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Perceptions of Graduates on Artificial Intelligence and Automation: Implications for Employability

Mitali Ojha [1] *

1. Master in Computer Application, School of Studies in Computer Science & Applications, Jiwaji University Gwalior, (M.P.), India
mitaliojha1911@gmail.com

Abstract: This research investigates graduates' opinions of Artificial Intelligence (AI) and automation, emphasizing their awareness, readiness via reskilling and upskilling, and the consequences for employment in India. Employing a descriptive study approach, data were gathered from 150 graduates and postgraduates in Gwalior, Madhya Pradesh, via structured questionnaires. The study used descriptive statistics, Pearson's correlation, and regression methods to examine the link among awareness, readiness, and employability outcomes. The results indicate that the majority of respondents had a reasonable understanding of AI, with 55% categorizing themselves as "somewhat knowledgeable." Sixty-five percent of respondents saw AI as both a danger and an opportunity, while fifty percent had already registered for AI-related courses, demonstrating proactive reskilling initiatives. Technical competencies, including coding and data science, were seen as the most essential for employment (45%), in conjunction with soft skills such as communication and flexibility (30%). Correlation and regression studies indicated strong positive associations between AI awareness, preparation, and employability, but unfavourable views of AI in recruiting procedures correlated with less optimism for future career possibilities. These results underscore the need of incorporating AI-centric curriculum, government-sponsored reskilling programs, and cooperation between industry and academics to address skill deficiencies and equip graduates for an AI-oriented labour market.

Keywords: Artificial Intelligence, Automation, Employability, Reskilling, Soft Skills, Graduate Perceptions

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INTRODUCTION

AI and automation have swiftly transformed global economies, industries, and labour markets. These technologies are being incorporated into ordinary job processes, altering skill requirements and employability [1]. AI has the ability to innovate, boost productivity, and create new employment, but it also causes job displacement, inequality, and the need for ongoing reskilling [2]. Understanding and adjusting to these developments is crucial for new graduates' employability and career advancement.

AI has becoming more important in employment, recruitment, and workplace management. AI-driven resume screening, applicant performance prediction, and talent pipeline management are growing in use [3]. While such approaches improve efficiency, they pose fairness, transparency, and bias problems that directly affect job seekers' impressions of AI in the labour market [4]. Graduates' opinions on these procedures affect their career prospects and preparation for AI-driven workplaces.

AI and automation have major consequences for India. Both opportunities and challenges arise from India's demographic dividend, with millions of graduates joining the workforce yearly. Automation may reduce employment in repetitive and low-skilled tasks, but it will also create demand for new skills like data

science, coding, and digital literacy [5]. AI-integrated workplaces also value soft skills like adaptability, communication, and teamwork [6]. Understanding how Indian graduates see AI and automation is crucial for filling skill shortages and improving employability.

Additionally, colleges and policymakers are under pressure to teach graduates technical and transferable skills for AI-driven economy. Reskilling and upskilling are crucial because graduates' preparation affects their career flexibility and job results. To bridge the gap between graduate skills and labour market needs, government-funded training programs, AI-oriented curriculum, and industry partnerships are recommended [7].

This research examines graduates' awareness, readiness via reskilling and upskilling, and employability impressions of AI and automation. This research examines relationships between perceptions, readiness, and employability outcomes to help graduates succeed in an AI-driven labour market. The results are likely to inform academic discourse and policy frameworks to improve graduate employment in the AI and automation age.

OBJECTIVES

1. To study the awareness and perceptions of graduates regarding the impact of Artificial Intelligence (AI) and automation on employability.
2. To examine the preparedness of graduates through reskilling and upskilling for employment in an AI-driven job market.
3. To analyze the relationship between graduates' perceptions, preparedness, and their employability outcomes.

