while industries such as construction lag behind. This divergence risks reinforcing global and sectoral inequalities if technological diffusion is not inclusive. From an economic perspective, GenAI offers both productivity-enhancing and labour- substituting potential. Early studies show it can complement human skills by enhancing performance or substituting for tacit knowledge, particularly among average workers. It may enable less-specialized employees to perform expert tasks, broadening roles in accounting, healthcare, and education (Yoganandham -2023). For skilled professionals like doctors, engineers, or electricians, GenAI could provide access to frontier knowledge, raising efficiency and output. These productivity gains, if realized, could lift economic growth by improving both the quantity and quality of labour output.

However, the trajectory of technological development will depend on incentives and policy frameworks. If designed to enhance human capabilities, AI could reduce skill gaps and improve labour market resilience. Conversely, if primarily directed toward automation, it risks displacing workers, raising unemployment, and exacerbating income inequality. Thus, while technological change promises significant economic gains, its benefits will only be broadly realized if regulatory frameworks, industrial policy, and corporate strategies prioritize inclusive adoption.





The chart comparing different technology trends (2025–2030) and their expected impact on business transformation, with AI and information processing far ahead at 86%.



Global labour markets are undergoing rapid transformation due to macroeconomic pressures, technological advances, demographic shifts, and the green transition. Survey evidence shows that 60% of employers identify digital access as the most critical driver of business transformation**,** followed by inflationary pressures, climate adaptation, and ageing populations. On the technology front, AI and information processing stand out**,** with 86% of firms expecting major changes by 2030**,** while robotics (58%) and energy storage technologies (41%) are also expected to reshape industries (Yoganandham -2024).

Generative AI (GenAI) is accelerating this change, with AI investments rising eightfold since 2022 following the release of ChatGPT and its related technologies. Adoption, however, remains uneven, advanced economies and IT sectors lead, while construction and low-income countries lag behind. While these technologies promise significant productivity gains and skill enhancement**,** they also pose risks of job displacement, inequality, and uneven adoption**.** Ensuring inclusive growth will require supportive policies, regulations, and workforce reskilling initiatives**.**

Global Trends in Robotics Growth and Generative AI Skill Demand

Since 2020, robots and autonomous systems have maintained steady annual growth of 5– 7%, reflecting consistent economic expansion. By 2023, global robot density rose to 162 units per 10,000 workers, double the level recorded seven years earlier. However, installations remain unevenly distributed, with 80% concentrated in China, Japan, the United States, Korea, and Germany (Yoganandham -2025). This highlights both global progress and regional inequality in adoption. Employer expectations mirror this divide: while over 60% of firms in advanced economies anticipate significant economic impact from automation, confidence is much lower in Sub-Saharan Africa (39%), Central Asia (45%), and MENA (44%), underscoring disparities in investment and readiness.

At the same time, demand for Generative AI (GenAI) skills is accelerating worldwide, supported by both individuals and organizations. India and the U.S. lead enrolments, though with different drivers, U.S. growth is fueled largely by individuals, whereas in India corporate sponsorship plays a key role. Individual learners generally focus on foundational skills such as prompt engineering, trustworthy AI, and strategic decision-making, strengthening long-term human capital (Yoganandham -2025). The details of the global trends in robotics growth and generative AI skill demand are given in table – 1.

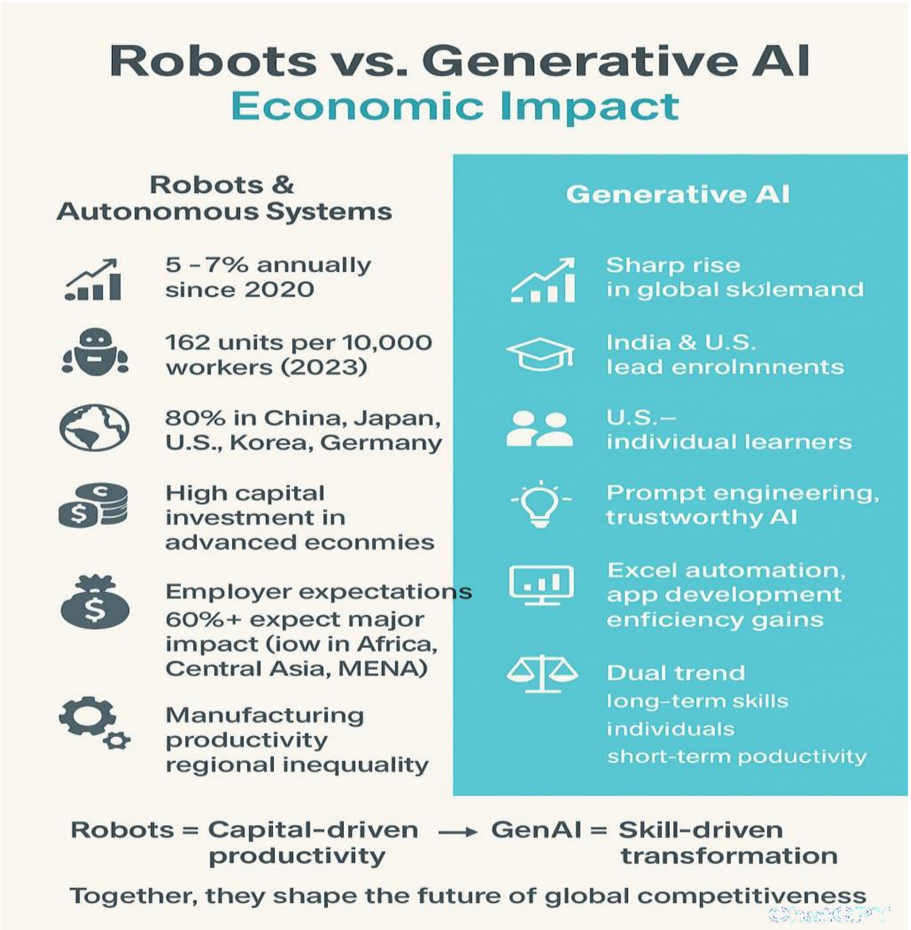
Table - 1
Global Trends in Robotics Growth and Generative AI Skill Demand

