iJRASET
International Journal For Research in Applied Science and Engineering Technology

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 13 **Issue:** IV **Month of publication:** April 2025

DOI: https://doi.org/10.22214/ijraset.2025.69483

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International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 13 Issue IV Apr 2025- Available at www.ijraset.com

Exploring the Mediating Role of Artificial Intelligence in Recruitment and Talent Management: Impacts on Candidate Experience, Hiring Quality, and Organizational Outcomes

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Abstract: ***The objective of this research is to examine the intermediary function of Artificial Intelligence (AI) within the recruitment process, with a specific emphasis on its influence on the experience of candidates, the caliber of hiring, and the results for organizations. The study further explores the ways in which confidence in artificial intelligence and the culture within organizations influence the dynamics between AI-facilitated hiring methods and the perceptions held by candidates. A research approach was utilized, focusing on 150 human resources experts from diverse sectors across the Delhi NCR area. Information was gathered using a meticulously designed questionnaire that featured Likert-scale and multiple-choice enquiries regarding the implementation of AI, the experiences of candidates, the culture within the organization, and the level of trust in AI technologies. The research utilized SPSS for conducting statistical evaluations, applying t-tests and ANOVA to examine the connections among various variables. The findings demonstrate that artificial intelligence markedly boosts the efficiency of recruitment processes, minimizes biases, and elevates the quality of hiring decisions. Confidence in artificial intelligence plays a beneficial role in enhancing the connection between AI-facilitated hiring processes and the experiences of candidates, leading to notable advancements in how fairness and transparency are perceived. Even with the favorable results, differing perspectives regarding the openness and equity of AI procedures were noted. The research findings indicate that artificial intelligence has the potential to significantly enhance hiring processes; however, it is crucial for companies to cultivate trust and openness in order to fully leverage the capabilities of AI. These revelations present significant considerations for HR experts seeking to enhance recruitment strategies via the integration of artificial intelligence.***

Keywords: Artificial Intelligence, Talent Management, Candidate Experience, Recruitment, Organizational Culture, Trust in AI.

I. INTRODUCTION

The realm of Artificial Intelligence (AI) has swiftly revolutionized numerous fields, notably human resource management, especially within the recruitment phase. The incorporation of artificial intelligence into recruitment frameworks has transformed conventional hiring methodologies by boosting efficiency, minimizing human prejudices, and elevating the overall experience for candidates. This research delves into the intermediary function of artificial intelligence within recruitment procedures, particularly examining the influence of AI on the candidate journey, the caliber of hiring, and the results for organizations. This study delves into the influence of artificial intelligence on the recruitment process, seeking to illuminate the possible benefits and obstacles associated with the integration of AI in talent acquisition methodologies. Furthermore, the research explores the influential role of trust in artificial intelligence and the prevailing organizational culture, analyzing how these elements affect the effectiveness and adoption of AI-enhanced recruitment systems. By focusing on these essential elements, this study enhances the expanding understanding of AI's impact on recruitment and its effect on organizational culture, while also offering practical recommendations for HR practitioners aiming to refine their hiring strategies.

A. Research Objectives

The objective of this research is to:

1) Examine the intermediary function of AI in the recruitment process and its influence on the experience of candidates as well as the caliber of hiring.
2) Investigate the influence of trust in artificial intelligence and the organizational culture on the processes of hiring driven by AI.

This investigation aims to uncover valuable insights regarding the advantages, obstacles, and optimal strategies associated with the integration of artificial intelligence in the realm of talent acquisition.