HYPOTHESIS

1. H_1: There is a significant relationship between graduates' awareness of AI and their preparedness (reskilling and upskilling) for employability.
2. H_2: There is a significant relationship between graduates' perceptions of AI and their outlook on future job opportunities.
3. H_3: There is a significant relationship between graduates' preparedness (reskilling and upskilling) and their employability outcomes in an AI-driven job market.
4. H_4 (Null Hypothesis): There is no significant relationship between awareness, preparedness, and perceptions of AI with employability outcomes of graduates.

RESEARCH METHODOLOGY

The study used a structured survey and a descriptive research approach to examine how graduates see automation and artificial intelligence (AI) and how they affect their employability. 150 respondents were selected from among Gwalior, Madhya Pradesh, graduates and postgraduate students using a convenience sampling technique. A systematic questionnaire disseminated via Google Forms and offline surveys was used to gather primary data, while government documents, reports, and journals were used to gather secondary data. Demographic information, awareness of AI, opinions on how it affects employability, preparation via reskilling or certifications, and the role of businesses and institutions in preparing students

for AI-driven sectors were the main topics of the questionnaire. The collected data was analyzed using IBM SPSS software. Descriptive statistics were employed to summarize the demographic and perception data, while inferential techniques such as Pearson's correlation and multiple linear regression were used to examine the relationships between graduates' perceptions, preparedness, and employability outcomes.

RESULTS

Demographic Characteristics of Respondents

Table 1: Demographic Characteristics of Respondents

Category	Percentage (%)	Respondents (n=150)
Age		
21–25 years	70	105
26–30 years	20	30
Above 30 years	10	15
Education Level		
Graduates	60	90
Postgraduates	35	53
Doctoral/Other	5	7
Discipline		
Business & Management	45	68
Science & Technology	30	45
Humanities	15	23
Others	10	14
Employment Status		

Pursuing Higher Education	40	60
Actively Seeking Jobs	30	45
Employed	20	30
Self-employed	10	15

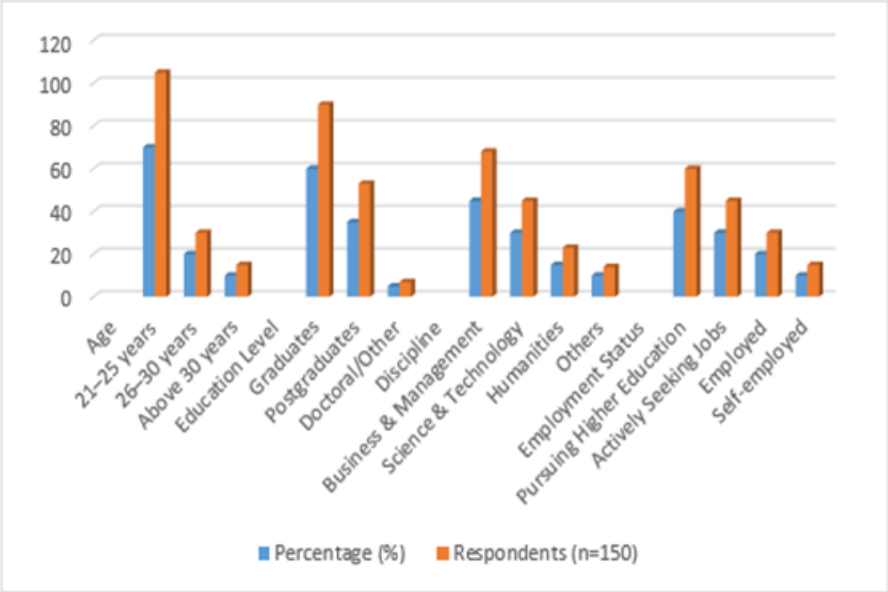

Figure 1: Demographic Characteristics of Respondents

The bulk of the 150 respondents (70%) were in the age bracket of 21–25, followed by 20% in the 26–30 age bracket, while a mere 10% were over the age of 30. Sixty percent had bachelor's degrees, 35 percent had master's degrees, and 5 percent were working towards doctorates or other professional certificates. When broken down by major, the most numerous students were majoring in business and management (45%), next in science and technology (30%), the humanities (15%), and finally, others (10%). Based on their employment status, 40% were enrolled in college, 30% were looking for work, 20% had jobs, and 10% were self-employed.

