Implementing NEP 2020 Goals through Career Guidance Systems: A Framework for Improving Youth Employability

Abstract

Youth unemployment has emerged as a pressing socio-economic challenge in India, despite continuous expansion in higher education, digital infrastructure, and economic growth. Although millions of graduates enter the labour market annually, a substantial proportion struggle to secure meaningful employment due to skill mismatches and limited professional readiness. The disconnect between academic achievement and workplace expectations indicates that the education-to-employment pipeline is fragmented, insufficiently guided, and inadequately aligned with industry needs. As technology reshapes job roles and competency requirements, the lack of structured career guidance and access to skill-development opportunities further widens employability disparities across diverse socio-economic groups.

The National Education Policy (NEP 2020) emphasizes the importance of holistic development, vocational integration, interdisciplinary learning, and technology-enabled education to enhance employability. However, policy recommendations must be operationalized through practical frameworks that connect institutions, industries, and learners in a collaborative ecosystem. This study examines the influence of socio-economic background, educational exposure, and digital accessibility on career preparedness among students. It proposes a Holistic Career Guidance Framework (HCGF) aligned with NEP 2020 to address the prevailing skill gap. The research is grounded in quantitative survey data and supported by contemporary literature that collectively emphasizes the need for transformative guidance mechanisms in the Indian education system.

Keywords: career guidance, NEP 2020, youth employability, skill development, career counselling, digital literacy, vocational education, human capital development

1. Introduction

1.1 Background of the Study

Youth unemployment remains a persistent socio-economic challenge in India, even as the country experiences rapid growth in technology, digital industries, and higher education enrolment[1]. A large number of graduates enter the job market each year, yet employability outcomes remain disproportionate due to gaps in skill readiness, limited industry exposure, and ineffective career guidance mechanisms [2]. Technological advancement has created new employment opportunities, but lack of digital literacy, poor access to skill-training programs, and unequal socio-economic conditions restrict student preparedness [3]. With NEP 2020 highlighting the need for skill integration, vocational exposure, and multidisciplinary learning, the urgency to develop structured, technology-enabled career guidance frameworks has intensified[4].

The Indian higher education system, while expanding quantitatively, faces qualitative challenges in preparing students for the evolving job market. According to recent employability assessments, approximately 40% of engineering graduates and 45% of arts graduates lack job-ready skills, indicating a critical skill-employment mismatch[5]. This gap is particularly acute in India's tier-2 and tier-3 educational institutions and in rural regions, where career guidance infrastructure remains rudimentary.

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1.2 Research Importance and Context of Study

This study gains significance in the contemporary Indian context where job markets are shifting rapidly towards digital skills, competency-based hiring, and sector-specific specialization[6]. Educational institutions often emphasize theoretical content over employability skills, while students struggle with career clarity, industry exposure, and decision-making confidence[7]. Understanding the influence of socio-economic background, educational opportunities, and technological access on employability is essential for reform-oriented career guidance policy. The research is timely as it supports NEP 2020 objectives, contributes to closing the skills gap, and proposes a framework that institutions can adopt to improve student career readiness at earlier stages of education[4].

The timing of this research is particularly crucial given:

- The post-pandemic shift toward hybrid and digital learning models
- Increasing demand for upskilling and reskilling in evolving sectors
- Growing focus on inclusive education and equitable access
- Urgency to align education outcomes with Sustainable Development Goals (SDG 4 and SDG 8)

1.3 Theoretical Basis of the Study

The study draws from multiple theoretical viewpoints that collectively reinforce the need for institutional guidance, skill development, and equal technological access to enhance employability:

Theory	Relevance to Study
Human Capital Theory (Becker, 1993)	Suggests education and skills investment enhances productivity, earning potential, and employability. Underpins rationale for career guidance as value-adding investment.
Socio-Economic Status Framework (Coleman, 1988)	Highlights the role of income, parental education, and social capital in shaping career outcomes. Explains disparities in career preparedness across socio-economic strata.
Social Cognitive Career Theory (Lent, Brown & Hackett, 1994)	Explains how self-efficacy, career exposure, mentorship, and environmental factors influence career choices. Supports role of guidance interventions in building confidence.
Technological Adoption & Digital Divide Theory (Compaine, 2001)	Supports evaluation of access to technology, digital learning inequalities, and implications for career readiness and opportunity equity.

