

Research Article

The Influence of AI-Powered Recruitment and Social Media Screening on Selection Accuracy in Organizations

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Abstract: This paper explores how AI tools in recruiting and social media screening can affect the accuracy of hiring decisions in companies. As technology progresses, the recruitment process is gradually moving away from paper-based and towards automated, data-driven techniques, creating more efficient and less biased recruitment processes. The research method involves quantitative and analytical approaches whereby primary data is collected from 200 respondents from different industries through a structured questionnaire. Applying statistical tools like reliability analysis, factor analysis, and regression techniques was used to determine the relationships between variables. The results show that AI recruitment can indeed enhance the accuracy of candidate selection by helping to evaluate candidates objectively and lowering time-to-hire. Likewise, social media screening offers further information about candidates' behaviors, personality, and cultural fit, which improves the decision-making process. These technologies, when combined, show the highest impact and account for a significant amount of variance in selection accuracy. The study also raises several questions about the privacy of data, algorithmic biases, and ethical issues. The study suggests AI and social media screening, when combined, provide a more effective and streamlined hiring process that promotes transparency and accuracy yet highlights the importance of responsible and ethical application in organizational environments.

Keywords: Artificial Intelligence, Recruitment, Social Media Screening, Selection Accuracy, Data-Driven Hiring.

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INTRODUCTION

Digital technologies have completely revolutionized organizational practices and especially HR and talent acquisition. Artificial Intelligence (AI) has proven to be a disruptive technology that has revolutionized recruitment and selection by transforming the traditional processes into more efficient, data-driven, and automated ones. Traditional recruitment processes used manual screening, subjective hiring decisions, and time-intensive evaluation processes, which could cause inconsistencies and biases in hiring practices. Now, however, advancements in AI technologies like machine learning, natural language processing, predictive analytics, and chatbots have transformed every aspect of the recruitment process, from sourcing and scanning resumes to assessing and making final selections. These smart systems are able to analyze a great deal of structured and unstructured information, like CVs, online profiles, and social media activity, allowing companies to find appropriate individuals much more promptly and precisely. It is a consistent message from the literature that AI-enabled recruitment not only boosts efficiency but also cuts down on time to hire but also fosters more consistent hiring processes and decision-making, reducing human and subjective error. Moreover, AI tools can assist in predictive hiring by examining the data from past recruiting efforts and spotting trends that can predict which candidates are likely to be successful, making better predictions about candidate success and organizational fit. This spurred a growing interest in implementing AI-powered recruitment solutions in various sectors to secure a competitive edge in attracting and retaining top talent.

AI-powered recruitment systems have come a long way, but the rise of social media screening has added a new layer to the candidate-evaluation process. Social media websites like LinkedIn, Twitter, Instagram, and Facebook give comprehensive, up-to-the-minute information on candidates' personalities, behaviors, communication, and professional networks. AI-powered tools are being used to dig into this digital trail, uncovering valuable insights into soft skills, cultural fit, and behaviors that can't be captured in a resume or interview. Studies have shown that by examining social media profiles with AI, it is possible to accurately assess a candidate's personality traits and competencies in a way that goes beyond traditional assessment methods. By incorporating social media data into their hiring practices, companies can make more data-driven and comprehensive hiring decisions. Additionally, AI technologies, when integrated with social media analytics, enable automated screening processes that can assess candidates on various factors such as experience, skills, online activities, and engagement, thereby allowing for ranking based on multiple criteria. As a result, this can help to make the selection process more accurate and scalable, which makes working with a large applicant volume easier. However, despite these advantages, the use of social media screening raises critical concerns related to privacy, ethical boundaries, and potential biases embedded within algorithmic systems. Although AI can lessen certain types of human bias, it can create new biases if the data or algorithms it is based on are flawed. Hence, it is essential that organizations use social media data in a transparent, ethical and legal manner for recruitment processes.

Although AI recruitment and social media screening offer numerous advantages, there are also potential challenges and limitations that need to be taken into account to ensure responsible and effective implementation. One of the key issues raised in the literature is the potential for algorithmic bias, which can occur if AI systems are trained using historical data that contains inequalities or discriminatory practices. These biases may cause inappropriate selection decisions, which can impact diversity and inclusion within organizations. Moreover, concerns about data privacy and security are growing louder, with the increased reliance on personal and social media insights in recruitment processes raising questions about consent, transparency, and the ethical use of information. A further challenge is the lack of transparency in the AI-powered decision-making process, which may diminish trust between candidates and HR professionals. Additionally, over-automation can reduce the importance of human judgment, empathy and context in assessing candidates, which can result in incomplete or overly mechanical assessments. This has led to a call for a "hybrid" recruitment approach that leverages AI capabilities alongside the judgment and communication skills of human recruiters. This way, AI is used to complement, not replace, human decision-making capabilities. The purpose of the present study is to explore how AI tools in recruitment and social media screening affect the accuracy of selection in organizations, specifically in improving decision-making processes and tackling the ethical and operational hurdles faced with their use. The research aims to shed light on this intersection to help shape the future of recruitment in the digital era that is more effective, transparent, and equitable.