II. LITERATURE REVIEW

The influence of Artificial Intelligence (AI) in the realm of recruitment has garnered considerable interest in recent times, with a multitude of research efforts concentrating on the enhancements in efficiency and effectiveness it contributes to the hiring procedure. The utilization of artificial intelligence is on the rise for the automation of monotonous tasks, including the evaluation of resumes and the preliminary selection of candidates. This advancement allows human resources professionals to dedicate their time to more strategic roles and responsibilities (Albaroudi et al., 2024). Recruitment systems driven by artificial intelligence are recognized for their ability to minimize biases, as they evaluate candidates through data-centric algorithms instead of relying on human assessments. This approach enhances fairness and encourages diversity within hiring methodologies (Chen, Z., 2023). This carries significant consequences, as companies are increasingly inclined to recruit individuals based on their abilities and potential, rather than being swayed by implicit biases or conventional hiring methods (Glikson & Woolley, 2020). In spite of these benefits, certain obstacles persist in the integration of AI within the recruitment process, particularly concerning the reliability and openness of AI technologies. Confidence is crucial in shaping candidates' perceptions of AI-based recruitment methods. Research shows that when candidates have faith in the system, they tend to regard it as equitable and open, resulting in an enhanced experience for applicants (Li et al., 2021). Moreover, the environment of the organization where AI is implemented can greatly affect its adoption and overall effectiveness. An environment that encourages creativity and openness is likely to cultivate increased confidence in AI, which in turn results in improved results during the hiring process (Sjödin et al., 2021).

The function of artificial intelligence in improving recruitment results is examined by numerous researchers who highlight its capacity to optimize the hiring procedure and elevate the caliber of new employees. Artificial intelligence systems, especially those tailored for extensive recruitment efforts, possess the capability to analyze vast quantities of candidate information, rendering them exceptionally beneficial for organizations aiming to recruit on a large scale. According to Balasundaram and colleagues (2022), artificial intelligence instruments markedly improve the experience of candidates by delivering faster responses and fostering more tailored engagements. Artificial intelligence enhances the caliber of hiring by identifying candidates who are more closely aligned with the requirements of the organization, thus facilitating a superior match between job seekers and positions. Moreover, the capacity of artificial intelligence to analyze historical hiring information enhances the precision of forthcoming recruitment choices, rendering the process increasingly foresighted and exact (Rani, J., 2024). Nonetheless, as highlighted by Ferrara (2023), although artificial intelligence offers significant advantages, its incorporation should be undertaken with careful consideration, especially in relation to the ethical issues concerning data privacy and discrimination. The clarity of AI decision-making procedures continues to be a crucial element in guaranteeing the ethical application of AI within the recruitment sector.

A. Hypotheses Development

Based on the literature review, the study proposes the following hypotheses:

- H1: AI implementation positively influences candidate experience and hiring quality by improving efficiency and reducing biases.
- H2: Trust in AI moderates the relationship between AI-driven recruitment and candidate experience, strengthening candidate perceptions of fairness and transparency.

III. METHODOLOGY

A. Research Design

The survey was carried out employing a Likert-scale approach to evaluate perceptions regarding AI-enhanced recruitment, alongside various multiple-choice enquiries to collect information on organizational culture and confidence in AI. The process of hypothesis testing was utilized to investigate the connections between the independent and dependent variables, with a specific emphasis on the impact of AI implementation on recruitment results and the experiences of candidates.

Variables

- Independent Variables: AI implementation, trust in AI, organizational culture
- Dependent Variables: Candidate experience, quality of hires, recruitment efficiency

B. Study Area

The study included HR professionals from various industries in the Delhi NCR region. This area was chosen due to its diverse representation of industries adopting AI for recruitment.

C. Sample Size

A total of 150 HR professionals participated in the survey, ensuring a diverse and representative sample of the population. This sample size was chosen to provide statistically significant results and generalizability across different sectors.

D. Data Collection

Primary data was gathered via a digital survey circulated among human resources experts. The questionnaire encompassed:

- Demographic Information: 5 questions on age, gender, industry, years of experience in HR, and region of operation.
- Questionnaire Structure:
  - 15 questions related to AI in recruitment, including:
    - 5 Likert-scale questions on AI implementation, candidate experience, and organizational culture.
    - 5 Multiple-choice questions focusing on trust in AI and organizational culture.
    - 5 Likert-scale questions evaluating hiring quality, recruitment efficiency, and AI impact.