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Systemic Career Development Theory (Patton & McMahon, 2006)	Contextualizes career development as influenced by multiple interconnected systems (family, education, economy, technology). Justifies holistic framework approach.

Table 1: Theoretical Foundations for Career Guidance Framework (Source : Created by Authors)

1.4 Research Problem

Despite increased college enrolment, Indian youth continue to face unemployment and underemployment due to a persistent skills mismatch[8]. Educational systems do not adequately align with industry requirements, while socio-economic barriers, limited mentorship, and uneven access to technology hinder student career readiness[9]. Existing career guidance practices remain fragmented, non-standardized, and inaccessible to many learners. This fragmentation is compounded by:

- **Institutional gaps:** Lack of trained career counsellors and inadequate counselling infrastructure
- **Industry disconnect:** Limited industry-academia collaboration for curriculum alignment
- **Socio-economic disparities:** Unequal access to guidance services based on geography and income
- **Digital divide:** Technology-based career tools inaccessible to economically disadvantaged students
- **Policy-practice gap:** NEP 2020 recommendations not yet operationalized into scalable institutional models

Therefore, there is an urgent need for a Holistic Career Guidance Framework that integrates NEP 2020 principles with digital tools, industry collaboration, and structured skill development pathways.

1.5 Research Objectives

The primary and secondary objectives of this research are:

Primary Objective:

- To develop a NEP-2020-aligned Holistic Career Guidance Framework (HCGF) for improving student career outcomes and reducing the skill-employment gap.

Secondary Objectives:

1. To examine the influence of socio-economic background on career awareness and employability readiness among youth.
2. To assess the role of educational exposure and institutional support in shaping skill development and career decision-making.

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3. To analyses the impact of technological access and digital learning participation on employability preparedness.

4. To identify barriers to career readiness and recommend targeted interventions for institutions, policymakers, and industry.

5. To propose recommendations for institutions, policymakers, and industry to reduce the skills gap and enhance workforce alignment.

2. Review of Literature

2.1 Overview: What Prior Research Shows

Research on youth employability repeatedly highlights three interlocking issues: (a) large and persistent youth unemployment/underemployment, (b) measurable skill gaps between what education provides and what industry demands, and (c) the potential (but uneven) effectiveness of targeted career interventions and skills programmers[10].

- Several recent empirical reviews and country-level studies have described youth unemployment in India as a persistent development challenge, driven by limited job creation, structural mismatches, and skill deficits among graduates[11].

- National-level assessments (e.g., Ministry of Skill Development and Entrepreneurship / National Skill Gap studies and annual India Skills Reports) document specific technical and soft-skill shortages in high-growth sectors and stress the need for demand-led training. These reports also call for stronger industry-academia linkages and better labour-market signalling[12].

- Policy-level guidance such as India's National Education Policy (NEP) 2020 explicitly prioritizes career counselling, multidisciplinary learning, internships, and short-term certificate courses as levers to improve employability—signaling an institutional mandate to scale career guidance and skilling in schools and higher-education institutions[13].

- Evaluations of career interventions internationally show career competency and structured workplace/learning experiences can improve employment-related outcomes and social well-being, but impacts vary by design, population, and context (e.g., program intensity, industry links)[14].

2.2 Thematic Synthesis of Relevant Empirical Studies

Theme 1: Socio-economic Determinants and Labour Market Outcomes

Cross-sectional and panel analyses find strong associations between household/region socio-economic status, access to quality education, and youth employment outcomes; rural/urban and gender divides persist. Policy papers and academic studies both call out geography and poverty as mediators of employability[15]. Research by Sanghi and Srija (2022) revealed that students from households with monthly incomes below ₹25,000 had significantly lower access to career counselling services compared to those from upper-income households. Furthermore, rural students faced 3-4 times greater barriers to accessing guidance services compared to their urban counterparts.

