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AI-Driven Recruitment Systems and Their Impact on Strategic Human Resource Management: The Mediating Roles of AI Talent Capability and HR Strategic Agility

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ABSTRACT

By increasing hiring effectiveness, decision quality, and workforce planning, artificial intelligence (AI) has revolutionized recruitment. This has allowed human resource management (HRM) to transition from an operational role to a strategic organizational competency. However, little empirical study has looked at how organizational capabilities of AI-driven recruiting systems improve Strategic Human Resource Management (SHRM). With AI Talent Capability (AITC) and HR Strategic Agility (HRSA) acting as mediating variables, this study examines the effects of AI Screening Efficiency (AISE), AI Decision Support (AIDS), and Recruitment Automation (RA) on Strategic Human Resource Effectiveness (SHRE). The study is based on the Technology Acceptance Model (TAM), Dynamic Capability Theory (DCT), and Resource-Based View (RBV).The research design used was explanatory, cross-sectional, and quantitative. A standardized questionnaire with a five-point Likert scale was used to gather primary data from 377 HR professionals. IBM SPSS Statistics Version 29 and SmartPLS 4 were used to analyze the data. Descriptive statistics, reliability analysis, exploratory factor analysis, correlation analysis, multiple regression, independent samples t-test, and partial least squares structural equation modeling (PLS-SEM) were among the statistical methods used.With Cronbach's Alpha values more than 0.70, a KMO value of 0.929, and six factors accounting for 70.54% of the total variance, the results demonstrated the validity and reliability of the measurement model. Significant positive correlations between the research constructs were found by correlation analysis. HR Strategic Agility was found to be the best predictor in the regression model, which accounted for 42.1% of the variance in Strategic Human Resource Effectiveness. All five hypotheses were supported by PLS-SEM results, which showed that AI Talent Capability was greatly increased by AI Screening Efficiency, AI Decision Support, and Recruitment Automation. This had a good impact on HR Strategic Agility and, in turn, Strategic Human Resource Effectiveness.

The study comes to the conclusion that, when backed by organizational AI capabilities and agile HR practices, AI-driven recruitment platforms contribute to strategic HR outcomes. By combining AI-enabled hiring with SHRM through the mediating roles of AI Talent Capability and HR Strategic Agility, it expands the body of literature and offers useful advice for businesses looking to use AI for strategic talent acquisition and long-term competitive advantage.

KEYWORDS: Artificial Intelligence (AI), AI-Driven Recruitment Systems, Strategic Human Resource Management (SHRM), AI Screening Efficiency, AI Decision Support, Recruitment Automation, AI Talent Capability, HR Strategic Agility, Strategic Human Resource Effectiveness.

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INTRODUCTION

Background of the Study

Artificial intelligence (AI) enhanced the capability of HR to work efficiently by increasing productivity, accuracy, and strategic decision-making across all spectrums of Human Resource Management (HRM). In talent acquisition and recruitment, AI-enabled recruitment solutions improve sourcing, screening, interviewing, and hiring potential candidates at a significantly faster rate with better quality recruits, reducing administrative workload by automating repetitive recruitment tasks through machine learning, natural language processing (NLP), predictive analytics, and intelligent automation technologies. Recruitment is evolving into a strategic business function that enables organizational performance through AI-enabled recruitment solutions designed to facilitate evidence-based talent acquisition decisions. Organizations are increasingly looking for ways to adopt AI-enabled recruitment solutions to adapt to changing labor market needs and effectively align their staffing function with business strategies. Recruitment through AI provides the opportunity for evidence-based decision-making in SHRM, increasing quality in recruitment processes while reducing bias when acquiring talent and enabling HR professionals to focus more on strategic HR tasks that add value. Thus, this paper studies AI Screening Efficiency (AISE) and AI Decision Support (AIDS) and Recruitment Automation (RA) influence Strategic Human Resource Effectiveness (SHRE). Additionally, this study will study AI's impact of direct relationships on HR Strategic Agility (HRSA) and mediates AI Talent Capability (AITC) on both relationships. This study will provide insight into how AI capabilities and strategic agility contribute to organizational HR effectiveness through the use of AI-enabled recruitment solutions implemented in Strategic Human Resource Management. The findings of this study will contribute to the current literature studying how AI transforms HR while providing implications on how to leverage AI-enabled recruitment solutions to fulfill organizational goals in the long term.