S.No.	Aspect	Robots & Autonomous Systems	Generative AI (GenAI)
1.	**Growth Rate**	5–7% annually since 2020	Rapid global surge in demand for skills
2.	**Adoption Density**	162 units per 10,000 workers' in 2023 (double 2016 level)	Expanding training enrolments on platforms like Coursera

3.	**Geographic Concentration**	80% installations in China, Japan, U.S., Korea, Germany	Led by India and U.S., but drivers differ
4.	**Economic Drivers**	High capital investment in advanced economies	U.S.: individual learners; India: corporate sponsorship
5.	**Employer Expectations**	60%+ in advanced economies; <45% in Africa, Central Asia, MENA	Broad recognition of workplace impact globally
6.	**Focus of Use**	Automation and manufacturing productivity	Efficiency gains in tasks, app development, decision-making
7.	**Economic Effect**	Regional inequality in adoption and benefits	Dual trend: long-term human capital vs. short-term productivity

Source: International Federation of Robotics (IFR, 2023); Coursera Global Skills Report (2023).

In contrast, organizations emphasize immediate applications that enhance workplace productivity, such as automating Excel tasks or developing AI-driven tools. This reflects a dual economic learning model: individuals invest in long-term skill-building, while enterprises prioritize short-term efficiency and competitiveness. Globally, robotics and Generative AI (GenAI) are growing rapidly but show different patterns. Robotics has steadily increased (5–7% annually since 2020), concentrated in advanced economies like China, Japan, the U.S., Korea, and Germany, mainly for automation and manufacturing productivity, leading to regional economic disparities (Yoganandham -2024). In contrast, GenAI skills are in high demand worldwide, driven by individual learners in the U.S. and corporate sponsorship in India, supporting efficiency, app development, and decision-making. While robotics adoption reflects capital intensity and regional inequality, GenAI offers broader



opportunities, enhancing both short-term productivity and long-term human capital development across diverse sectors.

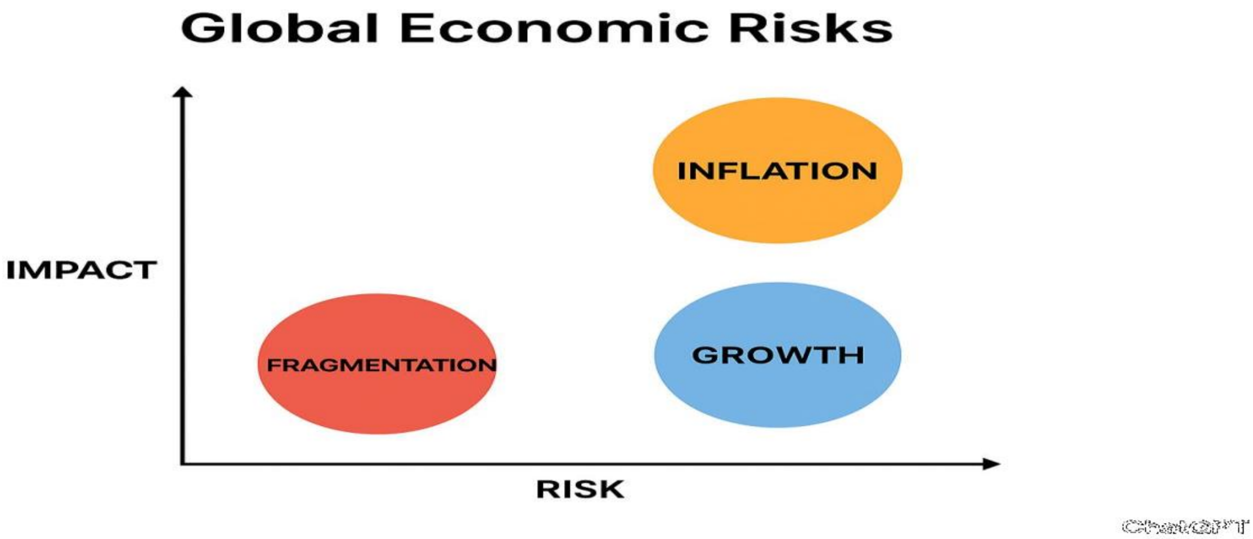
Perspective on the World Economy for 2025 - Consistent Growth with New Difficulties
The global economy in 2025 shows a mix of stability and risks. The World Economic Forum reports that most economists (54%) expect steady conditions, though more see risks of slowdown than improvement. The IMF projects global growth at 3.2%, but several low-income countries faces weaker prospects. Inflation remains a major challenge. While overall price pressures eased in 2024, service costs are still nearly double pre-pandemic levels. Low-income nations are most affected, as food prices stay high due to climate shocks, conflicts, and supply disruptions (Yoganandham -2023). Rising living costs and slower growth are key concerns for employers worldwide, with regional differences, Sub-Saharan Africa worries more about inflation, while Asia focuses on weak growth.