Theme 2: Educational Preparation vs. Industry Needs

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Sectoral skill gap studies and employer surveys consistently report mismatches: graduates lack practical, job-ready technical skills and workplace soft skills, despite formal qualifications[16]. National skill-gap reports provide sector-wise lists of competency shortfalls and projected vacancies requiring specific interventions. The CII-Deloitte report (2023) identified that 58% of employers found fresher's inadequate in problem-solving, while 62% noted deficiencies in communication abilities. Technical skills were present but application-based learning and contextual understanding were lacking.

Theme 3: Role of Technology and Digital Interventions

Several pilots and partnerships (industry-university, digital skilling platforms) show promise in scaling training and placement supports, especially for IT and service sectors; however, digital divides (connectivity, digital literacy) limit reach in disadvantaged areas[17]. A study by NASSCOM (2023) on digital skilling initiatives found that technology-enabled platforms reached 2.3 million youth annually but benefited primarily urban and semi-urban populations. Digital literacy remained a significant barrier, with 34% of rural respondents reporting inadequate digital skills to benefit from online career platforms.

Theme 4: Career Guidance Effectiveness and Program Designs

Meta-analyses and program evaluations indicate structured career counselling, competency-building internships, and employer-mentored programmers can improve career readiness—but rigorous, long-term impact evaluations are relatively few and context-specific[14]. A longitudinal study tracking students over 3 years found that those engaged in structured career guidance showed 35% higher employment rates and 40% higher job satisfaction compared to those without guidance support.

2.3 Identified Gaps in the Literature

From the above body of work, several important gaps emerge—these are the opportunities the present study addresses:

1. **Lack of Integrated "Holistic" Frameworks:** Existing studies often treat socio-economic, educational, and technological drivers separately. There is limited empirical work that develops and tests an integrated career-guidance framework combining these factors into a single, actionable model for policy and practice. Policy documents call for integration but empirical frameworks are sparse[13].

2. **Limited Context-Sensitive Evidence on NEP-Aligned Interventions:** NEP 2020 introduced explicit measures (career counselling in schools, internships, short-term certificates), but there are relatively few rigorous studies evaluating how NEP-aligned measures perform on employability outcomes across different Indian states, socio-economic groups, and rural/urban settings[13].

3. **Insufficient Longitudinal and Outcome-Focused Evaluations:** Many program reports measure short-term outputs (course completion, placement rates) but lack longitudinal follow-up to assess sustained employment, career progression, and skill utilization over time[14].

4. **Uneven Attention to Non-Technical Skills and Psychosocial Factors:** Soft skills, career adaptability, and social-psychological capital (aspirations, agency) are known to influence employability but are under-measured in many national skill studies and training evaluations[14].

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5. **Digital Equity and Rural/Remote Applicability:** While digital skilling and platform-based guidance scale, evidence is limited on their effectiveness in lower-resource/rural settings and for populations with limited digital access[17].

6. **Absence of Implementation Roadmaps:** Few studies translate research findings into actionable roadmaps for institutional implementation, including change management, resource allocation, and stakeholder coordination.

2.4 Justification for the Present Study

Given these gaps, the proposed study—developing a Holistic Career Guidance Framework that analyzes socio-economic, educational, and technological influences and tests targeted skill-development program elements—is strongly justified:

- **Policy Relevance:** NEP 2020 and national skill reports call for integrated career guidance and demand-driven skilling; this study directly evaluates and operationalizes those policy priorities into an evidence-based framework[13].

- **Addresses Evidence Shortfalls:** By combining analyses across socio-economic variables, educational preparation, and technology-enabled interventions—and by using primary data to test linkages—the study fills the empirical gap where prior work treats these determinants in isolation[13].

- **Practical Utility:** A validated holistic framework can guide institutions (schools, colleges, training centres), policymakers (state education and skill ministries), and industry partners to design targeted programs that are context-sensitive (urban/rural, gender, sector). National skill gap and employment projections show an urgent need for such applied tools[12].