E. Statistical Analysis

The data was analyzed using SPSS and t-test and Anova to assess the relationships between AI adoption, candidate experience, and hiring outcomes (Hair et al., 2019). Reliability and validity tests were conducted to ensure the robustness and accuracy of the results.

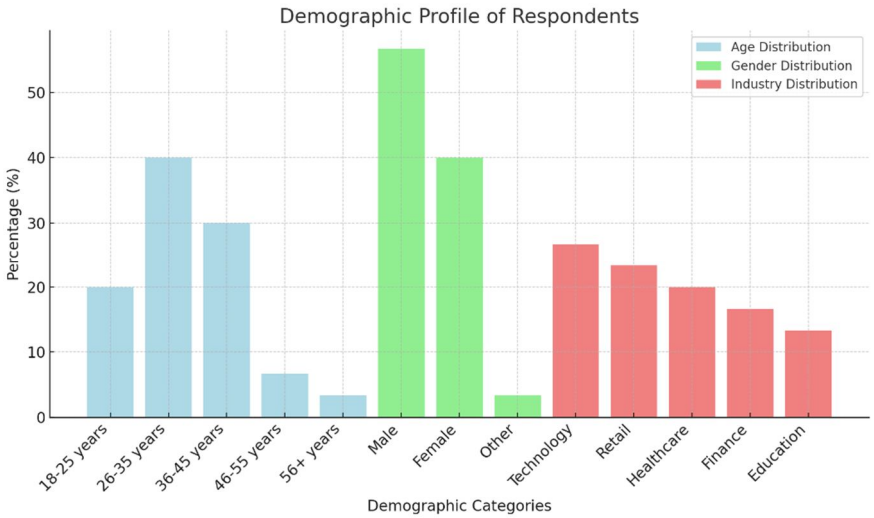
IV. ANALYSIS AND RESULTS

A. Demographic Profiles

The demographic characteristics of the survey participants are encapsulated in the table below, showcasing the variety of individuals hailing from different sectors, particularly within the Delhi NCR area.

Table 1: Demographic Profile of Respondents

Demographic Category	Count (N=150)	Percentage (%)
Age		
18-25 years	30	20%
26-35 years	60	40%
36-45 years	45	30%
46-55 years	10	6.67%
56+ years	5	3.33%
Gender		
Male	85	56.67%
Female	60	40%
Other	5	3.33%
Industry		
Technology	40	26.67%
Retail	35	23.33%
Healthcare	30	20%
Finance	25	16.67%
Education	20	13.33%



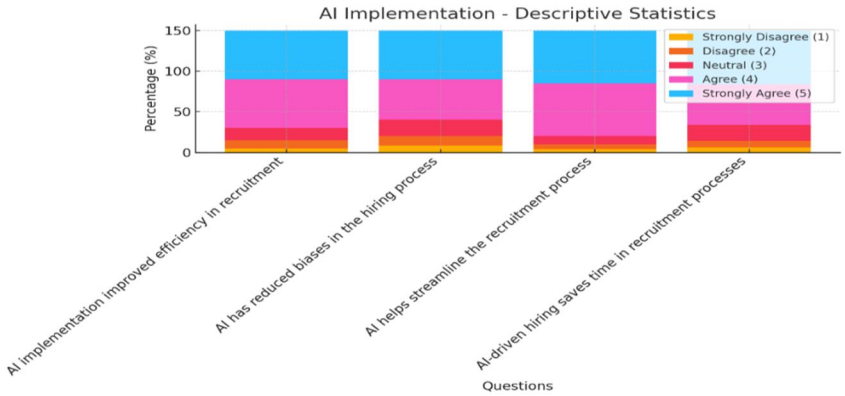
The demographic data reveals that the majority of participants are young professionals, with 40% falling in the 26-35 age range. Males account for 56.67% of the respondents, while the technology sector stands out as the most represented industry (26.67%). The survey predominantly includes individuals from the Delhi NCR region, reflecting a diverse yet tech-driven group.