Geo-economics fragmentation is another serious risk. Governments have increased trade restrictions, subsidies, and industrial policies. The WTO reports such restrictions doubled since 2020, now covering almost 10% of world imports. This protectionist shift reduces opportunities for innovation and global cooperation. The IMF estimates that fragmentation could cut global GDP by 0.2% to 7%, with heavy impacts on emerging economies. For instance, Sub-Saharan Africa may lose around 4% of GDP in welfare terms. Trade-dependent economies like Korea and Singapore expect major changes from these global shifts. The details of the global economy 2025 trends and key insights are given in table -2.

Table - 2
Global Economic Outlook 2025 – Trends Key Insights

Area	Trends Key Insights
Growth	Global GDP growth projected at **3.2% (IMF, 2025)**; weaker outlook for low-income nations.
Inflation	Overall easing in 2024, but **services inflation nearly 2x pre-pandemic**; food prices high in low-income countries due to climate shocks and conflicts.
Living Costs	Rising cost of living is a top global concern; half of employers expect it to drive change.
Regional Risks	Sub-Saharan Africa: inflation biggest concern. Eastern & South-Eastern Asia: slower growth most critical.
Geoeconomic Fragmentation	Trade restrictions doubled 2020–2024; now affect ~10% of global imports (WTO).
GDP Impact	IMF warns fragmentation could cut global GDP by **0.2%–7%**; Sub-Saharan Africa may face **4% welfare losses**.
Business Impact	34% of employers see geopolitical tensions driving transformation; Korea (71%) and Singapore (64%) expect strong effects.

Source: International Monetary Fund (IMF), World Economic Outlook, 2025.



Industries that rely heavily on global supply chains, such as Automotive and Aerospace (46%) and Mining and Metals (55%), expect major changes due to trade restrictions. In contrast, domestic-focused sectors like Education show limited concern, with fewer than 14% seeing trade restrictions as disruptive. Government subsidies and industrial policies are also expected to reshape industries, with 31% of Mining and Metals, 33% of Advanced Manufacturing, and 40% of Oil and Gas employers highlighting their impact. However, sectors such as Accommodation, Food, and Leisure anticipate little effect from such policies. Overall, geo-economics fragmentation poses broader economic risks by reducing global cooperation, which can slow long-term stability and growth. It also limits collective action on global challenges such as climate change and health crises, adding uncertainty to the economic outlook. Thus, industries face uneven impacts, depending on their global exposure and reliance on trade.

Economic Implications of the Green Transition

The green transition is reshaping global economies, with 47% of employers identifying carbon reduction and 41% citing climate adaptation as key drivers of business transformation. Carbon-intensive industries such as Automotive and Aerospace (71%) and Mining and Metals (69%) face significant restructuring as they move toward decarbonization. These changes demand large-scale investments in clean technologies and new industrial processes, which can boost innovation but also raise transition costs. Regional differences highlight uneven economic impacts. In South-Eastern Asia, 72% of employers expect climate action to transform businesses by 2030, while only 19% of employers in Central Asia see relevance. This disparity calls for region-specific industrial policies and international cooperation to ensure balanced progress.

A critical challenge is the green skills gap. While the number of workers with green skills increased by 12% between 2022 and 2023, demand rose by 22%, creating shortages in skilled labor. Production-related workers, such as assemblers and fabricators, face the highest retraining costs. To maximize economic gains and ensure a just transition, governments must expand subsidies for green investment, strengthen R&D incentives, and prioritize workforce reskilling programs (Yoganandham -2024). Inclusive policies will reduce transition costs, enhance competitiveness, and support long-term net-zero growth. The details of the Economic Impact and Policy Priorities of the Green Transition across Key Focus Areas are presented in table – 3.

Table -3
Economic Impact and Policy Priorities of the Green Transition across Key Focus Areas

S.No.	Focus Area	Economic Impact	Policy Priority
1.	**Business Transformation**	47% employers cite carbon reduction; 41% cite climate adaptation as key drivers.	Subsidies & tax incentives for green investments.
2.	**Industry Restructuring**	Automotive & Aerospace (71%) and Mining & Metals (69%) expect major decarbonization impacts.	Support for clean tech R&D and low-carbon infrastructure.
3.	**Regional Trends**	South-Eastern Asia (72%) expects strong impact; Central Asia (19%) sees limited relevance.	Region-specific policies and global cooperation.
4.	**Skills Gap**	Workers with green skills ↑12% (2022–23), but demand ↑22%. Shortage of skilled labor.	Large-scale training, upskilling & reskilling programs.
5.	**Economic Future**	Green transition lowers long-term costs & boosts competitiveness.	Inclusive green skilling & social protection for workers.

Source: World Economic Forum's Future of Jobs Report - 2025.

The green transition offers growth opportunities but demands urgent investment in skills, technology, and fair policies to ensure sustainable and inclusive economic development. The world is undergoing two major demographic changes that directly affect the global economy. In high-income countries, birth rates are falling, life expectancy is rising, and working-age populations are shrinking. This creates higher dependency ratios, placing more pressure on fewer workers and raising concerns about long-term labour availability. In contrast, many low-income countries have a growing working-age population, offering the potential for a “demographic dividend” if jobs are created inclusively. Currently, the global workforce is nearly balanced between high-income (51%) and low-income (49%) economies. By 2050, low-income countries are expected to account for 59% of the working-age population. Nations such as India and those in Sub-Saharan Africa will contribute almost two-thirds of new entrants to the global labour force.