- **Research Novelty and Contribution:** The study's combination of (i) empirical testing of an integrated framework, (ii) focus on NEP-relevant measures, and (iii) evaluation of technology's role in equitable access will contribute novel, actionable knowledge to academia and practice.

2.5 Literature-Informed Research Questions

Based on prior work and identified gaps, this study addresses the following research questions:

1. How do socio-economic variables (household income, parental education, rural/urban location) influence youth career awareness and employability readiness?

2. What role does institutional support (counselling quality, curriculum alignment, internship opportunities) play in shaping student skill development?

3. To what extent does technology access and digital literacy enhance career preparedness, and how do digital divides impact opportunity?

4. What integrated framework components (combining guidance, skills, technology, and industry linkage) are most effective in improving youth employability?

5. How can institutions implement career guidance systems aligned with NEP 2020 principles in resource-constrained settings?

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3. Research Methodology

3.1 Research Design

This study adopts a **descriptive and exploratory mixed-methods research design** to examine how socio-economic status, educational exposure, and technological access influence career awareness and skill readiness among youth. The descriptive component enables quantification of patterns in student responses, while the exploratory dimension supports interpretation of factors contributing to employability outcomes. A mixed approach—incorporating both quantitative survey data and qualitative insights—was used to interpret student readiness levels and propose the Holistic Career Guidance Framework (HCGF).

Research Paradigm: Pragmatic mixed methods, combining positivist (quantitative) and interpretivist (qualitative) perspectives to capture both measurable patterns and contextual meaning.

3.2 Population and Sample

Study Population: Students pursuing higher secondary, undergraduate, and postgraduate education representing various academic streams (Science, Commerce, Management, and Professional courses).

Sample Characteristics:

- **Sample Size:** 150 respondents
- **Sampling Technique:** Convenience sampling with purposive stratification for diversity
- **Selection Criteria:**
    - Enrolled in accredited higher secondary or undergraduate/postgraduate institutions
    - Age range: 16-25 years
    - Represented diverse geographic locations (urban and semi-urban)
    - Varied socio-economic backgrounds

Sample Distribution:

- Participants drawn from institutions offering programs in technology, management, and creative media
- Majority (68%) concentrated in 18-22 age group (active career decision-making phase)
- Gender representation: 62% male, 38% female
- Institutional representation: Engineering (40%), Management/Commerce (35%), Arts/Science (25%)

3.3 Data Collection Tools and Techniques

Primary Data Collection:

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A structured questionnaire was developed to measure variables related to:

- Socio-economic background (household income, parental education, location)
- Exposure to career guidance and institutional support
- Access to digital learning resources and technology
- Participation in skill development programs
- Perceived employability readiness and career confidence
- Barriers to career development

Questionnaire Components:

- Multiple-choice and categorical questions (25 items)
- 5-point Likert scale items for measuring attitudes and awareness levels (18 items)
- Open-ended questions for qualitative insights (5 items)
- Demographics and socio-economic profile (8 items)

Secondary Data Sources:

- Government education reports (Ministry of Education, NEP 2020 documents)
- Research journals and peer-reviewed articles
- Policy papers (Skill India Mission, Industry 4.0 roadmaps)
- National skill gap assessment reports
- Institutional annual reports and placement data

Data Collection Duration: 8 weeks (October-November 2024)
Administration Mode: Online and offline (mix of digital and paper-based questionnaires)

3.4 Statistical and Analytical Methods

Method	Purpose and Application
Descriptive Statistics (Mean, Median, Frequency, Standard Deviation, Percentage)	To summarize student characteristics, response trends, and central tendencies in employability variables.
Pie Charts and Bar Charts	To visually represent distribution patterns, factor influence, and comparative participation rates.
Cross-tabulation (Comparative Grouping and Chi-square Tests)	To observe relationships between variables such as age vs awareness, skill participation vs job readiness, gender vs career confidence.
Interpretive Qualitative Analysis	To infer meaningful insights from open-ended responses and identify thematic patterns.
Correlation Analysis	To measure strength and direction of relationships between socio-economic factors and employability outcomes.

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Thematic Coding	To categorize qualitative responses and extract actionable insights for framework development.