Awareness of AI and Automation

Table 2: Awareness of AI and Automation among Respondents

Awareness Level	Percentage (%)	Respondents

Very Knowledgeable	20	30
Somewhat Knowledgeable	55	83
Neutral	15	23
Not Very Knowledgeable	10	14
Not at all Knowledgeable	0	0

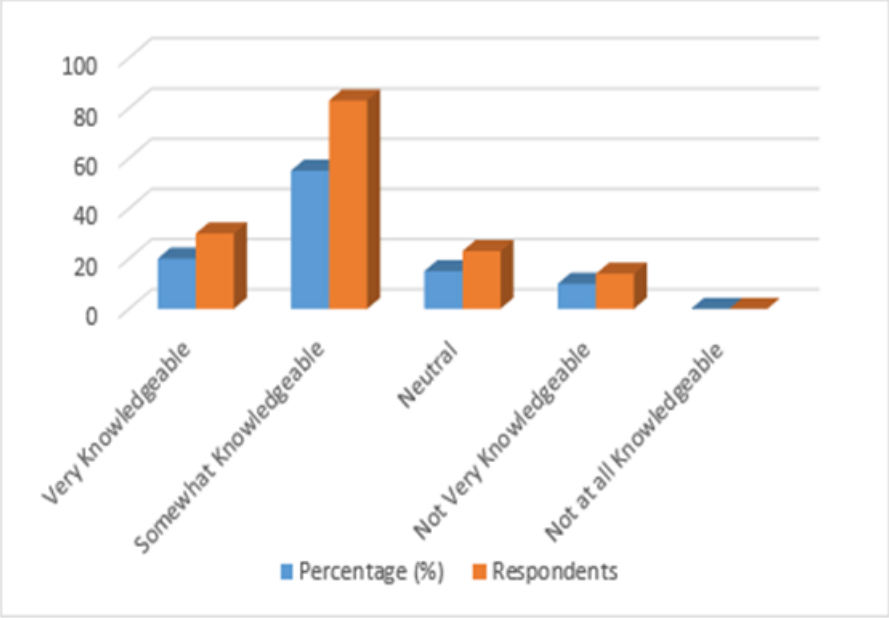

Figure 2: Awareness of AI and Automation among Respondents

A majority of participants (55%) said they were “somewhat knowledgeable” with AI and automation, whilst 20% claimed to be “very knowledgeable.” Additionally, 15% expressed a "neutral" stance, while 10% said they were "not very knowledgeable." No individuals reported being entirely oblivious. This indicates that while there is widespread awareness, the comprehension is superficial.

Perceptions of AI’s Impact on Employability

Table 3: Perceptions of AI’s Impact on Employability

Perception / Area	Percentage (%)	Respondents

Data Entry & Administration at Risk	40	60
Customer Service at Risk	25	38
Manufacturing at Risk	20	30
Professional/Managerial at Risk	15	22
AI as Both Threat & Opportunity	65	98
AI as Mainly a Threat	20	30
AI as Mainly an Opportunity	15	22