However, the challenge is whether these economies can create enough jobs. The World Bank estimates that while 1.2 billion young people in emerging economies will reach working age in the next decade, only 420 million jobs may be created, leaving nearly 800 million at risk of unemployment or underemployment. For 40% of global employers, aging and declining populations are already driving business transformation. In countries like Japan, Germany, and Australia, shrinking workforces are a critical issue. Employers here are more pessimistic about talent availability and face difficulties in attracting workers. As a response, many firms (60%) are focusing on reskilling existing employees, while others turn to automation and workforce augmentation to offset shortages. On the other hand, in countries with growing youth populations, employers plan to invest heavily in reskilling and upskilling by 2030. This highlights a key economic challenge: while high-income nations address labour shortages through automation and training, lower-income nations must ensure sufficient job creation to turn their demographic advantage into sustainable growth. The details of the Demographic Shifts and Labour Market Implications in High- and Low-Income Economies are given in table-4.

Table - 4
Demographic Shifts and Labour Market Implications in High- and Low-Income Economies

S.No.	Aspect	High-Income Economies	Low-Income Economies
1.	**Population Trend**	Aging and declining working-age population	Growing working-age population
2.	**Economic Challenge**	Higher dependency ratios, labour shortages	Risk of youth unemployment if jobs are insufficient
3.	**Labour Supply Impact**	Smaller workforce; talent scarcity concerns	Large influx of new workers entering labour market
4.	**Employer Response**	Focus on reskilling existing employees, automation, workforce augmentation	Focus on reskilling/upskilling; job creation is crucial
5.	**Examples**	Japan, Germany, Australia	India, Sub-Saharan Africa
6.	**Long-Term Economic Implication**	Need for automation and productivity gains to sustain growth	Potential demographic dividend if inclusive jobs are created

Source: Compiled from ILO Future of Jobs Report, 2025.

Global Labour Market Transformation by 2030: Impacts of Technology, Green Transition, and Demographic Shifts on Jobs and Skills

The global labour market is undergoing a profound transformation driven by technological innovation, the green transition, economic uncertainty, geopolitical fragmentation, and demographic shifts. By 2030, it is estimated that around 22% of today’s formal jobs will be affected. Emerging sectors, particularly technology, sustainability, and healthcare, are projected to create approximately 170 million new jobs (14% of current employment), while about 92 million existing positions (8%) may be displaced due to automation and structural changes. This results in a net gain of 78 million jobs (7% of today’s employment). Growth is expected in tech-driven, green, and healthcare industries, whereas routine and manual occupations are likely to decline. These trends underscore the critical need for strategic workforce planning, reskilling programs, and supportive policies to enable workers and economies to adapt effectively to the evolving labour landscape. The details of the Projected Job Creation, Displacement, and Net Growth by 2030 are presented in table -5.

Table -5
Projected Job Creation, Displacement, and Net Growth by 2030

Labour Market Indicator	Number of Jobs (Millions)	% of Current Employment
Jobs Created	170	14%
Jobs Displaced	92	8%
Net Job Growth	78	7%

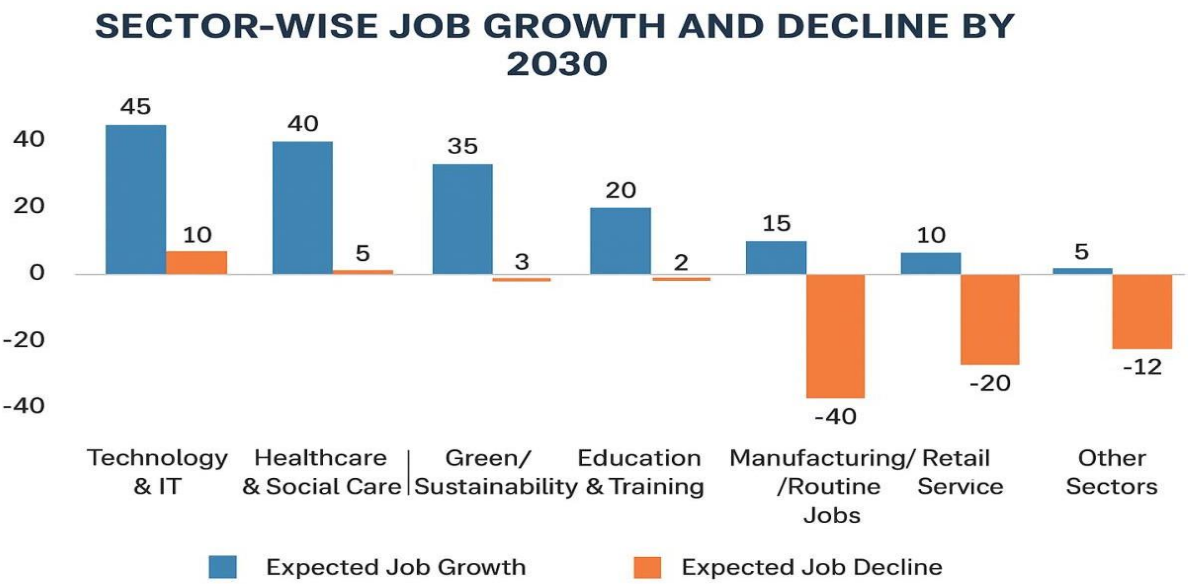
Source: ILO Future of Jobs Report, 2025.

