ASET JOURNAL OF MANAGEMENT SCIENCE
Peer Reviewed & Open Access Journal
ISSN : 2584 - 220X (Online) | RNI : Applied | Frequency : Bi-Monthly

ENHANCING EMPLOYABILITY AND JOB PLACEMENT THROUGH AI-POWERED LEARNING AND PREDICTIVE ANALYTICS

Jayapal J[1], Dr. Geeta Kesavaraj[2]

[1] *II MBA Student,* [2]*Associate Professor*

Department of Management Studies, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Avadi, Chennai, India.
vtp4325@veltech.edu.in
drgeetakesavaraj@veltech.edu.in

Abstract

This research explores the impact of predictive analytics on job placement outcomes in AI based learning platforms in relation to learner performance data and work expectations within defined industry areas. It utilizes a mixed-method approach to gather and analyze data from 120 respondents using surveys and statistical analyses including SPSS, regression, and correlation tests. The study revealed that predictive analytics boosts employability by helping learners identify skill gaps, predict job readiness, and receive recommendations on their next steps in the learning path. While 74% of respondents noted they received job offers from AI-based platforms, ceiling effects were found in their confidence in the AI predictions indicating a perceived gap of trust. The study also noted strong variances in both content quality and AI recommendations with learning outcomes, as well as learner engagement in the learning process. Some of the significant barriers to employability included limited industry connections, lack of personalization, and a low level of accurate predictions. The study concluded by suggesting that predictive analytics could be better utilized in AI learning platforms with authentic influence and work retention data for re-adaptive learning and industry partnerships. The study offers a design framework for educators, EdTech developers, and policies to help close the gap between higher education and employment possibilities in an AI world.

Keywords:

Predictive Analytics, AI-Based learning platforms, Job Placement Outcomes,

https://doi.org/10.47059/AJMS/V5I3/05

ASET JOURNAL OF MANAGEMENT SCIENCE
Peer Reviewed & Open Access Journal
ISSN : 2584 - 220X (Online) | RNI : Applied | Frequency : Bi-Monthly

Employability, Skill Development, Personalized Learning, Machine Learning, Data Analysis, EdTech, Career Readiness.

Introduction

The rapid growth of artificial intelligence (AI) has transformed the provision of education and training across various sectors. The traditional learning process, founded on textbooks, classrooms, and instructors, has yielded to a dynamic, AI-powered platform. The new platform uses data to enable customized, adaptive learning. Such platforms use machine learning algorithms, natural language understanding, and data analytics to track learning activity, suggest material, and predict future performance.

Objectives Of The Study

Primary Objectives

To study about "Predictive Analytics for improving job placement outcomes in AI-Based learning platforms".

Secondary Objectives

1 To analyze the current limitations of AI-based learning platforms to give effective career guidance and employment matching.

2. To evaluate how data-driven personalized career suggestions through predictive analytics can increase learner confidence and placement prospects.

3. To recommend a framework for integrating predictive analytics into AI-powered learning systems for continuous tracking of skills and enhancing employability.

Review Of Literature

1. Mondal, Dewade & Patil (2025) The research addresses predictive analytics in student placement systems. The authors created machine learning models—like Gradient Boosting (99.90% accuracy), Random Forest (99.75%), and Decision Trees (99.90%)—to predict placement outcomes using data specific to students like GPA,

https://doi.org/10.47059/AJMS/V5I3/05

ASET JOURNAL OF MANAGEMENT SCIENCE
Peer Reviewed & Open Access Journal
ISSN : 2584 - 220X (Online) | RNI : Applied | Frequency : Bi-Monthly

internships, test scores, and project work. Their predictive model improved student-job matching significantly and helped placement coordinators in decision-making.

2. **Raman & Pramod (2022)** Examining longitudinal data (more than six years) of 1,202 Indian B-school graduates, the researchers establish important predictors of employability including Class 12 marks, soft skills, and co-curricular activity participation—more effective than higher-level qualifications. The study reveals the way that predictive models can reveal non-obvious markers of employment readiness and help better prepare graduates.

Scope Of Study

This research seeks to investigate how predictive analytics can enhance job placements of students on AI-driven learning platforms. The scope involves:

•**Variables of Interest:** Gathered by individual weekly performance reports, skill development activities, engagement levels, pass/failure rates in training.