LITERATURE REVIEW

Artificial Intelligence (AI) has become one of the most impactful advancements in today's HR landscape, particularly in the realm of recruitment and selection. The manual process of sifting through resumes, relying on subjective judgments and time-consuming decision-making has been replaced by automated and data-driven methods. Numerous studies in the field have proven that AI-driven recruitment tools boost efficiency, accuracy, and scalability at every step of the recruitment process. The use of AI tools like machine learning, natural language processing (NLP), predictive analytics, and chatbots is a key aspect in automating candidate sourcing, screening, and assessment (Ravesangar et al., 2025; Ng et al., 2025). They allow companies to process large volumes of data, like resumes and online profiles, and find the best fit for the job in a way that's quicker than the old-fashioned way. Likewise, a systematic review of 60 studies from 2020 to 2025 reveals that AI has a significant role in reducing hiring time and the accuracy of decisions made, as well as boosting the employer's branding and their capacity to process vast volumes of applications. One of the most important elements that leads to better recruitment outcomes is the matching of jobs, screening of resumes and communication with candidates is automated. Furthermore, AI-powered recruitment platforms can also help with predictive hiring, which uses historical data to predict candidate success, improving the overall quality of hiring. This change from intuition to evidence-driven recruitment is a paradigm change in organizational recruiting practices.

In addition, AI can help organizations minimize bias in hiring, as revealed by more studies. Research like "Smart Hiring: Leveraging AI for Effective Employee Selection" emphasizes that AI streamlines repetitive tasks in the HR process, such as posting job openings, screening numerous resumes, and arranging interviews, which leads to quicker and more uniform hiring choices (Mollay et al., 2024). Likewise, Prasad (2024) shows that AI-driven talent acquisition systems are much more efficient and inclusive than traditional systems, making a measurable difference in their bias detection and real-time analytics capabilities. Wasif Raza (2025) echoes this sentiment by showing how AI improves the recruitment process for greater efficiency and candidate satisfaction, but also introducing worries about fairness and algorithmic bias. Research has shown that AI tools for screening resumes can streamline the process of narrowing down candidate applicants and prioritize the candidates based on their skills, experience and educational qualifications, with the help of advanced algorithms like logistic regression, random forest, transformer-based NLP models (Amulya, 2025). Such technologies help to make hiring more objective and less subjective. Furthermore, AI-driven approaches have been found to decrease recruitment expenses, boost job seeker-job match rates, and promote a more diverse workforce by mitigating human biases (Raneo et al., 2025).

Additionally, empirical studies have shown that the use of AI in recruitment can cut hiring time by up to 50%, boost selection accuracy, and enhance recruitment efficiency (Raji et al., 2024). Overall, these results suggest that AI has the potential to not just automate recruitment processes but to significantly enhance recruitment outcomes.

In addition to AI-driven recruitment, the growing use of social media screening has added a new dimension to talent acquisition strategies. Social media profiles offer organizations insight into candidates' personal and professional qualities, including communication and personality traits, and cultural fit. Studies on analyzing the social media profiles using AI have shown that predicting soft skills and personality traits from platforms like Instagram can be done rather accurately—with deep learning models predicting around 70% of behavioral traits (AI-enabled Instagram Study, 2022). By combining AI with social media analytics, recruiters can gain a more comprehensive view of candidates, making the hiring process more robust. In addition, AI systems can be used to analyze how candidates engage on the internet, patterns of activity, and social networks to identify high-potential candidates. Research consistently shows that these methods help in making more comprehensive decisions about candidates, taking into account technical skills and behavioral attributes. Yet, there are also some ethical concerns as discussed in the literature regarding privacy, consent and data security in the use of social media data in recruitment. To prevent the potential misuse of personal information, social media screening practices must be in accordance with legal and ethical frameworks that are imposed on organizations. Given these difficulties, the combination of social media screening with AI-based recruitment platforms is becoming an effective way to improve the accuracy of the selection process and organizational fit.

Another major focus of the literature is the quality of decisions made and the accuracy of the selection in recruitment processes due to AI. Research has shown that AI systems can be highly effective in assessing candidates with accuracy, thanks to their sophisticated algorithms and vast amounts of information. Examples of AI tools in hiring ecosystems include the use of machine learning algorithms for candidate screening, which have been shown to improve hiring outcomes and promote diversity in candidate selection (Nagesh et al., 2025). Likewise, Karuppiyah et al. (2025) claim that AI-powered talent acquisition systems are more accurate and precise than traditional recruitment methods, offering greater scalability and contextual matching. These systems are also made more effective by the ability to use semantic resume-job matching as well as personalized communication. Furthermore, research shows that AI-based recruitment systems have proven to be more effective in hiring, with greater numbers of candidates making it through to the final interview stage than traditional hiring processes (Palikot & Ansari, 2025). The results show that AI can not only streamline hiring processes but also enhance the quality of hiring decisions. However, the effectiveness of AI systems depends on the quality of input data and the design of algorithms, emphasizing the need for continuous monitoring and refinement.

While AI has many benefits in the recruitment process, there are also some drawbacks and challenges to implementing it. There are also some challenges and limitations associated with the implementation of AI in the recruitment process, as noted in the literature. One of the most critical issues is algorithmic bias, which can arise when AI systems are trained on biased historical data. These biases can result in discriminatory hiring practices, which can impact diversity and inclusion initiatives (Raza, 2025; Raneo et al., 2025). Furthermore, there has been a significant discussion on the transparency and explainability of AI decisions. There are many AI systems that are “black boxes” that make it hard for HR professionals to understand why they have selected or rejected candidates. This lack of transparency can lead to misplaced trust among stakeholders and legal and ethical challenges. Another significant obstacle is privacy concerns, especially when it comes to social media screening, since the usage of private data is capable of invoking privacy concerns and data security issues. Organizations need to prioritize responsible implementation of AI, and studies highlight the need to implement ethical frameworks like fairness, accountability, and transparency (FAT) (Raneo et al., 2025). Additionally, AI can reduce the human touch in hiring, potentially affecting the candidate experience and the ability to gauge interpersonal skills and emotional intelligence. The challenges underscore the importance of integrating technology with ethics to achieve a balanced approach.