Technological change, the green transition, and other macro trends are simultaneously driving job creation and displacement across the global labour market. Growth is expected to be concentrated in technology, sustainability, and healthcare sectors, while routine and manual roles are likely to decline. To manage these shifts effectively, policymakers and employers must prioritize reskilling initiatives and strategic workforce planning. The details of the Sectorial Job Growth and Decline Projections by 2030 are given in table -6.

Table - 6
Sectorial Job Growth and Decline Projections by 2030

Sector / Industry	ed Job Growth (Millions)	ted Job Decline (Millions)	et Change (Millions)
Technology & IT	45	10	+35
are & Social Care	40	5	+35
Green / Sustainability	35	3	+32
Education & Training	20	2	+18
Manufacturing / Routine Jobs	10	40	-30
Retail & Services	15	20	-5
Other Sectors	5	12	-7

Source: ILO Future of Jobs Report, 2025.
By 2030, the global labour market is expected to see the creation of 170 million new jobs and the displacement of 92 million existing roles, resulting in a net growth of 78 million jobs. High growth is projected in technology, healthcare, and green sectors, while routine and manual roles in manufacturing and services are likely to decline. These trends highlight the critical importance of reskilling, strategic workforce planning, and supportive policies to navigate the ongoing labour-market transformation effectively.



As of early 2025, the global economy is marked by cautious optimism but continues to face significant uncertainties. Inflation eased in 2024, and monetary policies became more flexible, offering stability. However, slow growth and political volatility keep economies vulnerable to shocks. The IMF projects global growth at 3.2% in 2025, though many low-income countries face downward revisions. Inflation pressures remain high, especially in services and essential goods, with poorer nations disproportionately affected due to food price hikes driven by climate shocks, conflicts, and supply disruptions. Rising costs of living and slower growth are seen as major transformative pressures for businesses worldwide. At the same time, geo- economics fragmentation is intensifying. Governments are imposing trade and investment restrictions, subsidies, and industrial policies, with the WTO reporting that trade restrictions doubled between 2020 and 2024, covering nearly 10% of global imports. Such protectionist measures risk undermining global innovation, technology transfer, and long-term growth. The IMF warns of potential global output losses of 0.2% to 7% of GDP from fragmentation, with emerging economies particularly vulnerable. Employers in Asia and North America identify geopolitical tensions, trade restrictions, and industrial policy shifts as major forces shaping future labor markets and economic structures.

Industries heavily reliant on global supply chains, such as Automotive (46%), Aerospace (46%), and Mining and Metals (55%), face transformation due to trade restrictions, while domestic-focused sectors like Education (14%) remain less affected. Mining, Advanced Manufacturing (33%), and Oil and Gas (40%) anticipate shifts from government subsidies and industrial policies. Geo-economics fragmentation poses broader risks by undermining economic stability, growth, and multilateral cooperation on critical global challenges, including climate change and pandemic preparedness.

Green Transition

The worldwide push to cut carbon emissions is reshaping industries and labour markets. Carbon-heavy sectors such as Automotive, Aerospace, and mining anticipate profound transformation, fuelling the growth of green jobs and the need for specialized expertise. At the same time, workers in conventional production roles face adjustment challenges. Although the number of workers with green skills increased by 12% between 2022 and 2023, demand outpaced this at 22%, highlighting a growing skills gap. From an economic perspective, investing in green skilling is vital to ensure competitiveness, productivity, and inclusive growth in a net-zero economy. Key figures reveal that 47% of employer’s view emission reduction as a major driver of change, while 71% in Automotive/Aerospace and 69% in Mining expect decarbonization to bring large-scale transformation.

Demographic Shifts

Advanced economies are confronting aging populations, shrinking workforces, and rising dependency ratios, which threaten productivity and push up labour costs. To cope, many employers are adopting automation alongside reskilling strategies. Conversely, lower-income regions such as India and Sub-Saharan Africa are experiencing a demographic dividend and are projected to supply the majority of the world’s new workers by 2050. However, job growth in these regions is lagging, putting millions at risk of unemployment. By 2050, 59% of the global working-age population will be concentrated in lower-income economies. Over the next decade, 1.2 billion young people will enter the labour force, yet only 420 million jobs are expected to be created. In response, 92% of employers in these regions plan to prioritize reskilling and up skilling by 2030.

