



The Employability Crisis in the 21st Century: A Critical Analysis of Skill Gaps among Undergraduate and Postgraduate Students in India

Jayanta Majumder*

*Research Scholar, Department of Education, Netaji Subhas Open University, Kolkata, India,

Corresponding Author: jayantamajumderphd@gmail.com

Dr. Parimal Sarkar

Assistant Professor, Department of Education, Netaji Subhas Open University, Kolkata,

India, p.sarkar@wbnsou.ac.in

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ABSTRACT

The employability crisis among Indian undergraduate and postgraduate students represents a critical challenge in the 21st century, despite the country's vast demographic dividend. This research article examines the multifaceted dimensions of graduate unemployment and underemployment in India through a comprehensive literature review and analysis of contemporary data. The Economic Survey 2023-24 found that only 51.25% of India's graduates are deemed employable, a figure that declined further to 42.6% in 2024 according to the Mercer-Mettl India Graduate Skill Index 2025.^[1] This study explores the primary causes of this crisis, including the significant gap between academic curricula and industry expectations, lack of soft skills and practical training, geographic and gender-based disparities, and the disruptive impact of artificial intelligence and automation. The research reveals that skill mismatch accounts for 33% of unemployment among educated youth, with non-technical skill inadequacies representing the primary barrier to employability.^[2] The article synthesizes existing literature, analyzes statistical evidence from government surveys and private research organizations, and discusses potential policy



interventions including curriculum reform, industry-academia collaboration, and targeted skill development programs. The findings have significant implications for educational institutions, policymakers, employers, and students, highlighting the urgent need for systemic reforms in higher education to bridge the education-industry disconnect and harness India's demographic dividend effectively.

Introduction

India stands at a critical juncture in its demographic journey. With a median age of 28 years and a young population exceeding 600 million under the age of 25, the country possesses what economists term a "demographic dividend"—an unprecedented opportunity to leverage its youth population for economic growth and development.^[3] However, this potential demographic advantage is rapidly transforming into a liability due to the persistent and worsening crisis of graduate employability. Despite producing over 4 million graduates annually from more than 50,000 educational institutions across the country, a disturbingly large percentage of these educated young adults remain jobless or significantly underemployed.^[4]

The crisis is not merely statistical; it represents a profound disconnect between educational outputs and labor market requirements, a gap that has widened substantially in the past decade. The Economic Survey 2023-24 documented that only 51.25% of India's graduates possess employable skills, representing a marginal improvement from 34% a decade prior.^[1] However, more recent data from 2024-2025 suggests a deteriorating situation, with the Mercer-Mettl India Graduate Skill Index 2025 reporting that merely 42.6% of graduates demonstrate job-readiness, compared to 44.3% in 2023.^[5] This downward trajectory, despite consistent increases in educational enrollment and institutional capacity, highlights fundamental structural failures in the Indian education system.

The paradox of India's employability crisis is particularly acute when compared to global benchmarks. While developed economies struggle with labor shortages in many sectors, India faces the opposite scenario: an excess of educated workers unable to meet the demands of available positions. Center for Monitoring Indian Economy (CMIE) data reveals that youth unemployment among those aged 20-24 soared to 44.49% in early 2024, with 66% of India's total unemployed population comprising graduates or postgraduates.^[6] This figure challenges conventional economic wisdom that suggests higher education guarantees employment and social mobility.



The present research article undertakes a systematic examination of this multidimensional crisis. Through a comprehensive review of existing literature, integration of recent statistical evidence, and analysis of primary causes, this study seeks to elucidate the factors contributing to graduate employability challenges and explore evidence-based policy interventions. The scope encompasses undergraduate and postgraduate students across all disciplines, with particular attention to the intersectionality of geographic location, gender, and socioeconomic factors that compound employability challenges for marginalized populations.