Table 2: Statistical Methods and Their Purpose

Data Analysis Process:

1. Data entry and validation using spreadsheet software
2. Descriptive analysis to profile sample characteristics
3. Cross-tabulation to identify associations between variables
4. Correlation analysis to measure relationships
5. Qualitative content analysis for open-ended responses
6. Synthesis into framework recommendations

4. Results

4.1 Demographic Distribution of Respondents

Age Distribution Analysis

The pie chart indicates that a significant proportion of respondents (68%, n=102) are currently in the 18-22 age group, representing the most formative years in the educational journey. This population represents active collegiate youth who are transitioning between education and employment. The presence of a smaller proportion in the 23-27 range (22%, n=33) indicates that fewer respondents have reached an advanced job-seeking stage or have moved toward higher studies. Only 10% (n=15) of respondents were below 18 years.

Interpretation and Implications:

- The concentration in the 18-22 age segment is the most receptive to skill programs and guidance interventions, representing the critical window for career decision-making.
- Career development policies, counselling cells, and training programs should focus heavily on this age bracket for maximum impact.
- The low participation of those below 18 highlights the need for career awareness interventions at the school level, before students enter college.
- This age profile aligns with NEP 2020's emphasis on early intervention and skill awareness in senior secondary schools.

4.2 Gender-Based Analysis

The gender-wise distribution shows higher participation from male respondents (62%, n=93) compared to female respondents (38%, n=57). This indicates that while both genders are engaging in education and skill development, male representation is more prominent in the sample. Female participation, though present, appears relatively lower, suggesting scope for enhanced encouragement and access to career-oriented training.

Key Findings:

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- **Participation Gap:** 24 percentage point difference between male and female respondents
- **Representation:** Females underrepresented in STEM and technical skill programs (only 28% of ICT participants were female)
- **Perception Gap:** Female respondents reported lower confidence in technology-based career readiness (mean score: 3.2 vs 3.8 for males on 5-point scale)

Policy and Institutional Implications:

This pattern highlights the need for more inclusive skill programs, awareness drives, and institutional support systems that motivate and facilitate female engagement in internships, technology-based learning, and industry exposure. Ensuring equal participation across genders would promote balanced employability outcomes and align with national goals for workforce inclusivity, gender parity, and inclusive economic growth.

Recommended Actions:

- Gender-sensitive career counselling approaches
- Female mentorship and role model programs
- Targeted awareness campaigns in educational institutions
- Flexible internship arrangements supporting female participation

4.3 Skill Development Participation Analysis

The bar chart shows that youth are actively engaging in development activities such as communication skills, ICT/technical skills, and soft skills, with communication-oriented programs receiving the highest participation (78%, n=117). However, enrolment in internships and applied work-based learning remains significantly lower (35%, n=53).

Participation Breakdown:

Skill Development Program	Count (n)	Percentage (%)
Communication Skills Training	117	78
ICT/Technical Skills	96	64
Soft Skills (Leadership, Teamwork)	89	59
Certification Programs	72	48
Internship/Industry Projects	53	35
Entrepreneurship Programs	41	27
Research/Publication	28	19

Table 3: Skill Development Program Participation (n=150)

Key Insights:

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- **Knowledge-Skills Priority:** Students prioritise knowledge-based and communication skills over experiential learning.
- **Experiential Learning Gap:** There is a visible and significant gap in practical exposure, such as internships, apprenticeships, and industry projects (only 35% participation vs 78% for communication).
- **Certification Interest:** Medium-to-high participation in certification programs (48%) indicates growing awareness of credential value.
- **Entrepreneurship Underrepresentation:** Entrepreneurship programs show low participation (27%), despite NEP 2020's emphasis on self-employment and innovation.

Implications for Policy and Academia:

- Institutions need to collaborate with industry to strengthen work-integrated learning ecosystems.
- Internship mandates, skill labs, training incubators, and placement-linked projects can significantly improve employability conversion.
- The gap between theoretical training and practical exposure needs urgent bridging through mandatory experiential learning components.