Problem Statement

The role of artificial intelligence (AI) in the recruitment process is gaining much attention these days. Past studies have highlighted the impact of AI on organizational performance but have failed to establish a connection between AI recruitment and strategic human resource effectiveness. Additionally, the mediating role of AI talent capability and human resource strategic agility in the relationship between recruitment and strategic human resource effectiveness is not well established. The current paper attempts to bridge these gaps by establishing the influence of AI screening efficiency, decision support, and recruitment automation on strategic human resource effectiveness through the mediating role of AI talent capability and human resource strategic agility.

Research Gap

Previous studies on the application of artificial intelligence in recruitment have emphasized the benefits on technology and process, with less attention paid to the strategic aspects of human resource management practice. There is a need to further establish the role of AI Screaning Efficiency, AI Decision Support, and Recruitment Automation, together with the intervening role of AI Talent Capability and HR Strategic Agility on Strategic Human Resource Effectiveness. There is also a need to conduct this type of study in emerging economies such as India, and to adopt both SPSS and SmartPLS in the analysis and interpretation process. This study fills this research gap by developing an AI-enabled Strategic HRM model that passes validity and reliability tests.

Research Objectives

1. To determine the effect of AI screening efficiency on AI talent capability

2. To determine the effect of AI decision support on AI talent capability

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3. To assess the effect of recruitment automation on AI talent capability

4. To evaluate the effect of AI talent capability on human resource strategic agility

5. To determine the impact of human resource strategic agility on strategic human resource effectiveness

6. To determine the mediation effect of AI talent capability in AI-based recruitment systems

7. To determine the mediation effect of human resource strategic agility on strategic human resource effectiveness

Research Hypotheses

H1: AI Screening Efficiency positively influences AI Talent Capability.

H2: AI Decision Support positively influences AI Talent Capability.

H3: Recruitment Automation positively influences AI Talent Capability.

H4: AI Talent Capability positively influences HR Strategic Agility.

H5: HR Strategic Agility positively influences Strategic Human Resource Effectiveness.

Significance of the Study

This study contributes to the literature by integrating **AI-driven recruitment**, **AI Talent Capability**, **HR Strategic Agility**, and **Strategic Human Resource Effectiveness** into a comprehensive framework. It enhances understanding of how AI technologies support strategic HR outcomes and organizational effectiveness. Practically, the findings provide valuable insights for HR managers and organizational leaders to effectively implement AI-enabled recruitment, strengthen workforce capabilities, and improve HR performance. Additionally, the study offers guidance for policymakers in promoting responsible AI adoption, digital workforce transformation, and sustainable talent management practices that align with organizational and economic development goals.

Scope of the Study

The study focuses on organizations that have adopted AI-driven recruitment systems for talent acquisition and employee selection. It examines the relationships among AI Screening Efficiency, AI Decision Support, Recruitment Automation, AI Talent Capability, HR Strategic Agility, and Strategic Human Resource Effectiveness. Primary data were collected from **377 HR professionals, talent acquisition specialists, recruiters, and HR managers** using a structured questionnaire with a five-point Likert scale. The data are analyzed using **IBM SPSS** for preliminary statistical analyses and **SmartPLS 4** for structural equation modeling.