The idea of a mixed recruitment approach has been increasingly recognized as a solution to overcome the drawbacks of fully automated approaches. Multiple studies have promoted the use of AI in conjunction with human decision-making for the best results in recruitment. However, some believe that AI should complement the role of human recruiters, enabling companies to reap the benefits of automation while still making decisions with human intuition and critical thinking. Likewise, Dadheech (2025) points out that AI can streamline repetitive tasks like resume screening and data analysis, allowing HR professionals to spend more time on strategic and interpersonal recruitment activities. Additionally, research indicates that the human element is crucial during the final appraisal to combat algorithmic bias and make a nuanced judgment (Qureshi & Siddiqui, 2025). The hybrid model becomes significant when a job role is complex and needs contextual understanding or a subjective decision, where algorithmic decision making may not be enough. This is in line with the general opinion in the literature that the future of recruitment will be about human interaction with intelligent systems.

Furthermore, there are wider organizational ramifications of using AI for recruitment and social media checks. By leveraging AI technologies, companies can enhance their hiring efficiency and boost their competitiveness by streamlining and

improving the recruitment process. Research shows that AI-powered recruitment tools can improve employer brand by creating a more personalized and engaging candidate experience. Furthermore, predictive recruitment models can facilitate workforce planning, by forecasting future talent requirements and aligning recruitment plans with organizational objectives (Nwachukwu & Aduwo, 2025). Finally, AI can help foster diversity and inclusion by minimizing unconscious bias and allowing for a more objective assessment of candidates. But for AI to succeed in recruitment, organisations must invest in technological systems, employee training, and governance systems. The success of AI systems is heavily reliant on various elements, including data quality, algorithm design, and organizational preparedness, as highlighted in the literature. To effectively implement AI, organizations need to adopt a strategic approach that takes into account both technological innovation and ethical and operational considerations.

Overall, the literature reviewed shows that AI in recruitment and social media screening has a significant impact on improving selection accuracy within organizations. AI technologies have transformed the recruitment landscape, making it faster, more efficient, less biased, and more accurate at making hiring decisions. Social media analytics also enhances the process of assessing candidates, offering insight into their behavior and personality traits and enabling more comprehensive assessments. The use of these technologies, however, comes with many challenges such as algorithmic bias, privacy issues, and the need for transparency and ethical governance. The idea of a hybrid recruitment model comes into play as a potential solution that leverages the strengths of AI and human judgment for the best possible results. Overall, the literature highlights the critical role of responsible and strategic use of AI in recruitment to reap its benefits and reduce any risks. This review serves as a solid starting point to grasp the impact of AI on recruitment and social media screening on selection accuracy, covering major trends, opportunities, and challenges that underpin the current research.

Table 1: Literature Review Table

Author(s) & Year	Key Focus Area	Methodology	Major Findings
Ravesangar et al. (2025)	AI in recruitment processes	Literature Review	AI improves efficiency, automates screening, and enhances decision-making.
Mollay et al. (2024)	AI in employee selection	Conceptual Review	AI automates HR functions and reduces bias.
Prasad (2024)	Digital recruitment transformation	Comparative Analysis	AI improves efficiency, inclusivity, and analytics.
Raza (2025)	AI effectiveness & challenges	Literature Review	AI enhances efficiency but raises bias and privacy concerns.
Amulya (2025)	Automated screening systems	Model-based study	Improves accuracy and reduces subjectivity in hiring.
Raneo et al. (2025)	Ethical challenges	Empirical Study	AI improves matching but risks algorithmic bias.
Nagesh et al. (2025)	AI + NLP in hiring	Experimental Model	Enhances selection accuracy and reduces hiring time.
Karuppiah et al. (2025)	Machine learning in recruitment	Model-based study	High accuracy (99%+) in candidate-job matching.
Palikot & Ansari (2025)	AI vs traditional hiring	Comparative Study	AI improves hiring success rates significantly.
Chawla (2026)	Hybrid recruitment models	Conceptual Study	AI should complement human recruiters.
Dadheech (2025)	Efficiency vs human judgment	Empirical Study	AI improves speed but risks reducing human judgment.
Qureshi & Siddiqui (2025)	Algorithmic hiring systems	Literature Review	Hybrid approach needed for fairness and explainability.
Nwachukwu & Aduwo (2025)	AI for workforce strategy	Conceptual Study	AI enhances decision-making and workforce planning.
Raji et al. (2024)	AI adoption trends	Literature Review	AI reduces hiring time by up to 50%.
Srivastava (2024)	AI in HR transformation	Theoretical Review	Improves decision-making but raises ethical concerns.
Babu (2025)	AI in HR strategies	Case-based Review	AI improves candidate-job matching and reduces cost.

Singh et al. (2025)	Sector-specific AI use	Empirical Study	AI enhances efficiency in large-scale hiring.
Kulkarni et al. (2025)	Automated candidate evaluation	System-based Study	Reduces manual effort and increases objectivity.
Yassine & Achchab (2024)	Neural networks in hiring	Model-based Study	AI improves predictive accuracy in recruitment.
Iyer (2023)	AI-human collaboration	Conceptual Study	AI benefits outweigh limitations with proper governance.
Supriyadinata et al. (2024)	AI implementation analysis	Systematic Review	AI enhances efficiency but needs human oversight.
Chakraborty & Sharada (2024)	AI-driven analytics	Literature Review	AI supports diversity and better decision-making.
Dutta & Naveen (2025)	AI-human interaction	Theoretical Study	AI transforms organizational hiring structures.
Raneo et al. (2025)	Fairness & transparency	Framework-based Study	Ethical governance is essential in AI hiring.