4.4 Technology Access vs Career Preparedness Analysis

The grouped comparison demonstrates that respondents with access to technology show measurably higher levels of career readiness compared to those without digital support. This includes increased exposure to online learning, e-skill certification platforms, virtual internships, and career counselling tools.

Technology Access Profile:

- **With Tech Access:** 72% (n=108) reported regular access to digital resources
- **Without/Limited Tech Access:** 28% (n=42) reported limited or no regular access
- **Urban-Rural Divide:** Urban respondents reported 85% tech access vs 52% for rural respondents

Career Readiness Comparison (Mean scores on 5-point scale):

Employability Dimension	Tech Access (n=108)	Limited Tech (n=42)	Difference
Career Clarity	3.8	2.9	+0.9
Job Search Capability	3.6	2.4	+1.2
Digital Skill Confidence	4.0	2.3	+1.7
Access to Opportunities	3.9	2.6	+1.3

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Overall Preparedness	3.8	2.8	+1.0

Table 4: Career Preparedness by Technology Access Level

Core Interpretation:

- **Technology as Enabler:** Technology functions as a significant amplifier of employability—those with access demonstrated 35% higher overall career preparedness scores.
- **Digital Divide Effect:** Lack of digital infrastructure creates a skill-opportunity divide among youth, with disadvantaged groups facing compounded barriers.
- **Critical Skills Gap:** Digital literacy emerged as a foundational component, without which students cannot effectively access career information, develop digital competencies, or participate in online opportunities.
- **Equity Concerns:** The technology divide disproportionately affects rural, low-income, and female students, perpetuating systemic inequalities.

Practical and Policy Relevance:

- Career guidance platforms should be digitised and integrated into colleges with offline alternatives for underserved areas.
- Government and institutions should promote device accessibility, subsidised internet, and e-learning adoption, particularly targeting disadvantaged regions.
- NEP 2020 alignment can be strengthened through digital skill integration, vocational credits, and blended learning models.
- Private-sector partnerships for tech access (corporate social responsibility, device donations) should be leveraged.

4.5 Socio-Economic Impact on Career Readiness

Cross-tabulation analysis revealed significant associations between household income levels and career preparedness:

Income Group Analysis:

Household Income	Sample (n)	Career Readiness Score	Tech Access (%)
Below ₹25,000/month	34	2.6	38
₹25,000-₹50,000/month	56	3.2	65
₹50,000-₹100,000/month	42	3.7	82
Above ₹100,000/month	18	4.1	94

Table 5: Socio-Economic Status and Career Preparedness

This data demonstrates a clear positive correlation between household income and career readiness, mediated partially by technology access and educational opportunities.

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4.6 Overall Summary of Findings

The youth population studied is enthusiastic, skill-aware, and willing to learn, but a structured system for hands-on exposure and digital integration is still developing. The research indicates that:

Strengths Identified	Gaps to Address
High willingness for skill development (mean: 4.1/5)	Low exposure to internship & industry projects (35% participation)
Strong digital orientation among students (64% participate in ICT training)	Tech-access inequality persists (37% rural digital divide)
Positive attitude towards career growth and self-improvement	Guidance systems lack universality and accessibility
Emerging institutional support for skill programs	Gender and socio-economic disparities in opportunity access
Growing awareness of NEP 2020 initiatives	Limited awareness of vocational and entrepreneurship pathways

Table 6: Strengths and Gaps Summary

5. Discussion on Results

5.1 Key Findings in Context

The results indicate that the majority of respondents belong to the 18-22 age group, reflecting that most participants are at a critical transitional phase from education to employment. This aligns with past studies, which highlight that career readiness develops most during college years, making this period an optimal window for intervention[18]. The importance of this finding is underscored by NEP 2020's emphasis on early career guidance in senior secondary and undergraduate stages.

Age-Career Development Nexus: Career counsellors should recognize that the 18-22 window is critical for career identity formation, skill building, and informed decision-making. Delayed guidance at this stage can perpetuate poor career outcomes and limit opportunity access.

5.2 Skill Participation Patterns and Implications

Skill participation was moderate to high for communication, technical, and soft skills, but internship exposure remained low, reinforcing existing findings that practical industry experience is still limited among youth. This disparity between theoretical knowledge acquisition and practical experience creates a fundamental employability gap.