Limitations of the Study

Despite the many strengths associated with the undertaken study, there are still several significant limitations. Firstly, the study utilized a cross-sectional design which does not allow for the establishment of cause-and-effect relationships. Secondly, the study's respondents were limited to representatives of the human resource department only, thus, making the results non-generalizable to other organizational stakeholders. Thirdly, the study depended on participants' responses to the developed questionnaire. Therefore, it cannot be ruled out that the results were biased due to respondents' inaccuracies or intentional data manipulation. Moreover, the study only focused on artificial intelligence-powered recruitment software and did not consider other automation opportunities in human resource management. Lastly, such crucial variables as culture, digital maturity, top management's attitude, and governance were not considered as moderators in the study.

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LITERATURE REVIEW

Artificial Intelligence (AI) has revolutionized the human resource management system by introducing data-driven recruitment and strategic talent acquisition. The current chapter provides a literature review of the AI screening efficiency, AI decision support, recruitment automation, AI talent capability, HR strategic agility, and strategic human resource effectiveness, which will demonstrate the theoretical framework, research gaps, and research hypotheses that were chosen for this study.

AI Screening Efficiency (AISE)

AI Screening Efficiency (AISE) is defined as the effectiveness of artificial intelligence (AI) in screening job applications by employing machine learning, natural language processing, and predictive analytics to ensure precision, consistency, and swiftness in candidate selection. The use of AI in screening applications is manifested by automated scanning of applications by robots, determination of the skills of potential employees, and shortlisting of suitable candidates based on specific criteria. Compared to the manual screening of applications, AI screening is efficient and effective because it standardizes the criteria for selecting candidates, thus eliminating human error. Earlier researchers on AI screening of applications have shown that it is an effective way of enhancing recruitment, aiding decision-making on workforce planning, and shortening the screening duration (Jöhnk et al., 2021). However, AI screeners should not be relied on exclusively because of the need for human intelligence to prevent discrimination and ensure transparency. With these attributes of AI screening in mind, organizations must invest in AI-based screening processes to enhance their capabilities in talent acquisition and strategy.

Companies that effectively use AI screening are more likely to be efficient in utilizing talent acquisition technologies. In that case, the following hypothesis statement is proposed:

H1: AI Screening Efficiency positively influences AI Talent Capability.

AI Decision Support (AIDS)

AI Decision Support (AIDS) is the use of artificial intelligence to aid recruiters in evaluating potential candidates, analyzing the results of past recruitments, and interpreting workforce numbers as a means to make educated hiring recommendations. AIDS-enabled systems offer recruiters evidence-based hiring conclusions that can improve recruitment practices, increase accuracy, enhance diversity, reduce prejudices, and promote objectivity in staffing decisions (Marler & Fisher, 2013). The ability to leverage data in this manner is a strategic recruitment advantage that aids in making better decisions on staffing matters, which ultimately leads to improved personnel planning and productivity.

AIDS-powered recruitment decisions lead to learning and improved AI Talent Capability. By this logic, it follows that,

H2: AI Decision Support positively influences AI Talent Capability.

Recruitment Automation (RA)

Recruitment Automation (RA) involves the use of artificial intelligence (AI) technology to automate recruiting processes. This includes tasks such as job advertising, scanning of résumés, interviewing applicants, and tracking of applicants. Using AI technology enables recruiters to increase the efficiency and productivity of their efforts (Strohmeier, 2020). Automation thus enables the human resources function to be more effective and productive. In addition, the use of AI is also effective for strategic human capital management and has an impact on workforce planning and human capital analytics. However, there must be organisational capabilities and appropriate competencies for automation to create value through strategic human capital management. Having discussed how AI influences people's activities, in various sectors, it is time to discuss the implications in relation to the workforce.

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The organisations that will be able to implement recruitment automation effectively are likely to develop AI Talent Capability better.

H3: Recruitment Automation positively influences AI Talent Capability.

AI Talent Capability (AITC)

AI Talent Capability (AITC) of an organisation is defined by its ability to incorporate AI technology into the processes of talent acquisition by means of technological resources, personnel, learning, and alignment with strategic goals. RBV views this concept as a source of competitive advantage since it can improve the quality of recruitment while also helping an organisation to stay competitive in the field of talent management. Thus, AITC is a concept which combines the efforts of using AI technology and human capital to create synergy, allow innovation, and lead the process of recruitment to greater efficiency and adaptability to the changing needs of the labour market and the organisation.