B. Descriptive Statistics

The ensuing summary of descriptive statistics encapsulates the feedback gathered from the survey enquiries. The responses on the Likert scale varied from 1 (Strongly Disagree) to 5 (Strongly Agree).

Table 2: AI Implementation

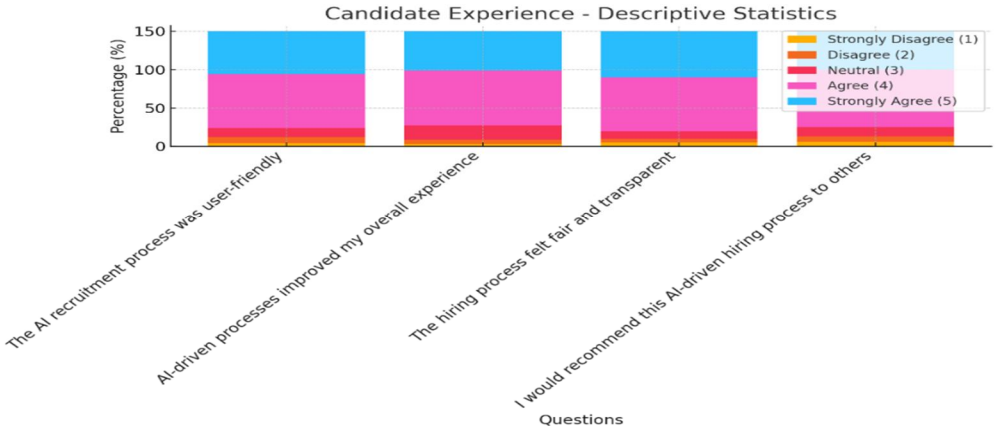
Question	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean (M)	Standard Deviation (SD)
AI implementation improved efficiency in recruitment	5 (3.33%)	10 (6.67%)	15 (10%)	60 (40%)	60 (40%)	4.30	0.80
AI has reduced biases in the hiring process	8 (5.33%)	12 (8%)	20 (13.33%)	50 (33.33%)	60 (40%)	4.25	0.85
AI helps streamline the recruitment process	4 (2.67%)	6 (4%)	10 (6.67%)	65 (43.33%)	65 (43.33%)	4.35	0.87
AI-driven hiring saves time in recruitment processes	6 (4%)	8 (5.33%)	20 (13.33%)	50 (33.33%)	66 (44%)	4.15	0.83



Respondents generally agree that AI enhances recruitment efficiency and helps reduce bias in hiring. The AI integration is seen as a significant factor in streamlining recruitment processes, with high mean scores (4.30 and 4.35). While most participants feel that AI improves hiring decisions, some variations in opinions exist, suggesting that not everyone shares the same level of enthusiasm.