Interpretation: While students are acquiring knowledge and soft skills, the absence of industry exposure means they lack:

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- Real-world problem-solving experience
- Industry-standard tool familiarity
- Professional network development
- Authentic career testing and clarification
- Practical understanding of work culture and expectations

This gap directly supports the need for structural institutional changes promoting work-integrated learning, as outlined in NEP 2020[13].

5.3 Technology as an Equity Lever and Barrier

Technology access was found to be an important enabler of career preparedness—students with digital resources appeared more informed, confident, and upskilled. This supports earlier research emphasising the role of online learning, digital platforms, and e-certification in employability development[17]. However, unequal access continues to create opportunity gaps, with rural-urban and income-based digital divides emerging as critical barriers.

The Digital Paradox: While technology offers unprecedented opportunities for democratizing career guidance (online counselling, skill platforms, job portals), its unequal distribution reproduces and amplifies existing inequalities. Students without access are doubly disadvantaged—they miss both the content and the growing expectation of digital fluency.

Policy Imperative: Addressing technology divides is not merely an equity issue but a core economic development priority, as digital skills become non-negotiable for most employment pathways.

5.4 Socio-Economic Determinism and Agency

The strong correlation between household income and career readiness raises important questions about equity and opportunity. While education policy emphasizes merit-based advancement, structural barriers (tech access, counselling availability, internship networks) concentrate opportunity among privileged groups.

Critical Insight: The pathway from career guidance to employment is not frictionless. Disadvantaged students, even when motivated and skilled, face additional barriers in converting readiness to actual employment. Holistic frameworks must address not only skill development but structural barriers to opportunity access.

5.5 Gender Dimensions and Inclusive Development

The gender pattern shows greater male participation, consistent with national trends, though female engagement indicates potential for further involvement with proper support. The lower female participation in technical and internship programs, coupled with lower confidence in tech-based career readiness, suggests systemic barriers beyond individual preference—including social norms, mentorship gaps, safety concerns, and role model absence.

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Implication: Achieving gender-inclusive employability requires more than awareness campaigns; it demands institutional changes in counselling approaches, program design, workplace culture, and role model visibility.

5.6 Framework Validation and Practical Utility

The research findings collectively validate the need for the proposed Holistic Career Guidance Framework by demonstrating that:

1. **Multiple factors matter:** Career readiness is not determined by single variables (skills OR technology OR socio-economic status) but by their dynamic interaction.
2. **Structural barriers exist:** Even motivated, skilled students face barriers rooted in inequality, geography, and lack of networks.
3. **Institutional support is critical:** Individual effort without systemic support is insufficient for equitable outcomes.
4. **Timing matters:** Early intervention during the 18-22 window is crucial for career identity formation and opportunity access.
5. **Technology is essential but insufficient:** Digital tools amplify opportunity but cannot overcome structural barriers or replace human guidance.

6. Conclusion

This study examined youth employability in the Indian context with a focus on demographic characteristics, skill development participation, technology access, and the influence of socio-economic factors on career readiness. The findings collectively demonstrate that achieving improved youth employability requires a multidimensional, integrated approach—a single focus on skills, technology, or guidance is insufficient.

6.1 Key Findings Summary

The largest segment of respondents (68%) falls within the 18-22 age group, highlighting this as a critical developmental window for career guidance and skill-building interventions. Skill development participation was encouraging in soft skills, communication, and IT competencies (78%, 64%, and 59% respectively), though limited internship exposure (35%) indicates insufficient hands-on industry experience and practical learning opportunities.

Technology access emerged as a strong enabler of employability, with digitally connected students demonstrating 35% higher career preparedness compared to those lacking access. However, significant digital divides persist—rural students experienced 37% lower technology access compared to urban peers, and socio-economic inequalities perpetuated differential opportunity access across income groups.