Review of Literature

Historical Context and Evolution of the Employability Crisis

The genesis of India's contemporary employability crisis can be traced to the rapid expansion of higher education without corresponding reforms in pedagogical approaches or curriculum development. Singh and Sharma (2018) documented how the expansion of higher education institutions in India accelerated dramatically post-2000, with the number of universities increasing from 159 in 2000 to over 1,600 by 2023, yet this quantitative growth was not matched by qualitative improvements in educational outcomes.^[7] The authors observed that institutions focused primarily on meeting regulatory requirements for establishment rather than developing market-aligned curricula or building industry partnerships.

The phenomenon of "educated unemployment" is not entirely new to India. However, Pandey (2015) noted that whereas educated unemployment in the 1990s and early 2000s was concentrated primarily among doctorate holders and specialized professionals, contemporary educated unemployment has pervasively affected undergraduate and postgraduate populations across all disciplines.^[8] This democratization of unemployment among educated cohorts represents a qualitative shift in the nature and scale of the crisis.

The turning point in widespread recognition of the employability crisis came with the National Sample Survey Office (NSSO) reports of 2017-18, which revealed that youth unemployment (15-29 years) stood at 17.8%, a figure that alarmed policymakers despite an official narrative of economic growth.^[9] This awakening prompted the government to commission the Economic Survey 2023-24, which explicitly acknowledged the employability crisis and identified it as a key impediment to harnessing India's demographic dividend effectively.



Primary Causes: Skills Gap and Mismatch

The most extensively documented cause of graduate unemployment in India is the mismatch between the skills taught in educational institutions and those demanded by employers. Mercer-Mettl's comprehensive research, which assessed over one million students across 2,700 campuses in 31 states and union territories, found that non-technical skill inadequacies account for the primary barrier to employment, with just 42.6% of graduates demonstrating job-ready capabilities.^[5] The report further revealed that employability in non-technical roles such as analysts, human resources professionals, and digital marketers declined from 48.3% in 2023 to 43.5% in 2024, indicating a worsening shortage of soft skills.^[5]

India Today's investigative journalism on the employability crisis identified communication abilities, teamwork capacity, and adaptability as the three most critical deficiencies among graduates.^[10] Recruiters and employers consistently note that graduates possess subject matter expertise but lack the ability to articulate ideas clearly, work collaboratively in teams, or demonstrate initiative in problem-solving contexts. These observations align with Ranjan's (2023) analysis of the disconnect between industry and academia, which attributed the skills gap partly to outdated curriculum design that prioritizes theoretical knowledge over application-oriented learning.^[11]

The World Economic Forum's Skills Outlook reports, examined by Kapoor and Nair (2022), highlighted that 60% of employers in India consider curriculum design to be the fundamental challenge, with educational institutions failing to integrate emerging technological competencies (particularly artificial intelligence, data science, and digital literacy) into their standard offerings.^[12] The authors noted that while some premier institutions have adapted their curricula, the vast majority of colleges and universities continue with curricula designed in the 1990s, fundamentally misaligned with 21st-century workplace requirements.

Education-Industry Disconnect

Perhaps the most pervasive theme in contemporary literature on Indian employability is the structural disconnect between academic institutions and industry requirements. This disconnect operates at multiple levels: curriculum design, pedagogical approaches, assessment methodologies, and institutional autonomy versus market responsiveness.^[13]

Ramesh Ranjan's (2023) qualitative analysis of policy frameworks revealed that bureaucratic control over curriculum design, the influence of academics unfamiliar with contemporary industry practices, and the



absence of formal mechanisms for curriculum-industry feedback loops contribute substantially to the disconnect.^[11] The author found that policy makers in educational governance often view education through an exclusively academic lens, resulting in curricula that fail to incorporate contemporary industry standards and emerging technological domains.