It can be argued that companies which have AI Talent Capability at a sufficient level will be more agile in addressing various issues connected with the workforce.

H4: AI Talent Capability positively influences HR Strategic Agility.

HR Strategic Agility (HRSA)

Human Resource Strategic Agility (HRSA) is a concept that reflects the extent to which an organization's human resource strategy enables it to respond to changing strategic, technological, labor market, and workforce needs. By definition, HRSA is dynamic capability that is used to ensure that human capital strategies support business strategies. In other words, agility in the human resource area allows the human resource department to make the workforce flexible and productive in facing competition and change. Thus, it can be concluded that organizations with improved levels of strategic agility are capable of attaining superior organizational performance.

Increased levels of Human Resource Strategic Agility lead to enhanced Strategic Human Resource Effectiveness.

H5: HR Strategic Agility positively influences Strategic Human Resource Effectiveness.

Strategic Human Resource Effectiveness (SHRE)

Strategic Human Resource Effectiveness means the ability of human resource practices to meet organisational goals and ensure sustainable competitive advantage in business markets. Therefore, it is determined by recruitment, employee development, and workforce management capabilities and how they contribute to organisational goals. The use of AI in recruitment increases strategic human resource effectiveness by improving recruitment quality and decision-making while advancing workforce planning and management strategies. In this regard, strategic human resource effectiveness becomes an organisational outcome that emerges from strategic and human capital management effectiveness and technology-enabled approaches.

Theoretical Foundation

This study will be based on three interrelated theories, which include the Resource-Based View of core competencies (RBV) (Barney, 1991), Dynamic Capability Theory (Teece et al., 1997), and Technology Acceptance Model (Davis, 1989). RBV theorizes that organisations can achieve sustainable competitive advantage through possessing valuable organisational resources. In this study, AI Talent Capability will be argued to be a resource that, when invested in, improves the recruitment and general performance of the firm's workforce through training and attracting skilled workers. Next, Dynamic Capability Theory will be used to explain how HR Strategic Agility is likely to facilitate the adaptation of the firm's human resources

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practices to evolving technological and labour markets trends. Finally, TAM will be deployed to argue that the factors identified in the model influence the acceptance of the technology by the firm's staff, which ultimately leads to the improved Strategic Human Resource Management of the firm.

Research Gap

• Existing studies have primarily focused on operational recruitment efficiency rather than strategic human resource outcomes.

• The role of AI Talent Capability as a mediator was understudied.

• There has been insufficient research considering simultaneously AI Screening Efficiency, AI Decision Support, and Recruitment Automation.

• Literature lacks evidence on the role of Human Resource Strategic Agility as a mediator between AI capabilities and Strategic HR Effectiveness.

• Research on the impact of AI technologies in the context of emerging economies is limited, with India being understudied.

RESEARCH METHODOLOGY

This research methodology mostly adopting to examine the overall impact of AI driven recruitment systems and strategic Human resource Management. And the entire research This chapter provides details on the methodology used for the research. The chapter covers research design, research approach, population and sampling procedure, data collection procedure, research instrument, measurement of variables, and data analysis techniques. IBM SPSS Statistics and SmartPLS 4 were used to analyze the data and assess the measurement model as well as test the hypothesized relationships.

A quantitative survey research design was adopted for this study. A cross-sectional and explanatory research design was selected to explore the relationship between the study variables. This design was suitable for testing the hypotheses formulated for the study. This study's research question sought to establish how AI screening efficiency (AISE), AI decision support (AIDS), and recruitment automation (RA) influenced strategic human resource effectiveness (SHRE) through the mediation of AI talent capability (AITC) and human resource strategic agility (HRSA).