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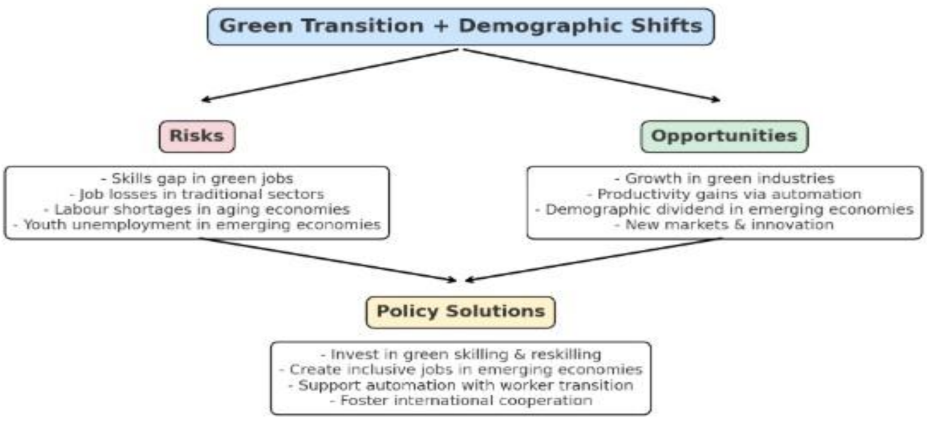
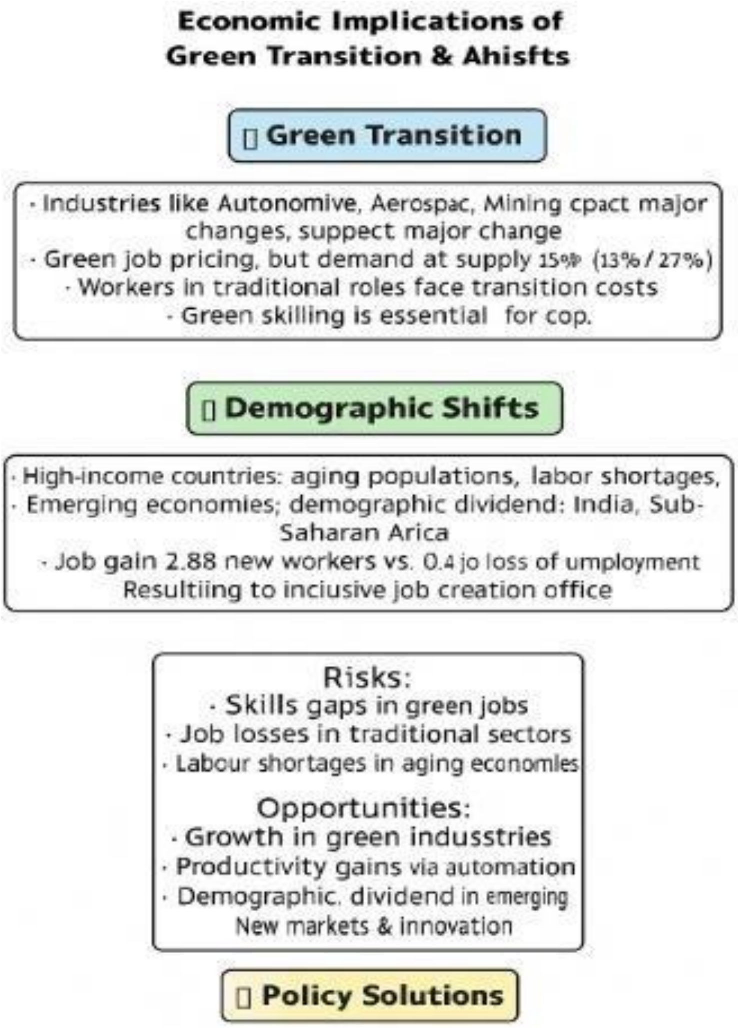


This visual summary flowchart showing how the green transition and demographic shifts lead to risks and opportunities, with policy solutions to balance them.



This chart showing the economic implications of the green transition and demographic shifts, along with risks, opportunities, and key policy solutions. By 2030, labour market changes driven by technology, green transition, demographics, and economic uncertainty are projected to reshape jobs significantly. Around 170 million new jobs (14% of current employment) may be created, while 92 million jobs (8%) could be lost, leading to a net gain of 78 million jobs (7%). These shifts highlight both opportunities and risks for global employment and economic transformation.

Growing and Declining Jobs (2025–2030)

The technological advancements such as AI, robotics, and digital access are driving the fastest-growing roles. By 2030, jobs like Big Data Specialists, Fin-Tech Engineers, AI and Machine Learning Specialists, and Software Developers are projected to grow by 60–120% in net terms (Yoganandham -2024). Security-related roles, including Security Management Specialists and Information Security Analysts, are also among the top 15 fastest-growing roles, influenced by both technology and geopolitical fragmentation. Green and energy-transition roles, such as Renewable Energy Engineers, Environmental Engineers, and Autonomous/Electric Vehicle Specialists, are projected to grow by 40–80%, driven by investment in carbon reduction and climate adaptation technologies.

In contrast, clerical and administrative roles are expected to decline sharply. Postal Service Clerks, Bank Tellers, Cashiers, Administrative Assistants, and Accounting Clerks face net declines of 20–40%, primarily due to AI, automation, and information-processing technologies (Yoganandham -2025). Aging populations and slower economic growth further reduce demand in these roles. Overall, the labor market is shifting structurally, high-value, technology-intensive, and green jobs are expanding rapidly, while routine clerical roles are shrinking. Economic strategies emphasizing reskilling, digital literacy, and green skills are essential to support workforce adaptability and sustained growth in emerging sectors.

The chart shows how jobs will change between 2025 and 2030. Technology-driven roles like Big Data Specialists, Fin-Tech Engineers, AI and Machine Learning Experts, and Software Developers will grow rapidly, with demand rising up to 120%. These jobs need digital and technical skills. On the other hand, routine clerical and manual jobs like postal clerks, bank tellers, data entry clerks, and cashiers will decline by up to 40% because of automation and digital tools (Yoganandham -2023). This means future worker need to focus on learning technology, data, and innovation skills to stay employable, as traditional roles will shrink.