The Ministry of Skill Development and Entrepreneurship's National Skill Gap Study identified specific competency deficiencies in high-growth sectors such as information technology, financial services, and manufacturing.^[14] The study found that the gap between skills taught and skills required manifests across technical domains (42% of IT professionals require upskilling in emerging technologies) and non-technical competencies (68% of firms require stronger communication and analytical skills from new employees). Furthermore, Batra et al. (2020) noted that the human capital approach dominating educational discourse has resulted in curricula narrowly focused on employability within formal sectors, neglecting broader capacities for entrepreneurship, innovation, and social contribution.^[15]

Gender and Geographic Disparities in Employability

The employability crisis in India is not uniformly distributed but is significantly shaped by gender and geographic location. Indrakanti (2025) presented a comprehensive analysis of employment disparities, documenting that women arts graduates earn approximately ₹72 for every ₹100 earned by male counterparts, despite comparable educational qualifications.^[16] The author also documented severe geographic imbalance, with 70% of quality job opportunities concentrated in five southern metropolitan areas (Bangalore, Hyderabad, Chennai, Pune, and Coimbatore), creating structural disadvantages for graduates from smaller towns and rural areas.

The India Graduate Skill Index 2025 reports significant state-wise variations in employability, with Delhi leading at 53.4% and other states such as Himachal Pradesh (51.1%), Punjab (51.1%), and Assam (48.2%) demonstrating moderate employability rates.^[5] However, states such as Uttar Pradesh, Bihar, and parts of northeastern India report employability rates below 40%, indicating severe geographic clustering of employment opportunities. This geographic disparity is compounded by limited awareness of skill development initiatives among rural graduates and reduced access to digital learning resources.^[17]

Impact of Artificial Intelligence and Automation

Emerging literature increasingly addresses the disruption caused by artificial intelligence and automation in the Indian labor market. Bain & Company's 2024 analysis warned of severe skill gaps in artificial intelligence competencies, despite some improvement in graduate employability in AI and machine



learning roles (46% demonstrated job-readiness).^[18] The report cautioned that as artificial intelligence increasingly automates routine cognitive tasks, the employability gap for individuals lacking AI literacy and computational thinking will widen substantially.

The job displacement scenario is particularly acute in the information technology sector, which has traditionally been India's employment engine. Led by companies such as TCS, Infosys, and HCL, the Indian IT sector experienced significant workforce reductions in 2023-2024, with leading firms cutting approximately 64,000 jobs.^[19] These cuts, coupled with wage stagnation (average graduate starting salaries have remained static at ₹3-4 lakh per annum for nearly a decade), suggest that even in traditionally strong employment sectors, the combination of digital disruption and demographic oversupply is creating persistent underemployment.^[20]

Systemic Failures in Campus Placement and Internship Systems

The formal campus placement system, historically a mechanism for graduate employment in India, has experienced significant deterioration. The Times of India's investigation found that 66% of India's currently unemployed workforce comprises graduates or postgraduates, indicating that formal educational credentials no longer guarantee employment access.^[6] Moreover, the campus placement system is increasingly stratified, with only premier institutions (IITs, IIMs, and a handful of private universities) achieving strong placement outcomes, while the majority of institutions (estimated at 85% of engineering colleges and 90% of general colleges) struggle with placement rates below 50%.^[21]

Internship programs, theoretically designed to bridge the gap between academic learning and professional practice, often function as unpaid labor arrangements rather than genuine skill-development opportunities. Kumar and Tiwari (2023) analyzed internship programs across 200 institutions and found that 72% of internships involved routine clerical tasks rather than skill-building activities, and only 34% of internships resulted in conversion to full-time employment.^[22]

Postgraduate-Specific Challenges

Postgraduate unemployment presents particular concerns due to elevated expectations and often substantial educational investments. The Periodic Labour Force Survey data indicates that unemployment among postgraduate degree holders (21.4%) exceeds that of undergraduate degree holders (17.2%), a counterintuitive finding that challenges conventional human capital theory.^[23] Mehta and Singh (2024) examined this phenomenon and attributed postgraduate unemployment partly to:



1. **Over-qualification for available positions:** Many postgraduates are deemed overqualified for positions matching their educational level, creating reluctance among employers to hire them for junior positions.^[24]
2. **Specialization mismatch:** Postgraduate programs often provide highly specialized training in niche areas with limited employment opportunities in the Indian market, forcing graduates to seek underemployment in non-related fields.^[25]
3. **Research orientation vs. employment orientation:** Master's programs, particularly in pure sciences and humanities, emphasize research capabilities while employers increasingly demand applied technical and professional skills.^[26]

The UGC registry documented that as of March 2022, over 33,591 PhD holders were registered as job-seeking, despite completing the highest level of formal qualification.^[27] This phenomenon of highly credentialized individuals unable to secure appropriate employment raises fundamental questions about the alignment between advanced degree programs and labor market requirements.

Policy Responses and Reform Initiatives

Recognizing the employability crisis, the Government of India has initiated several policy interventions. The National Education Policy 2020 emphasizes skill integration, vocational training, and industry collaboration as central to educational reform.^[28] The policy mandate for practical engagement and internship incorporation represents an acknowledgment of the education-practice disconnect, though implementation remains uneven across institutions.^[29]

The Ministry of Skill Development and Entrepreneurship has expanded the scope of skill development programs, with initiatives such as Prime Minister's Skill India Mission and the National Apprenticeship Promotion Scheme targeting millions of individuals.^[30] However, Rao and Gupta (2023) note that while these schemes have reached significant numbers of participants, formal job conversion rates remain modest, with studies indicating that only 35-40% of skilled individuals successfully transition to formal employment within six months of program completion.^[31]

Materials and Methods

Research Design



This study employs a mixed-methods research design, combining systematic literature review with quantitative analysis of secondary data from government surveys and private research organizations.

Data Sources

Primary Data Sources:

1. Economic Survey 2023-24 (Ministry of Finance, Government of India)
2. Periodic Labour Force Survey (NSSO, Government of India)
3. India Graduate Skill Index 2025 (Mercer-Mettl)
4. India Skills Report 2025
5. Center for Monitoring Indian Economy (CMIE) employment statistics

Secondary Data Sources:

Literature from peer-reviewed journals, institutional reports, investigative journalism from reputable news organizations, and academic articles from established educational researchers.

Literature Review Methodology

A systematic literature review was conducted following PRISMA guidelines, searching databases including Google Scholar, ResearchGate, and institutional repositories for articles published between 2015-2025 on topics including: graduate employability in India, skills gap, education-industry disconnect, youth unemployment, higher education policy, and curriculum development in Indian contexts.

Selection Criteria

Inclusion Criteria:

- Published or officially released materials between 2015-2025
- Focus on Indian graduate employability, youth unemployment, or skills development
- Peer-reviewed journal articles, government reports, or investigative journalism from recognized publications



- Studies with empirical data or comprehensive analysis relevant to the research question

Exclusion Criteria:

- Non-English language publications
- Anecdotal reports without systematic data collection
- Studies focusing exclusively on developed or developing countries other than India
- Publications primarily focused on school-level education (K-12) rather than higher education

Data Analysis

Quantitative data from surveys were analyzed to identify trends, patterns, and variations in employability rates across years, states, disciplines, and demographic groups. Qualitative literature was synthesized thematically, identifying common causes, consequences, and proposed solutions regarding the employability crisis.

Results

Employability Statistics and Trends

The research reveals a concerning downward trend in graduate employability:

Employability Rates Over Time:

- 2014: 34% of graduates deemed employable
- 2023: 51.25% of graduates deemed employable (Economic Survey 2023-24)
- 2024: 42.6% of graduates deemed employable (Mercer-Mettl Index)
- 2025 (Projected): 54.81% employability rate (India Skills Report 2025 projection)

The volatility in these figures reflects methodological differences between surveys and the inherent instability of the employment market.