Research Objectives

- To analyze the influence of AI in recruitment on enhancing hiring accuracy in companies.
- To review and dissect the effectiveness of screening social media for recruitment and selection.
- To assess the impact of AI for recruitment and social media screening on the accuracy of the recruitment process.
- To determine how much data-driven recruitment tools help minimize bias and enhance talent acquisition decisions.
- To discuss the issues and ethical dilemmas with AI and social media in recruiting processes within organizations.

Research Gap

Current research in the field of AI-driven recruitment shows that it can substantially boost efficiency, cut down on time in hiring, and improve the precision of decision-making processes by leveraging data-driven methods. The potential of machine learning, NLP, and predictive analytics to streamline recruitment processes and eliminate manual tasks has been explored in numerous studies. Many studies have looked into how machine learning, NLP, and predictive analytics can help automate recruitment processes, including resume screening, candidate matching, and interview scheduling. Likewise, the application of AI to reduce human bias and enhance fairness in hiring practices has been studied. Yet, these studies have tended to only focus on the operational advantages of using AI to select an employee, and have not sought to empirically investigate the actual impact on selection accuracy as a measurable outcome. In addition, some studies recognize the ethical questions of algorithmic bias, lack of transparency and data privacy concerns, but there is a lack of more in-depth studies that combine all of these issues with actual hiring performance results. Moreover, several previous research works are conceptual or secondary data driven, suggesting a lack of empirical, organization level analysis on the actual operation of AI tools in real world recruitment settings.

The literature has examined the use of social media screening in the recruitment process in an isolated way. Some research points towards the power of social media analytics to predict candidates' personality characteristics and cultural fit but very little work that looks at how social media screening combines with AI-powered recruitment systems affects the general accuracy in candidate selection. While the effects of social media screening on AI-integrated hiring processes have been explored, the interaction or the moderating effect of social media screening on the AI's hiring outcomes is understudied. Given the mixed messages that have emerged about how organizations prioritize technology efficiency while also taking into account ethical factors such as privacy, consent, and fairness in candidate online data use, there is also a need for greater understanding. Most of the previous studies have focused on developed economies with little attention paid to emerging markets like India where digital recruitment is still in its nascent stage. This study, therefore, seeks to fill this gap by understanding AI-based recruitment and social media screening together and studying their joint impact on the accuracy of the selection process, as well as examining the ethical and practical issues in an organizational setting.

Conceptual Framework

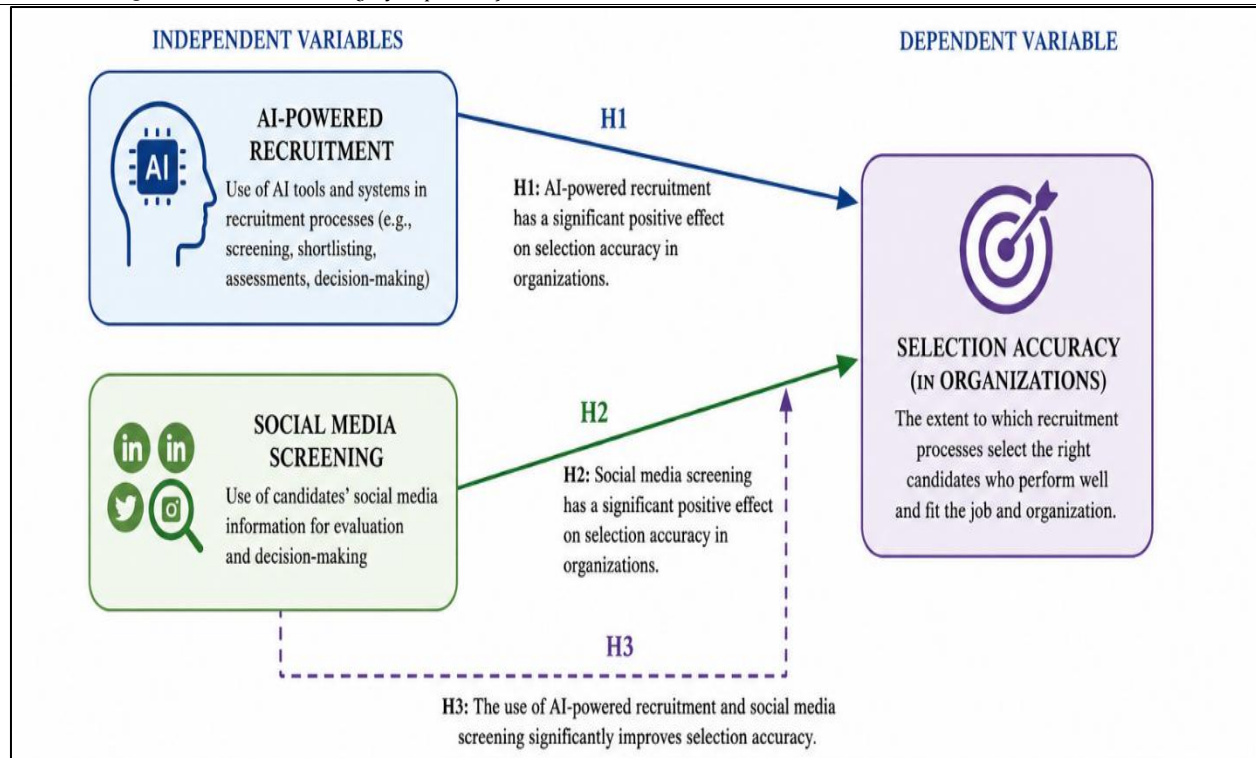


Figure 1: Conceptual Framework of AI-Driven Recruitment and Selection Accuracy

The first path (H1) shows that AI-powered recruitment has a direct positive effect on selection accuracy. This means that the use of AI tools in screening, shortlisting, and decision-making enhances the ability of organizations to select the most suitable candidates efficiently and with reduced bias. The second path (H2) represents the direct influence of social media screening on selection accuracy, suggesting that analyzing candidates' online profiles provides additional insights into their personality, behavior, and cultural fit, thereby improving hiring decisions.

