

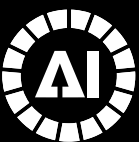
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*AI and frontier
technologies for good*

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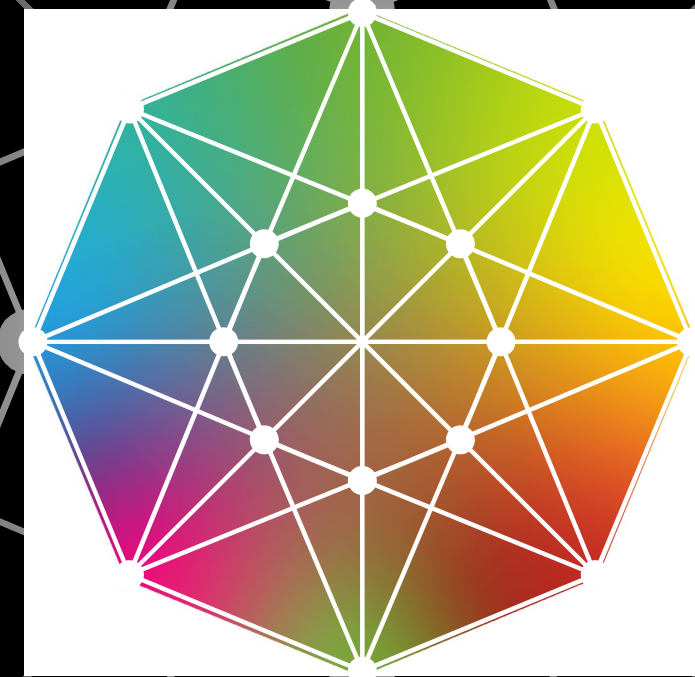
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TOWARDS INCLUSIVE AI ECONOMIES: WORKFORCE, SKILLS, AND POLICY

**INSIGHTS FROM INDIA'S AI JOB
CREATION ROADMAP**

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Presentation Outline

TOWARDS INCLUSIVE AI ECONOMIES: WORKFORCE, SKILLS, AND POLICY INSIGHTS FROM INDIA'S AI JOB CREATION ROADMAP

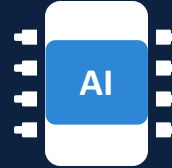
-  Introduction
-  Motivation and Context
-  Related Works
-  Proposed Methods
-  Implementation Framework
-  Data Sources and Methodology
-  Results, Discussion & Impact
-  Conclusion
-  References

Introduction



To understand how AI is transforming India's workforce — reshaping job roles, skill demands, and the structure of employment.

Purpose



AI-driven automation and digital platforms are shifting skill needs, driving demand for reskilling, upskilling, and lifelong learning.

Technology



With sound policy and inclusive design, AI can create jobs and boost productivity — advancing SDG 4 (Quality Education) and SDG 8 (Decent Work).

Impact

AI's impact on India's workforce depends on education systems, policy, and institutional readiness. Proactive action can turn disruption into inclusive job creation and sustainable growth.

Motivation and Context

Motivation

As AI reshapes economies worldwide, India stands at a pivotal moment — where thoughtful policy can turn workforce disruption into an engine for inclusive growth.

12M+

youth entering India's workforce every year

Context in India



Demographic Dividend

India has the world's largest working-age population, giving it a unique window to convert scale into economic opportunity.



AI-Driven Job Growth

AI and digital sectors are projected to create large numbers of new roles across India's economy over the coming decade.



Widening Skills Gap

Automation risks displacing routine, low-skill jobs faster than current reskilling systems can adapt.



Policy Imperative

Skill India and the National AI Strategy call for coordinated, inclusive policy action.

Related Work



Key Studies Discussed:



Automation & Task Displacement

Foundational studies estimate the share of jobs highly susceptible to AI-driven automation across sectors.



Task-Based Labour Models

Task-based frameworks show AI both displacing routine work and creating new higher-skill tasks.



Global AI & Jobs Forecasts

International bodies project large-scale AI-driven job creation alongside significant displacement risk.



Research Gap

Most existing evidence centers on advanced economies; empirical study of inclusive AI-workforce transitions in India and similar emerging economies remains limited.

Key Literature on AI & the Future of Work

Author(s)	Year	Main Contribution
Frey & Osborne	2017	Estimated the share of existing jobs at high risk of computerisation across occupations.
Autor	2015	Explained why automation complements rather than only replaces labour, driving job polarization.
Brynjolfsson & McAfee	2014	Argued that digital technologies are reshaping the pace and nature of work in the "second machine age."
Acemoglu & Restrepo	2020	Introduced a task-based framework distinguishing displacement and reinstatement effects of automation.
WEF	2023	Future of Jobs Report projecting large-scale AI-driven job creation and displacement through 2027.
ILO	2023	World Employment and Social Outlook assessing AI-related employment risks across income groups.
OECD	2023	Employment Outlook chapter examining AI's effects on job quality, wages, and skill demand.
Acemoglu, Autor & Johnson	2023	NBER working paper modelling how generative AI could reshape wage and task structures.
McKinsey Global Institute	2017	Projected automation's likely impact on jobs, productivity, and skill needs across emerging economies.