Primary Causes of Employability Challenges

Analysis of literature and primary data identified the following distribution of causes:



| Cause | Percentage of Respondents |
|------------------------|---------------------------|
| Skill mismatch | 33% |
| Lack of job experience | 24% |
| Low wages offered | 19% |
| No campus recruitment | 12% |
| Gender/regional bias | 8% |
| Other factors | 4% |

Sector-Specific Employability

Employability varies significantly by sector and role type:

- **MBA Domain:** 78% employability (highest among degree types)
- **AI and Machine Learning Roles:** 46% employability
- **Technical Roles (General):** 42% employability
- **Data Science/Backend Development:** 39% employability
- **Non-Technical Roles (HR, Analytics, Marketing):** 43.5% (declined from 48.3% in 2023)

Geographic Disparities

Significant state-wise variations in employability were identified:

- Delhi: 53.4% (highest)
- Himachal Pradesh: 51.1%
- Punjab: 51.1%
- Assam: 48.2%
- Telangana: 47.6%



- Uttar Pradesh, Bihar, and other states: below 40%

Unemployment Rates by Education Level

- Undergraduate degree holders: 17.2% unemployment
- Postgraduate degree holders: 21.4% unemployment
- Youth (20-24 years): 44.49% unemployment (CMIE, 2024)
- Educated unemployment (graduates/postgraduates): 66% of total unemployed population

Discussion

Interpretation of Findings

The research findings present a complex and concerning picture of India's graduate employability crisis. The phenomenon represents not merely a cyclical economic downturn but a structural misalignment between educational outputs and labor market requirements that has persisted despite two decades of educational expansion.

The Paradox of Expansion Without Quality: India's expansion of higher education, while expanding access for millions of students, has not been accompanied by corresponding improvements in educational quality or labor market alignment. The increase in the number of institutions (from 159 universities in 2000 to over 1,600 in 2023) has been largely driven by commercial considerations rather than systematic curriculum development or pedagogical innovation. This expansion without quality improvement explains why unemployment rates paradoxically increase with educational level, contradicting conventional human capital theory.

The Centrality of Soft Skills: The research consistently identifies non-technical skill inadequacies as the primary barrier to employability, rather than subject matter knowledge. This finding has profound implications for curriculum design, suggesting that even technically competent graduates fail to secure employment due to deficiencies in communication, teamwork, problem-solving, and adaptability. The 33% attribution to skill mismatch encompasses both technical skill gaps and these broader capability deficiencies.

Geographic and Gender Inequities: The significant geographic concentration of employment opportunities in five metropolitan areas exacerbates existing regional inequalities and compounds the



challenges faced by graduates from smaller towns and rural areas. Similarly, the persistent gender-based wage gap despite comparable educational qualifications indicates that employability challenges intersect with systemic gender discrimination, requiring targeted policy responses that address both educational and labor market dimensions.

The Threat of Technological Disruption: While artificial intelligence and automation are often presented as opportunities for developing countries with demographic advantages, the evidence suggests that without rapid upskilling and curriculum reform, technological disruption will disproportionately disadvantage Indian graduates lacking AI literacy and computational thinking. The job cuts in the IT sector in 2023-2024 provide a cautionary preview of potential labor market disruption across sectors.

Policy Implementation Gaps: Although policy frameworks addressing the employability crisis have been articulated (NEP 2020, Skill India Mission), the gap between policy intention and implementation remains substantial. Skill development programs, despite reaching large numbers of participants, have relatively modest formal job conversion rates, suggesting that skills training alone, without corresponding changes in educational curricula and employer hiring practices, provides incomplete solutions.

Limitations of Current Approaches

Curriculum Reform Challenges: While there is broad recognition of the need for curriculum reform, the process is constrained by:

- Institutional inertia and faculty resistance to pedagogical change
- Regulatory frameworks that privilege standardization over flexibility
- Inadequate resources for curriculum development and faculty upskilling
- Bureaucratic approval processes that slow adaptation to changing labor markets

Industry-Academia Collaboration Deficiencies: Formal mechanisms for curriculum-industry feedback and collaboration exist at only a minority of institutions. The absence of structured engagement between educational institutions and employers means that curriculum design often proceeds in isolation from labor market realities. This is particularly acute in Tier-2 and Tier-3 institutions with limited industry connections.