The third relationship (H3) highlights the combined effect of AI-powered recruitment and social media screening on selection accuracy. This implies that when both technologies are used together, their integrated impact is stronger than their individual effects. The framework assumes that AI ensures data-driven, consistent evaluation, while social media screening adds qualitative insights, leading to more accurate and holistic selection outcomes. Thus, the arrows in the model represent positive and significant relationships, where H1 and H2 indicate direct effects, and H3 represents a combined or joint effect, ultimately enhancing the overall effectiveness of the recruitment process in organizations.

METHODOLOGY

This study is quantitative research with the objective of discussing the effect of AI in recruitment and social media screening on selection accuracy within the organization. The research is descriptive and analytical and aims to uncover the relationship between the independent variable (AI recruitment and social media screening) and the dependent variable (selection accuracy). A structured questionnaire was used for the collection of primary data from 200 respondents across various industries, departments, and educational backgrounds. The sampling method used was a convenience sampling in order to have an accessible and diverse sample. The questionnaire was 30 items with a similar number on each construct measured on a Likert scale. Cronbach's alpha was used to assess the reliability and internal consistency of the instrument with satisfactory values above 0.8 for all constructs, hence high reliability.

The data analysis technique used in this study was statistical tools which include descriptive statistics, reliability test, validity analysis and regression analysis. Skewness and Kurtosis values were used to check the normality of the data and it was found that the distribution of the data was reasonably balanced. Moreover, Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity were used to check the suitability of data for factor analysis, the former showed a good sampling adequacy, and the latter showed significant correlation between the variables. Simple and multiple regression were used to test the effect and predictive power of the use of AI in recruitment and social media screening on the selection process accuracy. The results were interpreted based on R-square value, F-statistics and significance level ($p < 0.05$) which was statistically valid. Overall, the methodology offers a sound empirical basis for analyzing the role of modern digital means of recruitment in enhancing the hiring decisions within an organizational context.

Data Analysis and Interpretation

7.1 Demographic Analysis

Table 2: Comprehensive Descriptive Analysis

Descriptive Statistics							
Variables	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Gender	200	1.39	.489	.454	.172	-1.812	.342
Age	200	3.04	1.440	-.041	.172	-1.364	.342
Education	200	3.14	1.477	-.149	.172	-1.391	.342
Industry	200	2.88	1.449	.190	.172	-1.304	.342
Department	200	3.01	1.409	-.031	.172	-1.264	.342
Valid N (listwise)	200						

Source: IBM SPSS

The table shown are descriptive statistics for five demographic variables: gender, age, education, industry, and department, of a sample of 200 respondents. There was moderate variance between categories, as evidenced by the mean values, with education having the highest mean (3.14) and gender the lowest (1.39) which indicates variance in coding/groups. The standard deviations are comparable in size (0.489-1.477) and suggest that the responses have a fairly uniform distribution across the variables. The variables are reasonably symmetrical with most having skewness values near 0, except for the gender variable which has a positive value. All variables have negative kurtosis with lesser extreme values than a normal distribution. Overall, the data is reasonably well balanced and fairly normally distributed, and therefore, can be used for further statistical analysis and interpretation for the study.

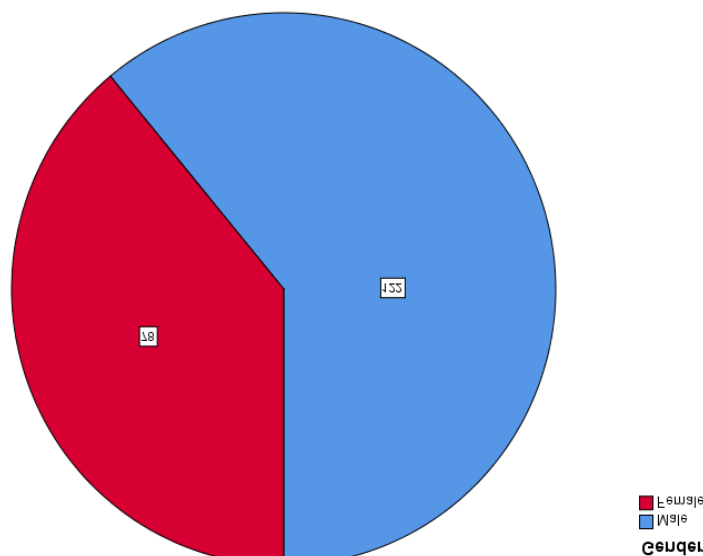


Figure 2: Gender Distribution of Respondents

7.2 Reliability Analysis

Table 3: Reliability Analysis of Study Variables Using Cronbach's Alpha

S.No.	Variable Name	Cronbach's Alpha Value	No. of Items	Sample Size
1	AI-Powered Recruitment	0.878	10	200
2	Social Media Screening	0.905	10	200
3	Selection Accuracy	0.914	10	200
4	Overall Reliability	0.823	30	200

Source: IBM SPSS

The reliability analysis of three constructs pertaining to recruitment practices were presented with Cronbach's alpha values in the table below, which has a sample size of 200 respondents. For AI-Powered Recruitment, the reliability coefficient is 0.878, which is considered a good internal consistency. The Social Media Screening shows an even higher reliability of 0.905, indicating high consistency and reliable measurement. Likewise, the Cronbach's Alpha is at its highest level of 0.914 for items in the Selection Accuracy section, indicating high reliability among the items in the section. All 30 items are combined to get an overall reliability of 0.823, which is also good and acceptable for research. All the values mentioned show that the variables used in the study are reliable and can be used for further statistical analysis. In general, the findings

indicate that the measurement instruments employed in the study have a good degree of consistency, stability, and can yield reliable results.