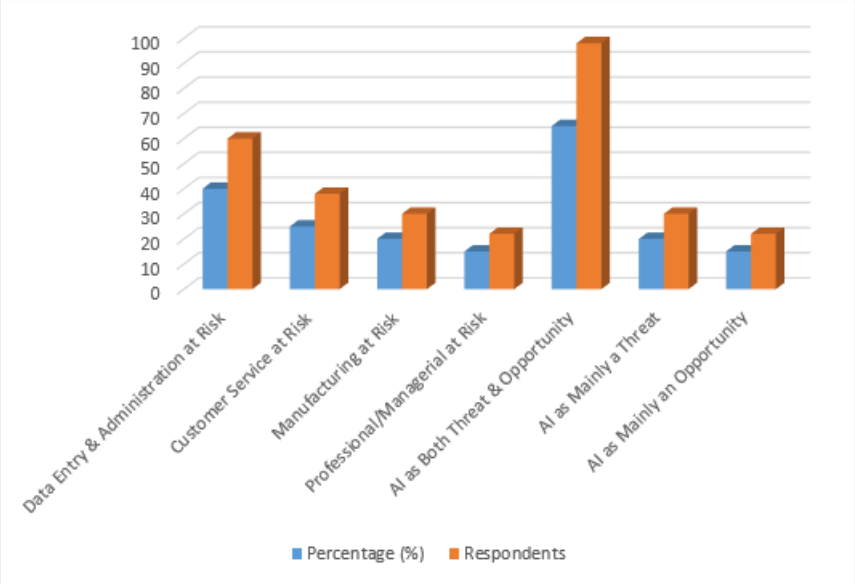

Figure 3: Perceptions of AI's Impact on Employability

When asked about job functions most at risk, 40% of respondents identified data entry and administrative roles, followed by 25% pointing to customer service, and 20% selecting manufacturing-related jobs. However, only 15% believed professional and managerial positions were at risk. Interestingly, 65% of respondents considered AI both a threat and an opportunity, 20% perceived it mainly as a threat, while 15% viewed it as an opportunity for new career prospects.

Preparedness and Adaptation Strategies

Table 4: Preparedness and Adaptation Strategies of Graduates

Preparedness Strategy	Percentage (%)	Respondents
Enrolled in AI-related Courses	50	75
Planning to Pursue AI Courses	30	45
No Plans to Reskill	20	30
Modified Job Search for AI Screening	40	60
Attended Online Courses	25	38
Internships with AI Exposure	20	30

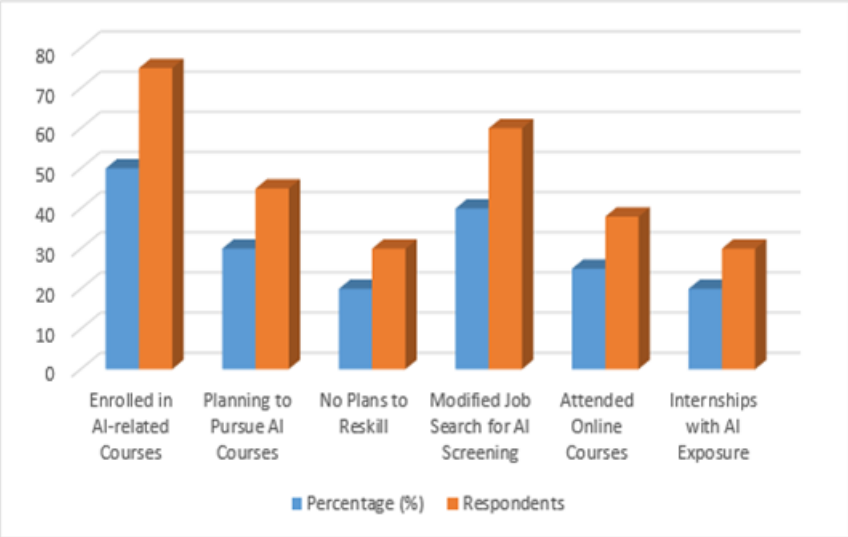

Figure 4: Preparedness and Adaptation Strategies of Graduates

The results indicated that 50% of respondents have participated in or completed AI-related skill development or certification programs. Another 30% intended to pursue similar programs, while 20% had no immediate intentions to reskill in this area. In terms of adaption tactics, 40% reported changing their job search strategy to include AI-friendly resumes, 25% took online courses, and 20% did internships that used AI technologies.