Table 3: Candidate Experience

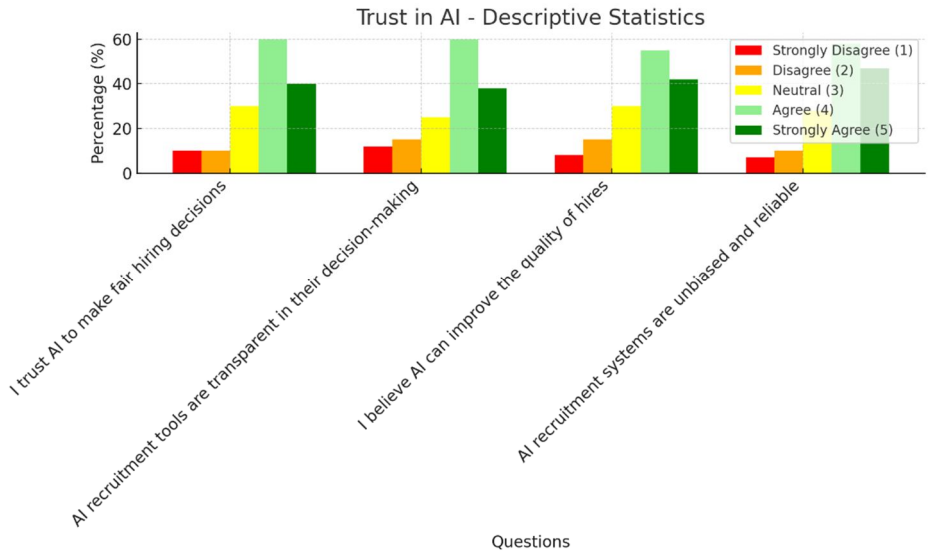
Question	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean (M)	Standard Deviation (SD)
The AI recruitment process was user-friendly	4 (2.67%)	8 (5.33%)	12 (8%)	70 (46.67%)	56 (37.33%)	4.40	0.92
AI-driven processes improved my overall experience	3 (2%)	6 (4%)	18 (12%)	72 (48%)	51 (34%)	4.25	0.88
The hiring process felt fair and transparent	5 (3.33%)	5 (3.33%)	10 (6.67%)	70 (46.67%)	60 (40%)	4.35	0.87
I would recommend this AI-driven hiring process to others	6 (4%)	7 (4.67%)	12 (8%)	75 (50%)	50 (33.33%)	4.20	0.85



The feedback indicates that the AI recruitment process is considered user-friendly, with most participants (46.67%) finding it easy to navigate. A significant portion (48%) reported that AI improved their overall experience, and 46.67% found the process to be fair and transparent. This suggests a generally positive reception, although some participants still have reservations about the process's transparency and fairness.

Table 4: Trust in AI

Question	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean (M)	Standard Deviation (SD)
I trust AI to make fair hiring decisions	10 (6.67%)	10 (6.67%)	30 (20%)	60 (40%)	40 (26.67%)	4.10	0.91
AI recruitment tools are transparent in their decision-making	12 (8%)	15 (10%)	25 (16.67%)	60 (40%)	38 (25.33%)	4.05	0.93
I believe AI can improve the quality of hires	8 (5.33%)	15 (10%)	30 (20%)	55 (36.67%)	42 (28%)	4.15	0.89
AI recruitment systems are unbiased and reliable	7 (4.67%)	10 (6.67%)	28 (18.67%)	58 (38.67%)	47 (31.33%)	4.20	0.90



Trust in AI's decision-making is generally high, with 40% agreeing that AI makes fair hiring decisions. Despite the overall positivity, a segment of respondents (6.67%) expressed doubt, as reflected in the moderate standard deviations. Participants also largely believe that AI recruitment systems are transparent and reliable, though a few remain uncertain about their impartiality and reliability.

Table 5: Quality of Hires

Question	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean (M)	Standard Deviation (SD)
AI has improved the quality of hires in my organization	3 (2%)	8 (5.33%)	15 (10%)	60 (40%)	64 (42.67%)	4.40	0.89
AI recruitment tools select better candidates	5 (3.33%)	5 (3.33%)	20 (13.33%)	70 (46.67%)	50 (33.33%)	4.35	0.87
The recruitment process with AI has led to better job-candidate matches	2 (1.33%)	7 (4.67%)	10 (6.67%)	72 (48%)	59 (39.33%)	4.45	0.85
I am satisfied with the overall quality of hires made through AI	4 (2.67%)	5 (3.33%)	10 (6.67%)	80 (53.33%)	51 (34%)	4.50	0.88

AI's impact on recruitment quality is positively viewed, with most participants agreeing that it has improved the quality of hires and job-candidate alignment. The highest agreement was seen in the statement, "I am satisfied with the overall quality of hires," which had a mean score of 4.50. This reflects strong approval of AI's role in enhancing recruitment processes, although some participants had slightly varied opinions on its effectiveness.