Table - 7
Projected Job Growth and Decline: Fastest-Growing and Fastest-Declining Roles

Rank	**Occupation**	**Projected Net Growth (%)**	**Key Drivers**
1	Big Data Specialists	+122%	Data-driven decision-making, advanced analytics
2	FinTech Engineers	+108%	Digital finance, blockchain, online banking
3	AI & Machine Learning Specialists	+96%	Automation, AI integration, generative AI
4	Software & Applications Developers	+88%	Digital products, app economy
5	Security Management Specialists	+76%	Cybersecurity, geopolitical risks
6	Data Warehousing Specialists	+72%	Cloud adoption, real-time analytics
7	Autonomous & Electric Vehicle Specialists	+70%	EV market growth, green mobility
8	UI/UX Designers	+66%	Human-centered digital experiences
9	Light Truck/Delivery Drivers	+62%	E-commerce, last-mile delivery
10	Internet of Things (IoT) Specialists	+58%	Smart homes, connected devices
11	Data Analysts & Scientists	+55%	Insights for strategy & operations
12	Environmental Engineers	+53%	Climate action, sustainability
13	Information Security Analysts	+50%	Cyberattacks, data protection laws
14	DevOps Engineers	+48%	Agile workflows, CI/CD adoption
15	Renewable Energy Engineers	+46%	Solar, wind, and green energy investments
Rank	**Occupation**	**Projected Net Decline (%)**	**Key Reasons**
1	Postal Service Clerks	-40%	Decline of physical mail, automation
2	Bank Tellers & Related Clerks	-38%	Online banking, ATMs
3	Data Entry Clerks	-37%	AI-based automation
4	Cashiers & Ticket Clerks	-36%	Self-checkout, digital payments
5	Administrative Assistants & Executive Secretaries	-34%	Automation of scheduling & documentation
6	Printing & Related Trades Workers	-32%	Digital publishing
7	Accounting, Bookkeeping & Payroll Clerks	-31%	AI-driven accounting tools
8	Material Recording & Stock-Keeping Clerks	-30%	Warehouse automation, robotics

9	Transportation Attendants & Conductors	-28%	Autonomous transport
10	Door-to-Door Sales, News & Street Vendors	-27%	E-commerce, digital media
11	Graphic Designers	-25%	AI design tools, low-cost outsourcing
12	Claims Adjusters, Examiners & Investigators	-24%	AI-driven risk assessment
13	Legal Officials	-22%	Digital legal services
14	Legal Secretaries	-21%	Document automation
15	Telemarketers	-20%	AI chatbots, digital marketing

Source: World Economic Forum, the Future of Jobs Report 2025.

The labor market is shifting toward high-value, technology-intensive, and green jobs, reflecting growing investments in AI, renewable energy, and climate adaptation technologies. Roles in security, energy transition, and digital services are expanding rapidly, offering higher economic returns and employment potential. Conversely, traditional clerical and routine jobs are declining due to automation, AI adoption, and slower economic growth in these sectors (Yoganandham -2024). To sustain economic growth and workforce participation, reskilling, digital literacy, and green skills development are critical for adapting to these emerging labor market trends.

Transforming Global Labor Markets (2025–2030): Forecasting the Impacts of AI, Technological Innovation, Green Transition, Demographics, and Geopolitical Shifts

The global labor market is undergoing significant transformations between 2025 and 2030, driven by advancements in artificial intelligence (AI), technological innovations, the green transition, demographic shifts, and geopolitical changes. AI and automation are projected to displace approximately 85 million jobs by 2025; however, they are also expected to create about 97 million new roles, resulting in a net gain of 12 million jobs globally. These new positions will primarily be in fields such as big data, AI, machine learning, and renewable energy sectors. Conversely, roles in clerical work, customer service, and routine manual labor are at higher risk of automation. The global shift towards sustainability is anticipated to generate numerous job opportunities (Yoganandham -2025). For instance, the renewable energy sector is expected to see significant growth, with roles in solar energy, wind energy, and environmental conservation becoming more prevalent. This transition is not only pivotal for environmental goals but also for economic development, especially in regions investing heavily in green technologies.

Aging populations in developed countries and youth bulges in developing nations are influencing labor markets. In aging societies, there is an increased demand for healthcare professionals and caregivers, while younger populations are driving the need for education, technology, and infrastructure development. These demographic trends necessitate tailored policies to address specific regional labor market needs. Shifts in global power dynamics, trade policies, and international relations are impacting labor markets. For example, trade tensions canlead to job losses in certain sectors, while new trade agreements may open up employment opportunities in others. Additionally, geopolitical instability can affect migration patterns, influencing labor supply in various regions. The period from 2025 to 2030 presents both challenges and opportunities for the global labor market. Adaptation through reskilling, embracing technological advancements, and aligning with global sustainability efforts will be crucial for workers and policymakers to navigate these changes effectively.

Emerging Opportunities and Workforce Transformation: Reskilling for Inclusive Economic Growth in a Changing Global Job Market

The global job market is undergoing rapid transformation due to technological advancements, automation, and shifting economic priorities. To ensure inclusive economic growth, reskilling and workforce transformation have become imperative. The World Economic Forum's Reskilling Revolution initiative aims to equip 1 billion people with future-ready skills by 2030. This ambitious goal addresses the urgent need to prepare workers for evolving job roles. For instance, by 2030, 39% of core skills required for existing jobs are expected to change, highlighting the necessity for continuous learning and adaptation. In India, a significant challenge persists, with 88% of the workforce engaged in low-competency occupations, according to a 2023-24 report by the Institute for Competitiveness. This underscores the need for targeted skill development programs that cater to diverse sectors beyond the traditional ones. The Karnataka State Skill Development Policy 2025–2032 exemplifies such efforts, aiming to transform the state into a leading talent hub with a budget of ₹4,432 crore.