Proposed Methods

Methods: Analytical Framework & Approach

This study examines how artificial intelligence is reshaping India's labour market, guided by the AI Job Creation Roadmap. It applies a qualitative, policy-analysis approach — built on conceptual investigation, policy integration, and comparative contextualization — rather than quantitative employment forecasting.

Three Guiding Research Questions

01



Workforce Impact

How is AI impacting the workforce, skills, and job structures?

02



Skill Evolution

How does this evolution drive the development of AI-related skills?

03



Policy Needs

What laws and regulations are needed for inclusive workforce transitions?

Proposed Methods (contd.): Scope & Boundaries



Research Approach



Qualitative Methodology

Grounded in policy analysis rather than statistical modelling.



Conceptual & Comparative Analysis

Uses conceptual investigation, policy integration, and comparative contextualization instead of quantitative job forecasts.



National Workforce Focus

Centered on the national workforce level, aligned to sustainable development goals and AI-for-Good priorities.

Scope & Boundaries of the Study

1

Temporal & Sectoral Scope

Focuses on the post-2020 AI adoption wave across India's formal and informal sectors.

2

Analytical Level

National workforce trends are examined rather than firm-level case studies.

3

Key Exclusion

Quantitative labour-force projections are out of scope; findings rely on qualitative policy triangulation.

Implementation Framework: The 3W Model

The Work–Worker–Workforce (3W) model — from India's AI Job Creation Roadmap — traces how AI reshapes employment across three connected levels.



🎯 *By linking work transformation to skill development and workforce restructuring, the 3W framework fosters a transition-oriented perspective — emphasizing preparation and anticipation over reactive displacement control.*

Data Sources and Methodology

Key Data Sources

Source	Type	Purpose
NITI Aayog (2024)	Policy Report	National AI workforce strategy
ILO (2023)	Global Study	AI and employment risks
WEF (2023)	Industry Forecast	Skill demand trends

Complementary Evidence Base

- ❖ International frameworks from the ILO, OECD, UNESCO, WEF, and ITU
- ❖ Literature on sustainable development and AI-for-Good covering governance, skills, and employment

Four-Stage Analytical Procedure

-  **Policy Mapping**
Identifies opportunities and challenges in the AI-related workforce.
-  **Thematic Coding (3W)**
Codes findings thematically using the Work–Worker–Workforce approach.
-  **AI Skill Taxonomy Synthesis**
Organizes AI capabilities into AI-for-AI, Enterprise AI, and Frontier AI domains.
-  **Policy Interpretation**
Reads results through an inclusion-focused AI-for-Good lens.

AI-for-AI

Researchers & model builders

Enterprise AI

Prompt engineers, ethical AI, AI-assisted roles

Frontier AI

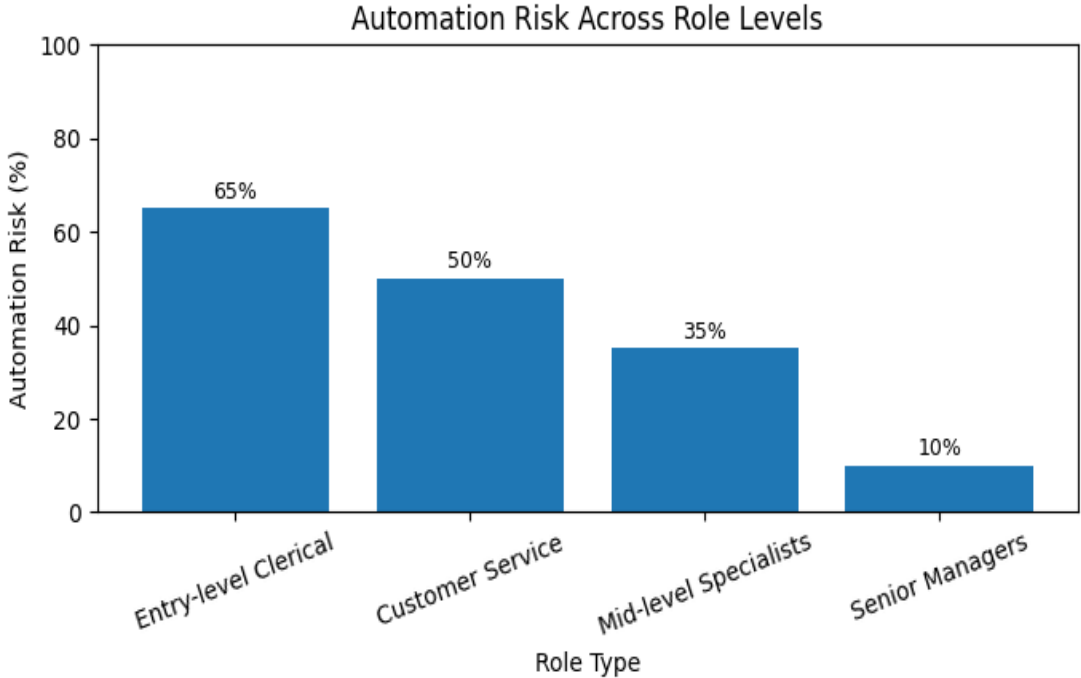
AI + quantum, cyber, telecom convergence