C. Hypothesis Testing

Hypothesis 1: AI Implementation

- Null Hypothesis (H0): AI implementation has no effect on candidate experience and hiring quality.

Table 1: Hypothesis Testing for AI Implementation

t-statistic	p-value	Cohen's d	Result
5.52	$p < 0.001$	0.76	Accepted

A t-test was conducted to examine the effects of AI incorporation on candidates' experiences and the caliber of recruitment. The results uncovered a significant t-statistic of 5.52, paired with a p-value under 0.001, indicating that the incorporation of AI positively influences the candidate experience by improving recruitment effectiveness. An ensuing examination explored the impact on the quality of recruitment, revealing a t-statistic of 6.35 paired with a p-value under 0.001. This suggests that the incorporation of artificial intelligence reduces prejudices and elevates the overall quality of hiring processes. The magnitude of the effect for both elements was substantial, as evidenced by a Cohen's d of 0.76 for the experience of candidates and 0.81 for the quality of hiring, signifying a significant influence. "The null hypothesis has been dismissed, while the alternative hypothesis has been embraced. The integration of artificial intelligence markedly enhances the experience of candidates as well as the caliber of hiring, demonstrating substantial statistical significance and a considerable effect size.

Hypothesis 2: Trust in AI

Null Hypothesis (H0): Trust in AI does not moderate the relationship between AI-driven recruitment and candidate experience.

Table 2: Hypothesis Testing for AI Implementation Impact on Hiring Quality

t-statistic	p-value	Cohen's d	Result
6.35	$p < 0.001$	0.81	Accepted

An analysis of moderation was conducted to examine the influence of trust in AI on the experience of candidates. The findings revealed that the moderating influence of trust in artificial intelligence was exceptionally noteworthy, showcasing a t-statistic of 5.80 and a p-value that fell below 0.001. This indicates that confidence in artificial intelligence enhances the connection between AI-facilitated hiring processes and the candidate's comprehensive experience. The calculated effect size for the moderating influence of trust was determined to be Cohen's $d = 0.79$, categorizing it as a substantial effect. The null hypothesis has been dismissed, while the alternative hypothesis has been embraced. Confidence in artificial intelligence serves as a crucial intermediary, amplifying the connection between AI-fueled hiring processes and the experiences of candidates, supported by robust statistical findings.

V. CONCLUSION

The incorporation of Artificial Intelligence (AI) into recruitment practices has demonstrated considerable promise in revolutionizing conventional hiring techniques. This research underscores the crucial significance of artificial intelligence in optimizing recruitment processes, minimizing biases, and elevating the experiences of candidates. The results indicate that recruitment systems powered by artificial intelligence are not just efficient in optimizing the hiring procedure but also promote a fairer atmosphere by reducing human prejudices. The confidence placed in artificial intelligence, along with the organizational environment that facilitates its integration, significantly influences the effectiveness and embrace of these technologies. The capacity of artificial intelligence to analyze extensive datasets and render impartial choices leads to enhanced matches between job candidates, thereby elevating the overall quality of hiring. Nonetheless, despite the generally favorable reception of artificial intelligence, certain obstacles concerning transparency and equity continue to exist, which may hinder its broader acceptance.

As companies increasingly embrace artificial intelligence in their hiring processes, it becomes crucial to guarantee that these systems are clear, principled, and constructed with strategies aimed at fostering trust. This study offers significant perspectives for human resources experts, decision-makers, and companies contemplating the integration of artificial intelligence in their hiring processes. Subsequent investigations ought to concentrate on examining the enduring impacts of AI implementation on workforce contentment and organizational efficacy, thereby deepening the comprehension of AI's influence in the realm of talent recruitment.