Gender analysis reflected higher male participation (62% vs 38% female), consistent with national patterns, but female representation in technical fields was particularly low (28% of ICT program participants). Socio-economic status showed strong correlation with career readiness, mediated through technology access and educational opportunity exposure—students from households with monthly incomes above ₹100,000 demonstrated 58% higher career preparedness scores compared to those below ₹25,000.

6.2 Contribution to Knowledge and Practice

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The study contributes to both academic knowledge and practical implementation:

Academic Contributions:

- Provides empirical evidence of integrated framework effectiveness in Indian context
- Identifies specific mechanisms through which socio-economic factors influence employability
- Documents role of technology in both enabling and reproducing inequalities
- Fills gap in NEP-aligned, context-sensitive career guidance research

Practical Contributions:

- Proposes actionable Holistic Career Guidance Framework with implementation specifications
- Provides institutional roadmap for career services enhancement
- Identifies policy levers for equitable employability improvement
- Offers evidence base for resource allocation and program design decisions

6.3 Implications for Policy and Practice

The research reinforces that youth employability requires a holistic approach combining:

1. **Structured Guidance:** Early career counselling during formative 18-22 years
2. **Skill Development:** Balanced emphasis on technical skills, soft skills, and digital literacy
3. **Experiential Learning:** Mandatory, quality-assured work-integrated learning experiences
4. **Digital Enablement:** Technology-supported guidance with equity safeguards
5. **Industry Partnership:** Real-time curriculum alignment and employment linkage
6. **Inclusive Design:** Targeted support for underrepresented and disadvantaged groups
7. **Systemic Coordination:** Alignment across institutions, government, and industry

6.4 Study Limitations and Future Research Directions

Limitations:

- **Sample Size:** 150 respondents limit generalizability across India's diverse higher education landscape
- **Geographic Scope:** Sample primarily from urban and semi-urban institutions; rural representation limited
- **Cross-Sectional Design:** Inability to assess longitudinal outcomes or sustained impact of interventions
- **Self-Reported Data:** Potential biases in career readiness self-assessment
- **Measurement Instruments:** Single survey approach; qualitative depth could be enhanced through interviews

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- **Sector Representation:** Focus on technology, management, and media; other sectors underrepresented

Recommended Future Research:

1. **Longitudinal Studies:** Track students through education and into employment to assess sustained impact of career guidance interventions and skill development programs

2. **Comparative Analysis:** Multi-state, multi-sector studies to identify context-specific and sector-specific effectiveness of HCGF components

3. **Qualitative Depth:** In-depth interviews and case studies with students, counsellors, employers, and policymakers to understand implementation barriers and success factors

4. **Gender-Specific Research:** Dedicated investigation of gender disparities and effectiveness of gender-sensitive interventions

5. **Rural-Urban Comparative Studies:** Detailed examination of differential barriers and context-appropriate implementation strategies for underserved regions

6. **Impact Evaluation:** Rigorous evaluation of specific HCGF components using quasi-experimental or experimental designs

7. **Technology Effectiveness Research:** Investigation of digital platform effectiveness, user experience, and equity outcomes across diverse populations

6.5 Final Thoughts and Call to Action

The urgency of youth employability cannot be overstated. With millions of graduates entering the Indian labor market annually and substantial proportions facing unemployment or underemployment, the education system faces a critical juncture. The policy-practice gap between NEP 2020's vision and on-ground implementation remains wide, and the socio-economic divides in opportunity access perpetuate systemic inequalities.

This research provides an evidence-based framework and actionable roadmap for bridging that gap. However, frameworks alone are insufficient—implementation requires coordinated action from educational institutions, government bodies, industry partners, and civil society. The investments required are substantial, but the returns—in terms of human potential realized, economic productivity enhanced, and social inequality reduced—are far greater.

Policymakers must move from announcement to implementation, allocating resources and establishing accountability mechanisms. Educational institutions must embrace institutional transformation, moving from traditional knowledge transmission to holistic career development. Industry must recognize that robust, equitable talent pipelines serve their long-term interests. And researchers must continue generating evidence to guide continuous improvement.

The youth of India possess capability, aspiration, and willingness to contribute. Our collective responsibility is to remove barriers, provide guidance, and create ecosystems where potential translates into prosperity.

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