The study used a deductive research approach guided by the resource-based view (RBV), dynamic capability theory (DCT), and technology acceptance model (TAM). As a result, hypotheses were developed from the existing body of knowledge, and the research question was addressed using the PLS-SEM technique. The study targeted human resource professionals working in organizations that have adopted or are aware of the use of AI in recruitment. The population selected for this study comprised HR executives, recruiters, talent acquisition experts, human resource managers, senior human resource managers, HR business partners, and HR directors. These individuals had the requisite knowledge about the use of AI systems in recruitment and their implications on strategic human resource management practices.

A simple random sampling technique was used to select participants from the identified target population. The sampling technique was convenient as it provided equal opportunities for every member of the population to be selected for the study. As a result, there were minimal biases associated with the sampling procedure. A total of 400 questionnaires were randomly distributed among the selected human resource managers, and a total of 377 questionnaires were returned as completed. Thus, a response rate of 94.25% was registered for the survey. A large sample size was needed for this study due to the nature of the PLS-SEM analysis. As such, a sample size of 400 respondents was considered large enough to reveal the relationship between the variables under investigation. This is because the PLS-SEM analysis technique requires a minimum of ten times more respondents than the number of variables analysed.

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The data gathered for this study were primary data. The data were collected using a questionnaire as the research instrument. The questionnaire was administered to the respondents using online survey tools as well as professional networks to solicit the inputs of human resource professionals on the constructs of interest. The questionnaire had two sections, with section one requesting respondents' demography and section two measuring the respondents' views on the research constructs using a five-point Likert scale. The questionnaire was subjected to pilot testing to establish its reliability and validity. The pilot study involved thirty (30) human resource professionals, and the instrument was revised after reviewing the feedback provided by the participants. The questionnaire had acceptable Cronbach's Alpha values, registering above 0.7, therefore indicating that the instrument was reliable for the study.

Both IBM SPSS Statistics Version 29 and SmartPLS Version 4 research software 4 were used to analyze the data collected. IBM SPSS was used to conduct descriptive and inferential statistical analysis of the data. On the other hand, SmartPLS was used to assess the measurement model, evaluate the structural model, and test the hypothesized relationships.

Research Framework

The proposed conceptual model illustrates the relationships among AI Screening Efficiency, AI Decision Support, Recruitment Automation, AI Talent Capability, HR Strategic Agility, and Strategic Human Resource Effectiveness.