Skills Required for Future Employability

Table 5: Skills Required to Secure Jobs in an AI-driven Market

Skills Category	Percentage (%)	Respondents
Technical Skills (Coding, Data Science, AI tools)	45	68
Soft Skills (Communication, Adaptability, Teamwork)	30	45
Creative Problem-Solving & Critical Thinking	25	38

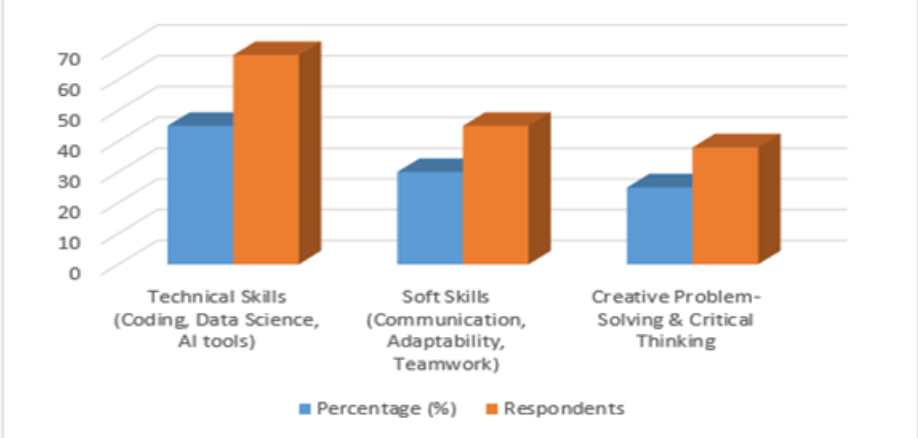

Figure 5: Skills Required to Secure Jobs in an AI-driven Market

When asked what skills were most important for getting a job in an AI-driven market, 45% said technical skills (coding, data science, AI tools), 30% said soft skills (communication, adaptability, teamwork), and 25% said creative problem-solving and critical thinking were essential.

Support Expected by Graduates

Table 6: Support Expected by Graduates

Support Mechanism	Percentage (%)	Respondents
AI-focused Courses in Universities	50	75

Government-funded Reskilling	25	38
Industry-Academia Collaborations	15	22
Career Counselling & Mentorship	10	15

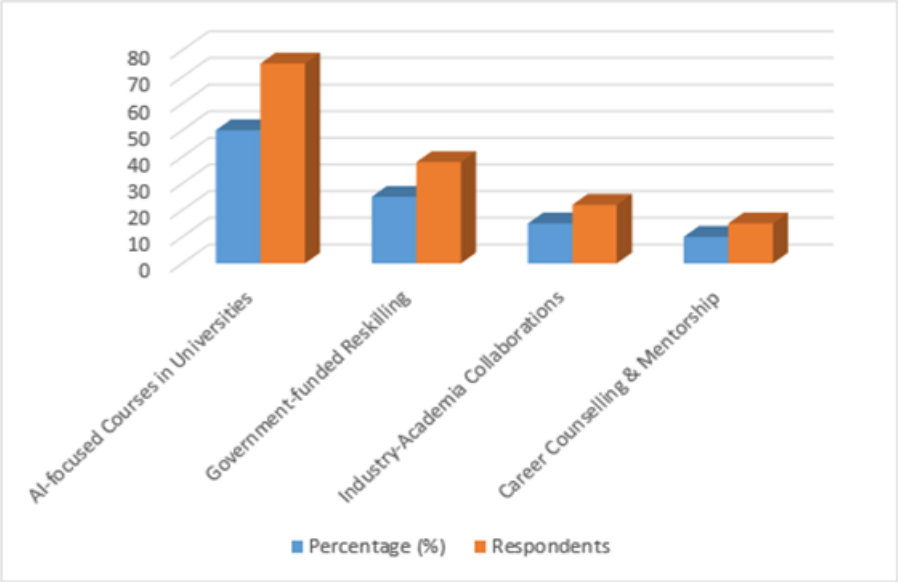

Figure 6: Support Required for Employability in AI-driven Market

Half of those who took the survey wanted more university courses on artificial intelligence, a quarter wanted government-funded programs to help people reskill, 15% wanted stronger partnerships between businesses and educational institutions, and 10% wanted programs to help people find jobs and mentors.