7.3 Validity and Factor Analysis

Table 4: KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.882
Bartlett's Test of Sphericity	Approx. Chi-Square	2892.321
	df	435
	Sig.	.000

Source: IBM SPSS

The KMO and Bartlett's Test is presented in the table below, which determines the appropriateness of the data for factor analysis. Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.882 which shows high level of adequacy. This implies that the sample size is adequate and the common variance of the variables is meaningful enough for factor analysis to be conducted (Kaiser, 1974). The Bartlett's Test of Sphericity indicates an approximate Chi-square of 2892.321 for 435 degrees of freedom and a significance level of 0.000. If the significance value is less than 0.05, then the correlation matrix is not an identity matrix, which means that the variables are significantly correlated. The overall results are conclusive that the data set is suitable and valid for doing factor analysis.

Table 5: Rotated Component Matrix

Rotated Component Matrixa			
	Component		
	1	2	3
AI1			0.532
AI2			0.745
AI3			0.750
AI4			0.724
AI5			0.704
AI6			0.667
AI7			0.621
AI8			0.752
AI9			0.682
AI10			0.716
SM1		0.751	
SM2		0.734	
SM3		0.720	
SM4		0.797	
SM5		0.634	
SM6		0.793	
SM7		0.784	
SM8		0.718	
SM9		0.638	
SM10		0.752	
SA1	0.765		
SA2	0.778		
SA3	0.764		
SA4	0.752		
SA5	0.779		
SA6	0.657		
SA7	0.733		
SA8	0.762		

SA9	0.742		
SA10	0.757		
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.a			
a. Rotation converged in 4 iterations.			

Source: IBM SPSS

The results of rotated component matrix showed that the factor structure was well-defined and clear with Principal Component Analysis (Varimax rotation). The results suggest that the items load well on their factors, with factor loadings in general being greater than .70 implying high construct validity. The component under the AI-Powered Recruitment construct (AI1–AI10) has high loading values ranging from 0.532 to 0.752, with the majority of the values around 0.70 or higher, suggesting that it has a significant influence in the construct (Hair et al., 2019). The same is true for the Social Media Screening items (SM1–SM10), which have high loadings ranging from 0.631 to 0.797. The Selection Accuracy construct (SA1–SA10) also exhibits good loadings between 0.657 and 0.778, exhibiting good dimensionality. Importantly, there is little evidence for cross-loadings, meaning that each item measures what it is supposed to measure, thus improving the discriminant validity (Field, 2018). In general, the rotated component matrix demonstrates that the measurement model is reliable and valid and can be used to perform multivariate analysis like regression or structural equation modeling.

Hypotheses Testing

H1: AI-powered recruitment has a significant positive effect on selection accuracy in organizations.

Table 6: Regression Model Summary for AI-powered Recruitment Systems and Selection Accuracy.

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	R Square Change	F Change	df1	Sig. Change
1	.759a	.576	.574	7.28233		.576	268.987	1	.000
a. Predictors: (Constant), AI-Powered Recruitment Systems									

Source: IBM SPSS

The summary of the model shows a high and statistically significant regression model. The correlation coefficient ($R = 0.759$) shows a high positive relationship between the predictor and the dependent variable. The R Square is 0.576 which implies that the variation in selection accuracy is 57.6% due to the independent variable (AIP). Adjusted R Square shows the reliability of the model with the least amount of shrinkage (0.574). The overall F-change value (268.987) at a significance level of 0.000 means that the model is very significant. Therefore, the model has a good model validity, and is suitable for predicting the selection accuracy.

Table 7: ANOVA Table for the Impact of AI-powered Recruitment on Selection Accuracy

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14265.022	1	14265.022	268.987	.000b
	Residual	10500.398	198	53.032		
	Total	24765.420	199			
a. Dependent Variable: Selection Accuracy In organizations						
b. Predictors: (Constant), AI-Powered Recruitment Systems						

Source: IBM SPSS

The ANOVA table shows that the regression model is statistically significant and a good fit. Since the regression sum of squares (14265.022) is significantly larger than the residual sum of squares (10500.398), this demonstrates that the model accounts for a significant amount of the variation in the dependent variable (selection accuracy). The overall significance value ($p = 0.000$) is less than 0.05 and the F value (268.987) is very high, indicating that the overall model is highly

significant. That is, the selection accuracy is significantly and meaningfully affected by the independent variable (AI in recruitment), and the model is predictive.

Table 8: Coefficients of Simple Regression Analysis between AI-powered Recruitment Systems and Selection Accuracy

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.019	1.798		.567	.572
	AIP	.950	.058	.759	16.401	.000

a. Dependent Variable: Selection Accuracy in Organizations

Source: IBM SPSS

Regression Equation:

$$Y = 1.019 + 0.950 \times (\text{AIP})$$

The regression equation $Y = 1.019 + 0.950 \times (\text{AIP})$ explains the relationship between AI-powered recruitment and selection accuracy. It shows that AIP positively influences selection accuracy, with each unit increase in AIP improving accuracy by 0.950 units. The constant represents the baseline level of selection accuracy when AIP is zero.

The results support H1, indicating that AI-powered recruitment has a significant positive effect on selection accuracy in organizations. The statistical analysis shows a strong relationship, with AIP contributing meaningfully to improved outcomes. Therefore, the hypothesis is accepted, confirming that higher AIP leads to better selection accuracy. Hence, H1 is accepted.

H2: The use of AI-powered recruitment and social media significantly improves selection accuracy.