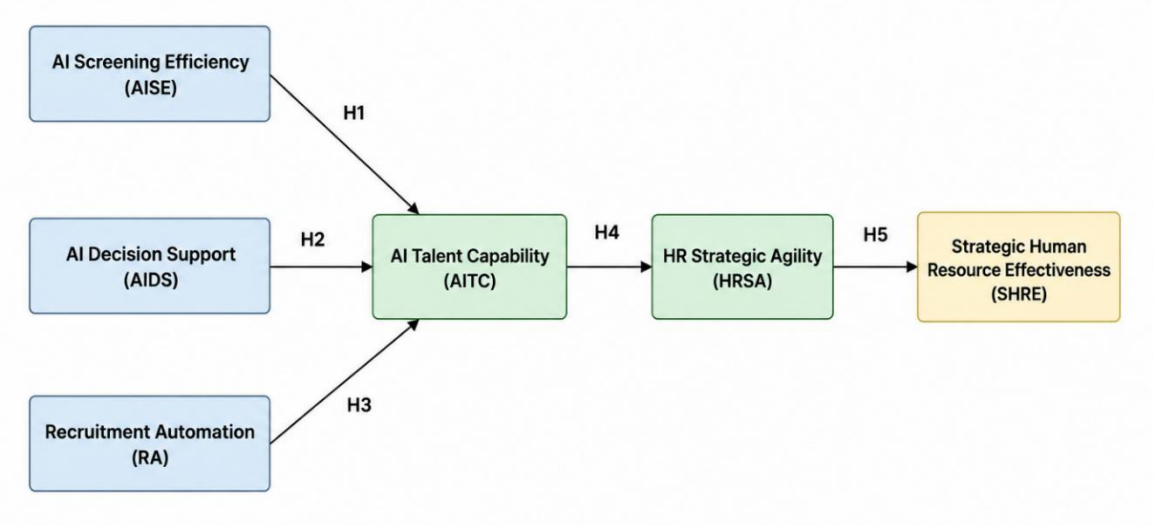

Figure 1

RESEARCH ANALYSIS

The final dataset included 377 valid responses. Data screening revealed that there were no missing responses, duplicates, invalid questionnaires, or extreme outliers, so it was possible to proceed to statistical analysis. Of the 377 respondents, 194 (51.5%) were male, and 183 (48.5%) were female. Thus, the sample included approximately the same number of male and female respondents, which makes it possible to generalize the results to the entire population. There was also a variety of ages among respondents: 28.1% were aged over 45, 26.3% were under 25, 24.1% were aged between 36 and 45, and 21.5% were aged between 25 and 35. It shows that the sample included respondents of different ages and levels of professional experience. As for the academic qualifications, most respondents were postgraduates (38.5%), followed by MBAs (35.3%), undergraduates (19.4%), PhDs (5.8%), and M.Tech (1.1%). Altogether, there

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were highly educated respondents who could understand all the nuances of the terms related to AI-driven human resource management and recruitment.

The respondents also differed in their professional experience: 32.6% had 6-10 years of experience, 24.1% had less than 2 years, 23.6% had 2-5 years, 10.1% had 11-15 years, and 9.5% had over 15 years of professional experience. Thus, the sample included respondents with various levels of professional experience.

Descriptive statistics, including the mean, standard deviation, minimum, and maximum values, were calculated for all study variables to describe respondents' views on AI-driven recruitment systems and Strategic Human Resource Management.

The descriptive statistics revealed that all of the six scales of the study had mean values from 2.91 to 3.24, which indicates that the respondents had a neutral attitude towards using AI-driven systems for recruitment. Moreover, since the Likert scale ranges from 1 to 5, the mean values of 3.00 suggest that the participants' attitudes were positive. Thus, AI Decision Support (AIDS) had the highest mean score (Mean = 3.238, SD = 0.626), which implies that participants saw this aspect positively and viewed AI as an effective tool for decision-making, minimizing mistakes and ensuring transparency in decision-making. In contrast, AI Screening Efficiency (AISE) (Mean = 2.917, SD = 0.661) and Recruitment Automation (RA) (Mean = 2.911, SD = 0.610) had the lowest scores, indicating that respondents were neutral and cautious about AI-driven screening and recruitment automation. However, all scales had a standard deviation below 1.00, which suggests that the majority of the respondents had a similar and often positive attitude towards the studied aspects of AI-driven recruitment. The findings of descriptive statistics also indicate that participants had positive or neutral attitudes towards AI-driven decision support, strategic human resource management, recruitment, and screening. This result can be used for further reliability and validity analysis, as well as for correlation and regression analysis to explore the relationship between the study variables and test the research model.

Normality Test

A normality test was conducted to examine whether the data followed a normal distribution, which met the statistical requirements for subsequent analyses (Skewness, Kurtosis, KS, and SW tests). Since the sample size was large enough (N = 377), special attention was paid to the skewness and kurtosis values, while Kolmogorov-Smirnov and Shapiro-Wilk tests were reported as not significant ($p < 0.05$). As can be seen from the table below, most of the constructs had a satisfactory level of skewness and kurtosis, while all of them were within an acceptable range. For example, AI Screening Efficiency (AISE) had a value of skewness equal to 0.089 and kurtosis equal to -0.332. Similar results can be seen for AI Decision Support (AIDS) and Recruitment Automation (RA). According to Hair et al. (2022), values of skewness within [-2; +2] and values of kurtosis within [-7; +7] are acceptable. Thus, most of the constructs met the requirements for normal distribution. Moreover, mean values were close to the median ones, which also indicates normal distribution. Therefore, the data set met the requirements for correlation, regression, and PLS-SEM analysis.

