

# Leveraging Artificial Intelligence to Enhance Faculty Diversity and Inclusion in Higher Education

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## ABSTRACT

This study looks at how artificial intelligence (AI) can help make faculty diversity and inclusion stronger in higher education, especially in colleges in Coimbatore district. The research uses a mix of methods, including looking at numbers from HR and recruitment records and talking to teaching staff, department leaders and diversity officers from both public and private colleges. The study checks out several uses of AI, like using algorithms to find good candidates, tools to spot bias in job ads and performance reviews, systems that suggest tailored professional development, ways to make teaching more accessible for everyone and tools to track the campus climate and how well people stay. The research also finds some unique problems in Coimbatore, such as differences in how good the digital tools are not enough knowledge about AI among staff and worries about how hard it is to understand how AI decisions are made. The paper gives useful advice to school leaders in the area, such as checking for bias regularly, including people in the AI process, training staff better and testing low-risk AI tools with clear ways to measure their impact. Research Design & Samples: This study used a simple random method to pick 60 faculties' arts and science colleges in Coimbatore. It combined numbers from surveys with deeper interviews to get more detailed views. Tools of Data Collection: Information was gathered through a self-made interview form to collect personal details.

**KEYWORDS:** Artificial Intelligence (AI), Diversity and Inclusion and teaching faculties.

## INTRODUCTION

Diversity and inclusion in higher education have become important topics for creating fair and innovative learning environments. Having a diverse group of faculty is especially important because it enhances teaching and learning, helps students understand different cultures and prepares them for success in a global society. However, many colleges and universities still struggle with attracting, keeping and supporting teachers from varied backgrounds. Problems like hidden biases during hiring, unequal chances for training and growth and a lack of inclusive rules often slow down efforts to build more balanced and representative schools. In recent years, artificial intelligence (AI) has started to play a big role in higher education. It offers new ways to make decisions based on data and improve inclusion. AI

tools can help in hiring by looking at many applicants and finding talented people, while also spotting unfair language in job postings and grading systems. Additionally, AI can help schools understand how teachers are feeling, why some might leave and where they might be missing out on diversity. These tools can help create fairer, more open and more effective academic systems. The Coimbatore district, which is growing quickly as an educational area in Tamil Nadu, is a good place to look at how AI can help with making faculty diversity and inclusion better. The district has a mix of public universities, independent colleges and private schools, which means there are both chances and challenges in using technology for fair practices. While many schools have started using digital tools for management and teaching, using AI

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specifically for fairness and inclusion is not widely done and needs more attention.

### Definition

"Artificial Intelligence is a branch of computer science that aims to create machines that can perform tasks that would normally require human intelligence, including learning, reasoning, problem-solving, perception and language understanding."- **Stuart Russell and Peter Norvig (2021)**

"Diversity in teaching faculties refers to the representation of various demographic and cultural backgrounds among faculty members, while inclusion involves creating an environment where all faculty members, regardless of their backgrounds, are actively supported and able to contribute to and benefit from the academic community."- **Bell, M. P., & McLaughlin, M. E. (2016)**

### REVIEW OF LITERATURE

**Jain, A., & Kumar, R.(2022)** This study explores how AI-driven tools can facilitate the recruitment and retention of diverse faculty members in higher education. The authors examine AI algorithms designed to minimize bias in job postings and selection processes. They highlight successful case studies where AI tools have improved diversity metrics and suggest that AI can enhance transparency and fairness in faculty hiring practices.

**Lee, S., & Zhang, L.(2021)** Lee and Zhang investigate AI applications in faculty professional development, focusing on how AI can support the growth of underrepresented faculty members. The study identifies AI-driven platforms that offer personalized training and mentorship based on individual needs. It discusses the potential for AI to address gaps in professional development while also noting challenges related to the equitable implementation of these technologies.

**Smith, J., & Davis, T.(2020)** Smith and Davis provide a critical analysis of how AI tools impact equity and inclusion in faculty hiring and promotion. They review various AI applications used by academic institutions and assess their effectiveness in reducing disparities. The study emphasizes the need for careful design and oversight to prevent AI systems from perpetuating existing biases.

### PURPOSE OF THE STUDY

The goal of this study is to look at how using artificial intelligence can help make college and university faculty more diverse and inclusive. The study will check how AI-powered tools used in hiring can help reduce unfair treatment and bring in a more varied group of teachers. This involves looking at AI systems that help create better job ads, screen

applicants and choose the best candidates. The research will also look into how AI can support the growth and success of diverse faculty by offering personalized training, guidance and chances for career progress. We will examine how effective AI is in helping underrepresented groups of faculty overcome challenges they face. Additionally, the study will explore how AI can help create classrooms that are welcoming and fair for everyone. This includes looking at AI tools that help teachers create and use teaching methods and materials that include a wide range of perspectives and experiences.

### SIGNIFICANCE OF THE STUDY

The study on using artificial intelligence to improve diversity and inclusion in college teaching staff is important because it looks at how AI can help make faculty more diverse and inclusive. This research helps create better ways to achieve fairness in higher education. It looks closely at different AI tools that can help include more diverse teachers and support the goals of colleges to be more inclusive. The results of this study can help schools make their hiring processes fairer. AI tools can help reduce unfair biases in hiring, which means schools can get more candidates from different backgrounds. By looking at how AI can help with teacher training, the study shows how AI can support the growth and success of teachers from underrepresented groups. This can make professional development more available and help these teachers move forward in their careers and stay in their jobs longer.