•**Merging academic records:** skill assessments, behavioural information, and recruiter feedback to develop holistic prediction models.

•**Development of models:** Applying machine learning algorithms to forecast job readiness and possible career directions.

Limitation Of Study

Predictive analytics are based on the availability and quality of student and industry data. In most cases, the available data might be missing some pieces, tracking might be inconsistent, or coding might not be standardized. Such problems may interfere with the credibility of the insights.

- Labor market needs and job skills shift rapidly. Consequently, predictive models based on data at present can become stale and depreciate fast.

https://doi.org/10.47059/AJMS/V5I3/05

ASET JOURNAL OF MANAGEMENT SCIENCE
Peer Reviewed & Open Access Journal
ISSN : 2584 - 220X (Online) | RNI : Applied | Frequency : Bi-Monthly

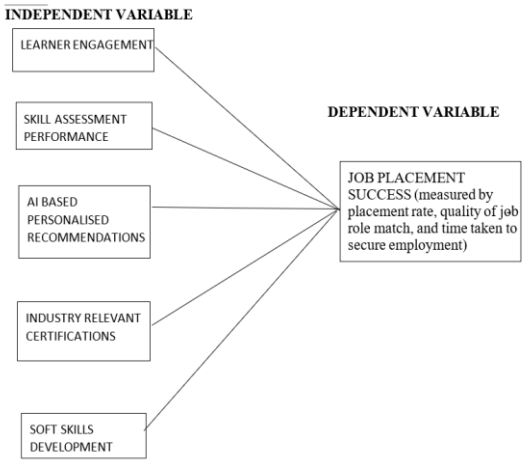
- The research could be conducted on a particular platform, sector, or area. Such specificity can restrict the applicability of the results to other AI-driven learning systems and the world labor market.

Research Methodology

The research employs a mixed-method quasi-experimental design to establish the extent to which predictive analytics can enhance job placement in AI learning environments. The independent variable is the output of the predicted model, which is the risk classification of students. The dependent variables are job placement results, such as employability, time to placement, and job quality.

Research Design

This study employs a quantitative exploratory descriptive design to examine predictive analytics ability to enhance placements of learners on an AI-based learning system. The primary aim is to determine the most appropriate learner-specific measures completion of courses, assessment marks, activity, and skills competencies associated with placement success



Research Hypothesis:

Null Hypothesis (H_0): There is no significant relationship between the application of predictive analytics in AI-based learning platforms and the employment outcomes of learners.

Alternative Hypothesis (H_1): There is a significant positive relationship between the application of predictive analytics in AI-based learning platforms and the employment outcomes of learners.

https://doi.org/10.47059/AJMS/V5I3/05

ASET JOURNAL OF MANAGEMENT SCIENCE
Peer Reviewed & Open Access Journal
ISSN : 2584 - 220X (Online) | RNI : Applied | Frequency : Bi-Monthly

Sample Size

For the predictive analytics and job placement outcomes research in AI-based learning platforms, a sample of 120 learners was collected by using stratified random sampling.

Statistical Tools

- **Regression**
- **Correlation**

Regression

Null Hypothesis :

There is no significant relationship between the perceived effectiveness of AI-based platforms and belief in AI prediction reliability.

Alternative Hypothesis:

There is a significant relationship between the perceived effectiveness of AI-based platforms and belief in AI prediction reliability.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.808	1	6.808	3.119	.080[b]
	Residual	257.559	118	2.183		
	Total	264.367	119			

a. Dependent Variable: 20. Do you believe AI predictions (job readiness scores, placement likelihood) are reliable?

b.Predictors: (Constant), 15.Rate the 1ness of AI-based platforms in improving your skills

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.886	.231		12.497	.000
	15.Rate the effectiveness of AI-based platforms in improving your skills:	.198	.112	.160	1.766	.080

a. Dependent Variable: 20. Do you believe AI predictions (job readiness scores, placement likelihood) are reliable?

Since p = 0.080 > 0.05,

Fail to reject H_0 (the null hypothesis).

The relationship is **not statistically significant.**

Interpretation

The regression model was not statistically significant, F(1,118) = 3.119, p = .080.