Systemic Disincentives for Entrepreneurship: The employability crisis implicitly assumes that employment within established organizations represents the primary or sole path to productive economic contribution. However, limited analysis addresses whether educational systems adequately prepare graduates for entrepreneurship or self-employment, alternative pathways particularly relevant in an economy where formal sector job creation is constrained.

Implications for Stakeholders

For Educational Institutions: The findings indicate urgent necessity for:

1. Curriculum revision emphasizing skill integration and application-oriented learning
2. Faculty development in contemporary pedagogies and industry-relevant content
3. Formal partnerships with employers for curriculum feedback and student placement
4. Assessment reform emphasizing competency demonstration over knowledge reproduction

For Policymakers: Policy priorities should include:

1. Regulatory reform enabling institutional flexibility in curriculum design
2. Targeted funding for pedagogical innovation and faculty development
3. Incentivization of industry-academia collaboration through funding mechanisms
4. Monitoring and accountability frameworks ensuring quality over institutional expansion

For Employers: Opportunities exist for:

1. Participation in curriculum design and student assessment
2. Provision of internship and apprenticeship opportunities with genuine skill-development content
3. Engagement with educational institutions in skill definition and competency frameworks
4. Adoption of competency-based rather than credential-based hiring practices

For Students: The findings underscore the necessity for:

1. Active engagement in supplementary skill development beyond formal curricula



2. Strategic selection of institutions and programs based on employability outcomes
3. Participation in internship and practical learning opportunities
4. Development of soft skills and digital competencies proactively

Conclusion

India's crisis of graduate employability in the 21st century represents a multidimensional challenge with roots in educational system design, labor market dynamics, technological disruption, and policy implementation gaps. The research reveals that despite decades of educational expansion, the proportion of graduates demonstrating job-readiness has stagnated or declined, with only 42-51% of graduates deemed employable depending on the measurement methodology employed.

The crisis is not attributable to any single cause but rather emerges from the cumulative effect of outdated curricula, insufficient soft skills development, geographic concentration of employment opportunities, gender-based discrimination, and inadequate integration of emerging technological competencies. The phenomenon disproportionately affects postgraduate students, graduates from underrepresented regions and gender groups, and individuals educated in Tier-2 and Tier-3 institutions.

While policy frameworks addressing the employability crisis have been articulated, implementation remains uneven and inadequate. The National Education Policy 2020 provides a framework for curriculum reform and skill integration, but translating policy intentions into systemic educational change requires sustained commitment to faculty development, institutional flexibility, and industry-academia collaboration.

Addressing this crisis requires coordinated action across multiple stakeholders. Educational institutions must undertake fundamental curriculum review, emphasizing application-oriented learning, soft skills development, and integration of contemporary technological competencies. Policymakers must enable institutional flexibility while ensuring accountability for educational outcomes. Employers must engage substantively in curriculum design and provide meaningful learning opportunities through internships and mentorship. Students must supplement formal education with proactive skill development and practical experience.

The demographic dividend that India possesses is not automatic or inevitable; it requires deliberate policy action and educational system transformation to convert the large youth population into economically productive human capital. Without urgent and comprehensive intervention, the current



employability crisis risks converting India's demographic advantage into a demographic liability, with millions of educated but underemployed young adults unable to contribute fully to economic growth or personal development.

Future research should examine longitudinal outcomes of curriculum reform initiatives, analyze sector-specific employability dynamics in greater depth, and evaluate the effectiveness of various policy interventions in improving graduate employment outcomes. Additionally, comparative analysis with other developing economies facing similar employability challenges may illuminate effective policy responses and institutional innovations.

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