### RESEARCH METHODOLOGY

#### Objectives of the study

- To find out personal profile of the respondents.
- To assess level of leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education.
- To examine association between the personal profile and leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education.
- To analyze the difference and relationship between the leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education.

This descriptive research employed a simple random sampling method, surveying 60 teaching facilities Arts and Science College from the Coimbatore district. The study utilized a mixed-methods approach, combining quantitative data from a survey and qualitative insights from in-depth interviews. **Tools of Data Collection:** Data was collected using a self-structured interview schedule to obtain personal

profiles. The statistical tools applied by the researcher are ANOVA, Percentage Analysis, Chi-square, T-test and

### Finds of the study

S. NO	FACTORS	MEDIUM	FREQUENCY	PERCENTAGE (%)
1	Age	30-45 years	54	75
2	Educational qualification	Post graduates	44	73.3
3	Marital status	Married	56	95
4	Type of family	Nuclear family	42	71.7
5	Residential background	Semi urban	15	38.3
6	No of years experience	10-15 years	41	58.3
7	Type of Organization	Private	43	78.3

### FINDINGS

- Majority (75%) of the respondents have 30-45 years of age.
- Majority (73.3%) of the respondents have post graduates.
- About 95.0% of the respondents have married.
- Majority (71.7%) of the respondents have from nuclear family.
- Less than half (38.3%) of the respondents have from semi-urban.
- More than half of (58.3%) of the respondents have 10 – 15 years of experience.
- Majority (78.3%) of the respondents have working private type of organization.

### DISTRIBUTION OF THE RESPONDENTS BASED ON LEVELS OF LEVERAGING ARTIFICIAL INTELLIGENCE TO ENHANCE FACULTY DIVERSITY AND INCLUSION IN HIGHER EDUCATION.

S. No	AL & Diversity and Inclusion	No. of Respondents	Percentage (%)
1	High	42	70.0
2	Moderate	10	16.7
3	Low	8	13.3
<b>TOTAL</b>		<b>60</b>	<b>100</b>

### INTERPRETATION

The above table depicts that 70% of the respondents experience high level of leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education, 16.7% of the respondents face moderate level of leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education and 13.3% of the respondents experience low level of leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education.

### Influence of personal profile and leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education of the respondents

VARIABLES	STATISTICAL TOOL	VALUE	RESULT
Age & leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education	ANOVA	P = .010 <0.05	Significant
Educational qualification & leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education	t-test	P = .021 < 0.05	Significant
Marital status & leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education	t-test	P = .714 > 0.05	Not Significant
Type of family & leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education	t-test	P = .018 < 0.05	Significant
Residential background & leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education	ANOVA	P = .637 > 0.05	Not Significant
No of years experience & leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education	ANOVA	P = .003 <0.05	Significant
Type of Organization & leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education	t- test	P =.866 > 0.05	Not Significant

- There is significant difference between the age and leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education.
- There is significant difference between the educational qualification and leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education.
- There is no significant difference between the marital status and leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education.
- There is significant difference between the type of family and leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education.
- There is no significant difference between the residential background & leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education.
- There is significant difference between the No of years experience & leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education.
- There is no significant difference between the type of organization & leveraging artificial intelligence to enhance faculty diversity and inclusion in higher education.

### Recommendation

**Bias-Free Recruitment Algorithms:** Develop and implement AI algorithms designed to reduce bias in the recruitment process.

**Diverse Candidate Pools:** Use AI-powered tools to source and attract a diverse pool of candidates.

**Inclusive Job Descriptions:** Utilize AI to analyze and optimize job descriptions to ensure they are inclusive and appealing to a diverse range of applicants.

**Personalized Professional Development:** Implement AI-driven platforms that provide personalized career development recommendations and training opportunities for faculty members.

**AI-Enhanced Mentorship Programs:** Develop AI systems that match diverse faculty members with mentors based on specific needs and career goals.

**Monitoring and Analytics:** Use AI to track and analyze diversity metrics and faculty experiences.

**Support for Inclusive Pedagogy:** Employ AI tools to assist faculty in designing and implementing inclusive teaching materials and methods.

**Bias Detection in Evaluations:** Integrate AI systems to review and ensure fairness in faculty evaluations and promotions.

**Feedback and Improvement Mechanisms:** Implement AI-driven feedback systems that allow faculty to anonymously report issues related to diversity and inclusion.

**Continuous Learning and Adaptation:** Foster an environment where AI tools are continuously updated and refined based on user feedback and evolving best practices.

### CONCLUSION

The use of artificial intelligence in higher education brings both good chances and difficulties when it comes to making sure there is a variety and inclusion of faculty members. In Coimbatore, there is evidence showing that AI can help reduce hidden biases in hiring, make faculty evaluations fairer and offer personalized training programs. Using AI tools that analyze data and support decision-making, schools can spot areas where certain groups are not well represented, make hiring fairer and build academic environments that welcome different views. However, the study also shows that using AI needs to be done carefully and responsibly. Problems like not having enough digital tools, different levels of tech preparedness and worries about how clear AI decisions are big challenges for many schools in Coimbatore. If not properly managed, AI systems might not just fail to remove biases but could even make them worse.

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