Correlation Analysis

Table 7: Correlation Analysis between Perceptions, Preparedness, and Employability

Variables	Correlation (r)	Significance (p)
Awareness of AI & Preparedness	0.68	<0.01
Concerns about AI in Hiring & Optimism on Jobs	–0.52	<0.05

There were substantial correlations between perception, readiness, and employability outcomes, according to the correlation analysis. Those who have a good perception of AI are more inclined to reskill, as shown by the substantial positive connection ($r = 0.68$, $p < 0.01$) between AI awareness and preparation for work. Optimism over future career chances was shown to be negatively correlated with worries about AI in recruiting procedures ($r = -0.52$, $p < 0.05$).

Regression Analysis

Table 8: Regression Analysis of Employability Predictors

Predictors	Beta (β)	Significance (p)
Awareness of AI	0.42	<0.01
Preparedness through Reskilling	0.38	<0.01
Negative Perceptions of AI in Hiring	–0.29	<0.05

To forecast employability depending on AI knowledge, readiness, and views, a multiple linear regression model was used. The 61% variance ($R^2 = 0.61$) was explained by the statistically significant model ($F(3,146) = 25.4$, $p <.001$). There were notable positive benefits of being aware of AI ($\beta = 0.42$, $p < 0.01$) and being prepared via reskilling ($\beta = 0.38$, $p < 0.01$) on employability perspective, however there was a negative influence of unfavourable views of AI in recruiting procedures ($\beta = -0.29$, $p < 0.05$).

DISCUSSION

This study's results illustrate worldwide viewpoints on the transformation of labour markets and worker dynamics due to AI and automation. Automation and Industry 4.0 technologies are diminishing the need for physical labour while augmenting the necessity for digital literacy, corroborating this study's conclusion that technical competencies, including coding and data science, are vital for obtaining work in AI-driven marketplaces. Furthermore, 42.5% of participants indicated experiencing AI-driven recruiting procedures, highlighting apprehensions around fairness and transparency, in alignment with other studies on AI in recruitment [8] [9]. Favourable opinions of AI were significantly correlated with optimism over future employment chances ($r = .712$), indicating that positive attitudes towards AI bolster confidence in professional prospects [10].

Graduates underscored the need for AI-centric reskilling and upskilling activities, including government-backed programs, aligning with research indicating that AI acceptability is shaped by perceived advantages, societal influences, and cybersecurity apprehensions [11]. The significance of soft skills such

as communication, collaboration, and flexibility was emphasised, indicating that adaptability would be an essential capability in AI-driven environments. Ultimately, while AI excels in data analysis and pattern recognition, human creativity is essential for inventive problem-solving and the development of fresh solutions, underscoring the need for a balanced skill set that integrates technical competence with distinct human skills [12] [13]. These results indicate that the integration of technical competence, soft skills, and organised reskilling activities is essential for improving graduates' employability in AI-driven markets.

CONCLUSION

The intricate relationship between graduates' employment results and their awareness, readiness, and attitudes of AI is highlighted by this research. The findings show that employability in an AI-driven market is closely related to technical abilities, soft skills, and proactive reskilling activities, even though the majority of respondents saw AI as both a problem and an opportunity. Regression research shown that although unfavourable views of AI in recruiting practices might erode trust in employment chances, understanding of AI and readiness via training and certifications greatly boost employability. Crucially, the results highlight that employability cannot be based just on technical proficiency; flexibility, communication, collaboration, and creativity are still essential for enhancing AI-driven productivity. This highlights the pressing need for universities and legislators to include AI-focused courses into their curriculum, increase the number of government-sponsored training programs, and fortify industrial partnerships in order to guarantee that graduates are prepared for the future. Graduates who develop a well-rounded skill set that blends technological expertise with human talents will be able to flourish in the rapidly changing environment brought about by automation and artificial intelligence.

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