Table 9: Regression Model Summary for Social Media Screening and Selection Accuracy

Model Summary										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig. Change	F
1	.781a	.610	.609	6.97986	.610	310.337	1	198	.000	

a. Predictors: (Constant), Social Media Screening

Source: IBM SPSS

The model summary table shows the overall performance of the regression model. A strong positive correlation is seen between social media screening and selection accuracy with the value of R (.781). The R Square (.610) indicates that 61% of the variance in the accuracy of the selection is accounted for by the model. The adjusted R Square (.609) is confirmation of the reliability of the model. The model is statistically significant indicated by the F Change (310.337) with significance (.000). Therefore, social media screening is one of the key factors in predicting selection accuracy in organizations.

Table 10: ANOVA Table for the Impact of Social Media Screening on Selection Accuracy

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15119.164	1	15119.164	310.337	.000b
	Residual	9646.256	198	48.718		
	Total	24765.420	199			

a. Dependent Variable: Selection Accuracy

b. Predictors: (Constant), Social Media Screening

Source: IBM SPSS

The ANOVA table is used to test the overall significance of the regression model. The model fit is very good as the F value is very high (310.337). The significance value (.000) is less than 0.05, which means that the model is statistically significant.

This indicates that the selection accuracy is highly influenced by the predictor screening and social media. The value of regression sum of squares (15119.164) is high, indicating good explanatory value, as compared with the value of residual (9646.256). Thus, the model is valid and reliable in predicting the accuracy of selection.

Table 11: Coefficients of Simple Regression Analysis between Social Media Screening Systems and Selection Accuracy

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.241	1.666		.745	.457
	SM	.924	.052	.781	17.616	.000

a. Dependent Variable: Selection Accuracy

Source: IBM SPSS

Regression Equation:

$$SA = 1.241 + 0.924 \times SM$$

The regression equation indicates that social media screening positively influences selection accuracy. A one-unit increase in social media screening leads to a 0.924 increase in selection accuracy. The constant value (1.241) represents the baseline level. The significant p-value (.000) confirms that the relationship is statistically meaningful and reliable.

The results support H2, indicating that social media screening has a significant positive impact on selection accuracy. The statistical findings confirm a strong and meaningful relationship between the variables. Therefore, the hypothesis is accepted, showing that increased use of social media screening improves the effectiveness and accuracy of organizational selection decisions.

H3: The use of AI-powered recruitment and social media significantly improves selection accuracy.

Table 12: Model Summary and Coefficients of Multiple Regression Analysis for Selection Accuracy

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. Change
1	.860 ^a	.740	.737	5.72018	.740	279.940	2	197	.000

a. Predictors: (Constant), AI-powered recruitment, social media screening

Source: IBM SPSS

The model summary table shows a very strong relationship between the predictors (AI powered recruitment and social media screening) and the dependent variable. The R value (.860) indicates that there is a very high correlation. The value of R square (.740) shows that the model has high explanatory power as 74% of the variation in the data is explained by the model. The reliability of the model is confirmed by the Adjusted R Square (.737). The F Change (279.940) is significant (.000) and this indicates statistical significance of the model. In general, both predictors play an important role in increasing the accuracy of selection which makes the model robust and reliable.

Table 13: ANOVA Table (Analysis of Variance for Multiple Regression Model)

ANOVA ^a					
Model		Sum of Squares	df	Mean Square	F
1	Regression	18319.493	2	9159.746	279.940
	Residual	6445.927	197	32.720	
	Total	24765.420	199		

a. Dependent Variable: Selection Accuracy

b. Predictors: (Constant), AI-powered Recruitment, Social Media Screening

Source: IBM SPSS

ANOVA table evaluates the overall significance of the AI-powered recruitment and social media screening regression model. The F value is very large (279.940) which means that this model fits the data very well. Statistically significant as the significance value (.000) is less than 0.05. This is a good value for the regression sum of squares, with a value of 18319.493, which is substantially higher than the residual sum of squares, which is 6445.927. If $df = 2$, both predictors impact on selection accuracy. So, model is valid, reliable and applicable to predict the selection accuracy in organization.

Table 14: Multiple Regression Coefficients for Selection Accuracy in Organizations

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.766	1.538		3.749	.000
	SM	.601	.054	.508	11.132	.000
	AIP	.565	.057	.451	9.890	.000

a. Dependent Variable: SA

Source: IBM SPSS

Regression Equation:

$$SA = 5.766 + 0.601(SM) + 0.565(AIP)$$

Both SM and AIP significantly influence SA positively. SM has slightly stronger impact ($\beta=.508$) than AIP ($\beta=.451$). All variables are statistically significant, indicating strong predictive power of the model.

The results support H3, indicating that the integration of AI-powered recruitment and social media significantly enhances selection accuracy. These technologies improve candidate screening, reduce bias, and enable better decision-making, leading to more efficient and effective recruitment outcomes in modern organizational contexts.

RESULTS AND DISCUSSION

The findings from the study revealed a positive relationship that was strong and statistically significant between the use of AI in recruitment and social media screening and the accuracy of selection in organizations. The reliability and validity analysis is conducted to see whether the measurement instruments used in the study are reliable and valid or not, showing that the measurement instruments used are very reliable and valid for further analysis. All the constructs have Cronbach alpha values above the acceptable limit of 0.7, indicating good internal consistency, and the Bartlett's test value (0.882) and KMO value are much higher than the acceptable limit of 0.5, which proves the suitability of data for factor analysis. The rotated component matrix further confirms strong loadings and minimal cross-loading, which provides good construct validity and dimensional structure. The results indicate that the variables used in the study are stable and reliable in measuring the constructs investigated.