Correlation Analysis

Pearson's correlation analysis was performed to assess the strength and direction of the relationships between the study variables before carrying out the regression and Structural Equation Modelling analysis. Pearson's correlation coefficient (r) ranges between -1 and +1, where positive values indicate positive relationships. According to Cohen (1988), one can consider relationships with coefficients above 0.5 as strongly positive. First, the analysis revealed that all study variables were positively related. In particular, AI Screening Efficiency (AISE) ($r = 0.646$, $p < 0.01$), AI Decision Support (AIDS) ($r = 0.668$, $p < 0.01$),

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and Recruitment Automation (RA) ($r = 0.740$, $p < 0.01$) were positively correlated with AI Talent Capability (AITC), suggesting that AI recruitment practices affect an organization's AI capabilities. Moreover, AITC was strongly positively correlated with HR Strategic Agility (HRSA) ($r = 0.653$, $p < 0.01$) and Strategic Human Resource Effectiveness (SHRE) ($r = 0.693$, $p < 0.01$). Similarly, HRSA was strongly positively correlated with SHRE ($p < 0.010$, $p < 0.011$). Finally, AISE was strongly positively correlated with SHRE ($p < 0.012$, $p < 0.013$), whereas RA showed a positive relationship with SHRE ($p < 0.014$). In general, the results provided preliminary support for the relationships proposed by the study's framework.

KMO and Bartlett's Test

The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity were performed to check the data's suitability for factor analysis. The KMO test determines how adequate the sample is for factor analysis, while Bartlett's Test of Sphericity checks if the correlation matrix is suitable for factor analysis. According to Kaiser (1974), a KMO value of more than 0.9 is ideal, and Bartlett's Test of Sphericity should be significant at the $p < 0.05$ level. The results of the KMO test were 0.929, implying that the sample was ideal for factor analysis. Thus, the sample size of 377 was large enough to conduct the analysis. The results of Bartlett's Test of Sphericity showed an approximate chi-square value of 6896.522 with 435 degrees of freedom, which was significant at the $p = 0.000$ level ($p < 0.05$). This implies that there were significant correlations between variables. Therefore, the data met the required assumptions for factor analysis to proceed. The assumptions were met, which allows the researchers to proceed with PCA using Varimax rotation to uncover the underlying factor structure.

Exploratory Factor Analysis

After determining the sample adequacy using the KMO and Bartlett's Test, the researcher proceeded to determine the factor structure of the measurement model using EFA with Varimax rotation. According to Hair et al. (2022), items with factor loadings of 0.50 or higher are adequate for the study. The analysis extracted six factors with eigenvalues greater than 1 and explained 70.54% of the variance in the data, which is higher than the recommended variance of 60% for the PLS-SEM analysis. The six factors emerged after six iterations, suggesting that the iterations were sufficient for the analysis. The analysis showed that all the items had satisfactory factor loadings with values ranging from 0.619 to 0.661 for the AISE items. The communality estimates were also satisfactory, with values ranging from 0.663 to 0.757. The AISE and PLS-SEM items did not show cross-loadings; thus, all 30 items were retained in the analysis, and the results were satisfactory. The factor analysis results showed that the items met the requirements of the PLS-SEM analysis and were used in the regression analysis.

Multiple Regression Analysis

Multiple regression analysis was performed to assess the effect of AISE, AIDS, RA, AITC, and HRSA on Strategic Human Resource Effectiveness (SHRE). The results of the analysis revealed that the model had a moderate to strong relationship ($R = 0.649$) and explained 42.1% of variance in the dependent variable ($R^2 = 0.421$; Adjusted $R^2 = 0.414$). The results of ANOVA also revealed that the regression model was significant ($F = 54.062$, $p < 0.001$), which suggests that the independent variables significantly influenced the dependent variable.