Therefore, the null hypothesis stating that there is no

https://doi.org/10.47059/AJMS/V5I3/05

ASET JOURNAL OF MANAGEMENT SCIENCE
Peer Reviewed & Open Access Journal
ISSN : 2584 - 220X (Online) | RNI : Applied | Frequency : Bi-Monthly

significant relationship between the two variables was **accepted**, and the alternative hypothesis was **rejected**

Correlation

Null Hypothesis : There is no significant relationship between the effectiveness of AI-based learning platforms and the extent to which learners feel their performance assessments reflect their actual capabilities.

Alternative Hypothesis : There is a significant positive relationship between the effectiveness of AI-based learning platforms and the extent to which learners feel their performance assessments reflect their actual capabilities

		15.Rate the effectiveness of AI based platforms in improving your skills:	Do you fe performance platform ass reflects your capabilities?
15.Rate the effectiveness of AI based platforms in improving your skills:	Pearson Correlation	1	.406**
	Sig. (2-tailed)		.000
	N	120	120
Do you feel your performance in platform assessments reflects your actual capabilities?	Pearson Correlation	.406**	1
	Sig. (2-tailed)	.02	
	N	120	120

Since **p = 0.02< 0.05, → Reject H_0 (Null Hypothesis) → Accept H_1 (Alt**
lypothesis)

Interpretation

This indicates that learners who perceive AI-based platforms as more effective are more likely to believe that their assessment results accurately represent their true capabilities. Therefore, the null hypothesis was **rejected**, and the alternative hypothesis was **accepted**.

Major Findings

Regarding predictive analytics, responses revealed mixed trust levels, as 35% remained neutral about AI predictions. The most valued predictive insights were career path recommendations and skill gap analyses. Although 74% received job offers through the platforms, only 64% found them relevant to their skills, indicating a need for better job-matching accuracy. The statistical tests showed a significant positive correlation between platform effectiveness and learners' belief in assessment reliability, while regression analysis revealed no significant relationship between platform effectiveness and belief in AI prediction reliability.

https://doi.org/10.47059/AJMS/V5I3/05

ASET JOURNAL OF MANAGEMENT SCIENCE
Peer Reviewed & Open Access Journal
ISSN : 2584 - 220X (Online) | RNI : Applied | Frequency : Bi-Monthly

Suggestion

- AI algorithms should be regularly improved so that predictions about learners' skills and job readiness become more reliable and meaningful.
- The accuracy of job readiness scores and placement forecasts needs to be enhanced to help users make confident career decisions.
- Learning experiences should be more personalized, adapting to each learner's goals, strengths, and areas for improvement.
- Adaptive learning systems can keep learners motivated and help them complete courses more successfully.
- Collaboration with industry experts and companies is essential to give learners exposure to real-world skills and experiences.

Conclusion

Overall, the study concludes that AI-based learning platforms are powerful enablers of skill development and professional growth, but there is a pressing need to enhance predictive accuracy, transparency, personalization, and industry collaboration. Strengthening these aspects can build greater trust among users, align learning outcomes more closely with real world job requirements, and make AI-driven platforms more effective in bridging the gap between education and employment.

References

1) Alalwan, A. A., Dwivedi, Y. K., & Rana, N. P. (2023). Artificial Intelligence in Education: Opportunities, Challenges, and Future Research Directions. Education and Information Technologies, 28(5), 4563–4582.
2) Chen, X., Zou, D., Cheng, G., & Xie, H. (2022). Artificial Intelligence–Based Learning

https://doi.org/10.47059/AJMS/V5I3/05

and Its Application in Education: Review and Outlook. Computers and Education: Artificial Intelligence, 3, 100063.

3) Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., & Coombs, C. (2021). Artificial Intelligence (AI): Multidisciplinary Perspectives on Emerging Challenges, Opportunities, and Agenda for Research, Practice, and Policy. International Journal of Information Management, 57, 101994.
4) Baker, R.S & Inventado, P.S: Education Data Mining And Learning And Learning Analytics. Learning Analytics, Springer, New York.
5) Siemens, G, & Baker R.S(2012) Learning Analytics And Educational Data Mining. Towards Communication And Collaboration. Proceedings Of the 2nd International Conference on Learning Analytics & Knowledge.
6) Kumar V.& Chong I(2018): Correlation Analysis of Job Placement Prediction using Machine learning Techniques. International Journal Of Company Applications
7) Swadhi, R., Gayathri, K., Suresh, N. V., Catherine, S., & Velmurugan, P. R. (2025). Leveraging Machine Learning for Enhanced Patient Engagement and Outcomes: Revolutionizing Healthcare Marketing. In *Impact of Digital Transformation on Business Growth and Performance* (pp. 313-340). IGI Global.
8) Swadhi, R., Velmurugan, P. R., Gayathri, K., & Catherine, S. (2026). Evolving critical themes in advanced human resource management: Navigating change in the modern workplace. In *Critical aspects in advanced human resource management* (pp. 75-102). IGI Global.
9) Tartari, E., Weterings, V., Gastmeier, P. J. R. B., Rodríguez Baño, J., Widmer, A., Kluytmans, J., & Voss, A. (2017). Patient engagement with surgical site infection prevention: an expert panel perspective. Antimicrobial

https://doi.org/10.47059/AJMS/V5I3/05

Resistance & Infection Control, 6(1), 45.

10) Venice, A., Swadhi, R., Gayathri, K., Chandra, P., & Sajana, K. P. (2026). Rehabilitation Robotics and Adaptive Motion Planning for Patient-Centric Care. In *Intelligent Motion Control for Human-Centered Systems* (pp. 51-76). IGI Global.

11) Vettriselvan, R. (2025). Harnessing innovation and digital marketing in the era of industry 5.0: resilient healthcare SMEs. In The Future of Small Business in Industry 5.0 (pp. 163-186). IGI Global.

12) Vettriselvan, R., & Anto, M. R. (2018). Pathetic health status and working condition of Zambian women. Indian Journal of Public Health Research & Development, 9(9), 259-264.

13) Vettriselvan, R., & Rajan FSA, A. J. (2019). Occupational Health Issues Faced by Women in Spinners. Indian Journal of Public Health Research & Development, 10(1).

14) Vettriselvan, R., Deepan, A., Jaiswani, G., Balakrishnan, A., & Sakthivel, R. (2025). Health Consequences of Early Marriage: Examining Morbidity and Long-Term Wellbeing. In Social, Political, and Health Implications of Early Marriage (pp. 189-212). IGI Global.

15) Vettriselvan, R., Ramya, R., Selvalakshmi, V., Jyothi, P., & Velmurugan, P. R. (2026). Empowering Patients through Knowledge: Educational Strategies in Rehabilitation. In Holistic Approaches to Health Recovery (pp. 263-290). IGI Global.

16) Vettriselvan, R., Velmurugan, P. R., Varshney, K. R., EP, J., & Deepika, R. (2025). Health Impacts of Smartphone and Internet Addictions Across Age Groups: Physical and Mental Health Across Generations. In Impacts of Digital Technologies Across Generations (pp. 187-210). IGI Global.

17) Vijayalakshmi, M., Subramani, A. K., Vettriselvan, R., Catherin, T. C.,

https://doi.org/10.47059/AJMS/V5I3/05

& Deepika, R. (2025). Sustainability and Responsibility in the Digital Era: Leveraging Green Marketing in Healthcare. In Digital Citizenship and Building a Responsible Online Presence (pp. 285-306). IGI Global.

18) Vijayalakshmi, M., Subramani, A. K., Vettriselvan, R., Velmurugan, P. R., & Hasine, J. (2025). Strategic Collaborations in Medical Innovation and AI-Driven Globalization: Advancing Healthcare Startups. In Navigating Strategic Partnerships for Sustainable Startup Growth (pp. 85-110). IGI Global.

19) Williams, M. (2008). Infection control and prevention in perioperative practice. Journal of perioperative practice, 18(7), 274-277.

20) Zahoor, H., Mustafa, N., Ashifa, K. M., Safaei, M., & El Gamil, R. (2025). Unlocking resilience: Emotional intelligence and self-leadership shape stress perception among health students. *International Journal of Innovation and Learning, 38*(4), 395–419.

21) Catherine, S., Suresh, N. V., Mangaiyarkarasi, T., & Jenefa, L. (2025). Unveiling the enigma of shadow: Ethical difficulties in the field of AI.

22) Suresh, N. V., Selvakumar, A., Sridhar, G., & Jain, V. (2025). Dynamic Pricing Strategies Implementing Machine Learning Algorithms in E-Commerce. In *Building Business Models with Machine Learning* (pp. 129-136). IGI Global Scientific Publishing.