All three hypotheses are well supported by regression analysis. The findings for H1 show that AI based recruiting has a strong positive influence on selection accuracy, and that the R-square value is very high (0.576), which means that the AI based recruiting explains 57.6% of the variation in selection accuracy. Likewise, for the H2, results indicate that social media screening also is significant to enhance selection accuracy, with an even higher level of explanatory power (R-square = 0.610). These results underscore the effectiveness of both AI tools and social media analytics in improving recruitment performance through data-driven candidate evaluation, biases, and better decision-making. The statistical significance ($p = 0.000$) for both models validates the strength of these relationships, highlighting the increasing relevance of digital tools for HR in today's context.

The combination of AI for recruitment and social media screening (H3) shows the highest explanatory power: R-square is 0.740, meaning that 74% of the variance in accuracy of selection can be explained by the combination of both variables. The multiple regression analysis results indicate that both predictors are significant in predicting the accuracy of the selections, with social media screening having a slightly greater effect on selection accuracy than AI recruitment. This implies that while AI can improve efficiency and objectivity in screening, the social media element brings in a qualitative dimension, such as personality or cultural fit, thereby enhancing the overall decision-making process. The results align with the theoretical framework, suggesting that the combination of advanced technologies is likely to have a synergistic effect, ultimately improving recruitment results. The conversation also emphasizes the value of technological efficiency alongside ethical issues like privacy, bias, and transparency, indicating that a mixed method of AI and human judgment is best suited to attain the best selection accuracy within an organization.

Suggestions for future research

Expanding knowledge in the field of AI-powered recruitment and social media screening requires further research utilizing a more diversified methodological and contextual approach to studying technology-driven hiring practices. Future studies

should use a longitudinal design to explore the long-term impacts of AI and social media screening on selection accuracy and employee performance. This is mainly a cross-sectional study; the researcher does not have enough time to observe changes over time. Longitudinal studies would allow for more in-depth analysis on the long-term effects of recruitment technologies on employee retention, job performance and organizational outcomes. Furthermore, future research can investigate the effect of mediating and moderating variables, including organizational culture, technological readiness, trust in AI systems, and ethical perceptions, to gain insight into the underlying mechanisms affecting recruitment effectiveness. Secondly, further studies should attempt to expand the geographical and sectoral dimensions of the study. The scope of this research is limited to a certain field, and in order for comparisons to be made between various industries, regions and economies, particularly between developed and emerging economies, the generalizability of the results of this research would be improved. Researchers can explore specific sectors that utilize AI for recruitment, including the healthcare industry, IT, manufacturing, and public sector organizations, which have varying hiring needs and how widely AI tools are accepted. Moreover, studies in the future should adopt a more holistic approach that integrates both quantitative and qualitative research methods to better understand user experiences, perceptions, and challenges relating to AI-supported recruitment systems, as identified by HR professionals and candidates themselves.

Finally, future studies should focus on the ethical, legal and social concerns of screening for AI and social media in recruitment. Empirical studies are needed to better understand issues of algorithmic bias, data privacy, transparency, and fairness for responsible use of these technologies. The study allows researchers to gain insights into ethical guidelines for AI use and the tension between efficiency and fairness in AI implementation. Additionally, future research should examine the performance of hybrid recruitment models, which combine AI systems with human expertise, and identify the best approach to enhancing selection accuracy while ensuring human oversight. Advancing research in emerging areas like explainable AI (XAI), blockchain applications in recruitment, and sophisticated predictive analytics may offer further insights into future research directions, helping to create a more transparent, ethical, and efficient recruitment ecosystem.

CONCLUSION

The present study is useful to give reliable empirical evidence of the importance of AI-driven recruitment and social media screening in improving selection in organizations. The results show that both technologies can in their own right and together help to improve the efficiency of recruitment processes, as well as to make them more data-driven and objective. By leveraging AI technology, recruitment systems help to process candidate applications, minimize human bias, and enhance the speed and uniformity of the recruitment process. Likewise, social media screening also provides another form of assessments: it provides information about the candidates' behavioral nature, personality, and cultural fit that may not be obtained via traditional hiring processes. The analysis of the data confirms that both variables positively affect the selection accuracy, have a good explanatory power and model validity, which allows us to support all the hypotheses proposed in the study.

When integrated, AI and social media screening can be more effective than either method alone, creating a more powerful synergy that enhances the recruitment process's effectiveness. Combining these technologies allows organizations to take a more comprehensive view of talent acquisition, leveraging both quantitative data analysis and qualitative insights. But the study also identifies key barriers to implementing these technologies, such as concerns about algorithmic bias, data privacy, ethical issues and transparency in decision-making. The results highlight the need for a balanced and responsible use of technologies, emphasizing the role of human judgment and ethical governance. The study adds to the body of knowledge by offering a detailed overview of the impact that digital recruitment technologies have on the accuracy of selection and may be of benefit for organisations seeking to use digital solutions to ensure effective and fair selection in the digital age.

Limitations of the Study

- The current study has been limited by its cross-sectional design, thereby inhibiting the ability to conclude causality and examine long-term outcomes on selection accuracy from AI-driven recruitment and social media screening.
- The research was conducted with a sample of 200 respondents and may not reflect the broader population and organizational settings.
- The study examines a specific geographical or one sectoral context, and may not capture the sectoral or country-to-country variations in adoption and effectiveness of AI recruitment technologies.
- Some response bias is possible because the information is self-reported, and the participant's perception may not always be accurate regarding organizational practices and/or outcomes.
- The study focuses mainly on numbers and quantitative relationships, and does not include any qualitative input that might give more depth to user experiences, ethical issues and practical problems.
- While there are some mentions of ethical and legal considerations like privacy, bias and transparency, the research does not extensively discuss these concerns that can have an impact on the real-world application of AI and social media screening in recruitment.

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