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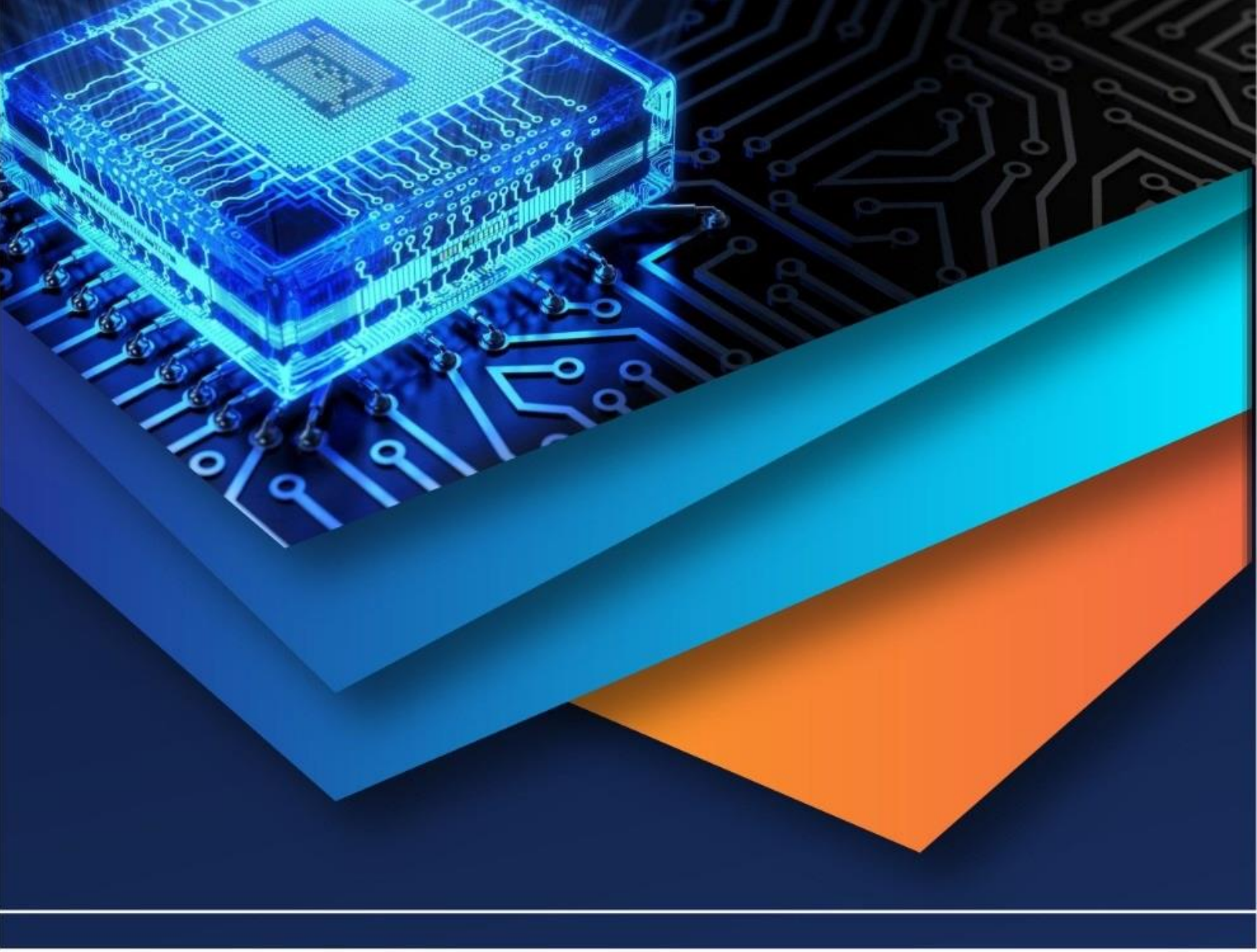

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