23) Catherine, S., Ramasundaram, G., Nimmagadda, M. R., & Suresh, N. V. (2025). Roots, routes, and identity: how culture shapes heritage travel. In *Multiple-Criteria Decision-Making (MCDM) Techniques and Statistics in Marketing* (pp. 343-352). IGI Global Scientific Publishing.

24) Kalaivani, M., Suresh, N. V., & Catherine, S. (2025). The Next Wave in Marketing: Data Science in the Age of Generative AI.

https://doi.org/10.47059/AJMS/V5I3/05

education. In *Bridging Academia and Industry Through Cloud Integration in Education* (pp. 49-72). IGI Global Scientific Publishing.

25) Vettriselvan, R., Deepan, A., Garg, P. K., Suresh, N. V., & Velmurugan, P. R. (2025). Advanced Text Analysis, Simplification, Classification, and Synthesis Techniques: Leveraging AI for Enhanced Medical Education. In *Using AI Tools in Text Analysis, Simplification, Classification, and Synthesis* (pp. 37-66). IGI Global Scientific Publishing.

26) Vettriselvan, R., Deepa, R., Gautam, R., Suresh, N. V., & Cathrine, S. (2025). Bridging Academia and Industry Through Technology and Entrepreneurial Innovation: Enhancing Supply Chain Efficiency. In *Bridging Academia and Industry Through Cloud Integration in Education* (pp. 145-174). IGI Global Scientific Publishing.

27) Venice, J. A., Vettriselvan, R., Rajesh, D., Suresh, N. V., & Abirami, P. (2025). Enabling personalized learning and adaptive systems through strategic management: cloud integration in

28) Swadhi, R., Gayathri, K., Suresh, N. V., Catherine, S., & Velmurugan, P. R. (2025). Leveraging Machine Learning for Enhanced Patient Engagement and Outcomes: Revolutionizing Healthcare Marketing. In *Impact of Digital Transformation on Business Growth and Performance* (pp. 313-340). IGI Global Scientific Publishing.

29) Aravind, D., Kurnaz, S., Suresh, N. V., Reddy, E. E., Reddy, P. J. L., & Jayalakshmi, S. (2026). Hybrid Renewable Energy Systems and Effective Resource Utilization for Sustainable Aviation. In *Green Approaches and Environmental Stewardship for Aviation Management* (pp. 1-30). IGI Global Scientific Publishing.

30) Patil, S. H., Shanmugam, R., Gadhave, S. H., & Suresh, N. V. (2026). Workplace culture and employee perceptions in Xiaomi

https://doi.org/10.47059/AJMS/V5I3/05

corporation. In *Empowering Inclusive Innovation* (pp. 701-708). Routledge.

31) Shanmugam, R., Pradeepa, S. V., Singh, P., & Suresh, N. V. (2026). Brand personality and its important role in purchase decisions. In *Empowering Inclusive Innovation* (pp. 769-776). Routledge.

32) De Chlarence, J. M., Sarkar, B., Gawande, N., & Suresh, N. V. (2026). Impact of multi-sensory marketing on consumer purchase decisions and loyalty in restaurants. In *Empowering Inclusive Innovation* (pp. 739-749). Routledge.

33) Singh, P., Shanmugam, R., Pradeepa, S. V., & Suresh, N. V. (2026). Performance evaluation of large cap mutual fund schemes in India: An empirical study using risk-return measures. In *Empowering Inclusive Innovation* (pp. 750-755). Routledge.

34) Gadhave, S. H., Shanmugam, R., Patil, S. H., & Suresh, N. V. (2026). Work–Life Balance as an HR initiative: An empirical study on employee perceptions in the Indian IT sector. In *Empowering Inclusive Innovation* (pp. 717-724). Routledge.

35) Gadhave, S. H., Shanmugam, R., Patil, S. H., & Suresh, N. V. (2026). Work–Life Balance as an HR initiative: An empirical study on employee perceptions in the Indian IT sector. In *Empowering Inclusive Innovation* (pp. 717-724). Routledge.

a. Gadhave, S. H., Shanmugam, R., Patil, S. H., & Suresh, N. V. (2026).

https://doi.org/10.47059/AJMS/V5I3/05