Furthermore, the Future of Jobs Report 2025 indicates that sectors like Big Data, Fin- Tech, and AI are witnessing rapid growth, with roles such as Big Data Specialists projected to grow by 110% by 2030. This shift necessitates a reimagined approach to education and training, emphasizing digital literacy and adaptability (Yoganandham -2024). In short, reskilling is not merely a response to technological disruption but a strategic investment in human capital. By fostering inclusive economic growth through targeted workforce transformation, societies can ensure that all individuals have the opportunity to thrive in the changing global job market.

Collaborative Policies and Strategic Workforce Development: Navigating Rapid Global Labor Market Transformations

The global labor market is undergoing rapid transformation due to technological advancements, demographic shifts, and environmental imperatives. To navigate these changes, collaborative policies and strategic workforce development are essential. More than 1,000 employees worldwide, covering over 14 million employees, expect a 22% structural shift in the job market by 2030. This shift will generate around 170 million new positions, underscoring the importance of forward-looking workforce planning. The World Bank emphasizes that approximately 1.1 billion workers will require retraining in the next decade due to automation, climate action, and digitalization. This underscores the importance of investing in skills development to ensure workers remain adaptable and employable.

Strategic workforce development involves aligning education and training systems with labor market needs. Collaborative policies between governments, educational institutions, and industries can facilitate this alignment, ensuring that the workforce is equipped with relevant skills. For instance, on-the-job training and apprenticeships can bridge the gap between education and employment. In short, navigating the rapid global labor market transformations requires a concerted effort to implement collaborative policies and strategic workforce development initiatives. By investing in skills development and fostering partnerships across sectors, societies can build resilient workforces capable of thriving in an evolving economic landscape.

Transforming Indian Labour Markets (2025–2030): Technological Innovation, AI, Green Transition, Demographic Shifts, and Implications for Jobs, Skills, Workforce Adaptation, and Societal Development

India's labour market is undergoing significant transformation between 2025 and 2030, driven by technological advancements, artificial intelligence (AI), the green transition, and demographic shifts. These changes are reshaping job structures, skill requirements, and societal dynamics. AI is poised to revolutionize over 10 million jobs in India by 2030, particularly in sectors like manufacturing, retail, and education. This transformation is not merely about automation but involves AI augmenting human decision-making, thereby enhancing productivity and creating new roles (Yoganandham -2023). For instance, AI is expected to generate approximately 3 million new tech jobs in India by 2030. India's commitment to sustainability is leading to the creation of green jobs. The green economy is projected to generate 7.29 million jobs by the fiscal year 2027–28 and 35 million by 2047. These jobs span sectors such as renewable energy, electric vehicles, and sustainable infrastructure.

India's working-age population is expected to peak around 2030, presenting both opportunities and challenges. To harness this demographic dividend, there is a pressing need for skill development and job creation. Initiatives like Karnataka's Skill Development Policy 2025– 2032 aim to equip the youth with employment-ready and entrepreneurial skills, integrating AI and digital technologies into training programs. The evolving landscape demands a workforce adept in digital literacy, critical thinking, and adaptability. The Future of Jobs Report 2025 indicates that 22% of jobs will undergo transformation, necessitating a focus on reskilling and upskilling to meet the demands of emerging industries (Yoganandham -2024). To ensure inclusive growth, policies must focus on reskilling, equitable access to opportunities, and support for marginalized communities. This approach will facilitate a transition to a sustainable and resilient labour market. In short, India's labour market transformation is a multifaceted process requiring coordinated efforts in technology adoption, green initiatives, and skill development to foster a prosperous and inclusive future.

4. CONCLUSION

The global labor market from 2025 to 2030 is poised for profound transformation driven by technological innovation, the green transition, demographic shifts, and geopolitical dynamics. These macro trends will simultaneously create new employment opportunities, particularly in technology, renewable energy, healthcare, and sustainability sectors, while displacing routine and manual roles due to automation and AI adoption. The projected net job growth of approximately 78 million underscores a resilient yet complex shift requiring proactive strategies. To harness these opportunities and mitigate risks, a focus on reskilling, lifelong learning, and inclusive workforce policies is essential. Governments, industries, and educational institutions must collaborate to develop targeted training programs that address emerging skill demands such as digital literacy, green skills, and advanced technological competencies. Equally important is fostering an environment of innovation and inclusivity, ensuring that marginalized groups, low- income countries, and vulnerable workers are not left behind amidst rapid change.

Furthermore, policy frameworks should promote sustainable growth by supporting green investments, facilitating technological diffusion, and managing geopolitical uncertainties. Addressing regional disparities, whether related to access to technology or demographic challenges, will be critical to building resilient economies capable of adapting to ongoing global shifts. Ultimately, the success of this transition hinges on strategic foresight, inclusive policies, and international cooperation. By prioritizing workforce resilience and equitable growth, societies can turn challenges into opportunities, ensuring a sustainable, innovative, and inclusive global labor market that benefits all stakeholders in the decades ahead.

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