AI Skill Categories & Automation Risk

Skill Category	Share	Access	Risk
Enterprise AI	60%	Broad	Low
Frontier AI	30%	Limited	Medium
AI-for-AI	10%	Elite only	Low

Enterprise AI skills are broadly accessible and carry low automation risk, underscoring their role in large-scale, inclusive workforce change. Frontier and AI-for-AI skills remain concentrated in a small, specialized segment of the workforce.



Automation risk declines as roles become more senior and specialized — from 65% for entry-level clerical work to just 10% for senior management.

Most AI-driven workforce change will come from application-oriented (Enterprise AI) skills, while core AI-development roles stay small but strategically vital.

Policy Pathways to Inclusive Outcomes

Policy Dimension	Key Focus Area	Workforce Outcome
 Education Systems	Curriculum reform & lifelong learning	Improved workforce adaptability
 Skill Development	Reskilling & upskilling initiatives	Smoother job transitions
 Digital Infrastructure	Digital identity, payments, service access	Broader participation in new jobs
 Labor Regulation	Adaptive labor laws & worker protection	Reduced job insecurity
 Governance Alignment	Coordination across AI, labor & education policy	Inclusive economic growth
 Social Inclusion	Targeted support for vulnerable groups	Reduced workforce polarization

AI in Emerging Economies: Policy Matters

Dimension	Without Inclusive Policies	With Inclusive AI Framework
Job Impact	Employment displacement & job insecurity	Workforce transition & role evolution
Skill Development	Limited access to training & reskilling	Continuous upskilling & lifelong learning
Role of Technology	Replacement of routine labor	Human–AI collaborative work models
Digital Infrastructure	Fragmented or insufficient access	Enables access to jobs, training, services
Inequality	Growing gaps across skill & income levels	Reduced socioeconomic disparities
Economic Outcome	Polarized labor markets	Inclusive & sustainable economic growth

Key Findings



Validity & Transferability



Triangulation

Cross-checking multiple policy sources strengthens the analysis.



Cross-Country Relevance

Findings transfer to other developing nations facing similar AI-driven labour shifts.



Structural Focus

Emphasis stays on structural trends rather than country-specific employment statistics.

Anticipated Workforce Outcomes

60–70%

Automation risk for entry-level, highly automatable tasks without targeted reskilling

20–35%

Productivity gains expected in digitally intensive industries adopting AI

Emerging Pattern Across Levels

- ❖ **Work:** routine tasks automate; judgment- and creativity-based tasks are augmented.
- ❖ **Worker:** hybrid human–AI roles demand technical, critical-thinking, and ethical skills.
- ❖ **Workforce:** flatter organizational structures increase demand for specialized roles.



Workforce Pyramid Restructuring

Current Workforce

Senior leaders

Mid-level professionals

Entry-level (routine tasks)

Post-AI Workforce

AI governance & strategy

Hybrid-skilled workers (AI + domain)

Entry-level (reduced)

- Entry-level routine work shrinks as automation absorbs repetitive tasks.
- Hybrid-skilled workers (AI + domain expertise) become the largest segment.
- Leadership shifts toward AI governance & strategic decision-making.

Social Impact

Beyond economic outcomes, an inclusive AI transition shapes who benefits from technological change — and who is left behind.



Bridging the Digital Divide

Digital public infrastructure widens access to jobs, training, and services for underserved communities.

SDG 4



Reducing Inequality

Inclusive AI frameworks narrow skill and income gaps compared to unmanaged automation.

SDG 10



Protecting Vulnerable Workers

Targeted social protection and reskilling shield at-risk and informal workers from displacement.

SDG 8

Conclusion



AI is transforming labour markets by reshaping the nature of work, the skills required, and the composition of the workforce — not simply causing unemployment.

Employment outcomes depend on integrated policy, education, and skilling initiatives — not on technology alone. The Work–Worker–Workforce model shows how coordinated institutional governance can convert technological disruption into long-term, inclusive development, offering replicable lessons for other emerging economies.



**Policy-Led
Transition**



**Human-AI
Collaboration**



**Inclusive
Growth**

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Thank you!