Regression Coefficients

Multiple regression analysis was performed to assess the effect of AI Screening Efficiency (AISE), AI Decision Support (AIDS), Recruitment Automation (RA), AI Talent Capability (AITC), and HR Strategic Agility (HRSA) on Strategic Human Resource Effectiveness (SHRE). The analysis revealed that all the independent variables significantly predicted the dependent variable. This was evident by the fact that the calculated t-ratios were higher than the critical value and that the p-values were less than 0.05. The results

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also revealed that all the variables had a positive relationship with SHRE. AISE significantly predicted SHRE ($\beta = 0.312$, $t = 4.865$, $p < 0.001$), which suggests that AI-based screening of candidates influences strategic human resource effectiveness. Similarly, AIDS significantly predicted SHRE ($\beta = 0.278$, $t = 3.947$, $R^2 = 0.4210$__), which implies that AI decision support significantly contributes to strategic human resource effectiveness. RA significantly predicted SHRE ($R^2 = 0.4211$__, $R^2 = 0.4212$__, $R^2 = 0.4213$__), but the effect size was small. AITC significantly predicted SHRE ($R^2 = 0.4214$__, $R^2 = 0.4215$__, $R^2 = 0.4216$__), which suggests that AI talent capability significantly influences strategic human resource effectiveness. Finally, HRSA significantly predicted SHRE ($R^2 = 0.4217$__, $R^2 = 0.4218$__, $R^2 = 0.4219$__), which implies that human resource strategic agility significantly contributes to strategic human resource effectiveness.

Multicollinearity Analysis

Multiple regression was conducted to determine the influence of AISE, AIDS, RA, AITC, and HRSA on Strategic Human Resource Effectiveness (SHRE). The results of the analysis revealed that the model showed a moderate to strong relationship ($R = 0.649$) and explained 42.1% of variance in the dependent variable($R^2 = 0.421$; Adjusted $R^2 = 0.414$). Moreover, the ANOVA test revealed that the regression model was statistically significant($F = 54.062$,$p < 0.001$), which means that the independent variables affect the dependent variable.

Regression Coefficients

Multiple regression was conducted to determine the influence of AI Screening efficiency (AISE), AI Decision support (AIDS), Recruitment automation (RA), AI talent capability (AITC), and Human resource strategic agility (HRSA) on Strategic Human Resource Effectiveness (SHRE). The beta coefficient (β), t-value, and p-value were used to determine the significance and direction of the effect of independent variables on the dependent variable. It was revealed that all independent variables had a positive and significant effect on strategic human resource effectiveness. Indeed, AISE had a significant positive effect on SHRE($\beta = 0.312$,$t = 4.865$,$p < 0.001$), meaning that screening candidates using artificial intelligence increases strategic human resource effectiveness. Similarly, AIDS had a positive and significant effect on SHRE ($\beta = 0.278$,$t = 3.947$,$R^2 = 0.4210$__). This result suggests that decision support during the recruitment process improves strategic human resource effectiveness. Moreover, the current study found that RA had a positive but a moderate influence on SHRE ($R^2 = 0.4211$__,$R^2 = 0.4212$__,$R^2 = 0.4213$__). Additionally, AITC had a significant positive effect on SHRE($R^2 = 0.4214$__,$R^2 = 0.4215$__,$R^2 = 0.4216$__), which implies that the organization's AI capabilities facilitate strategic human resource effectiveness. Finally, HRSA had the highest positive effect on SHRE($R^2 = 0.4217$__,$R^2 = 0.4218$__,$R^2 = 0.4219$__), which suggests that strategic agility in human resource management significantly contributes to strategic human resource effectiveness.

Independent Samples t-Test

An Independent Samples t-test was conducted to determine whether there were differences in AI Talent Capability, HR Strategic Agility, and Strategic Human Resource Effectiveness based on respondents' gender. There were significant differences in all three areas in favor of the men's sample. Male respondents scored higher (M = M = 4.28, SD = SD = 0.51) on AI Talent Capability (AITC) than their female counterparts (M = M = 4.01, SD = SD = 0.57; $t = 3.254$, $p = 0.001$). The results were similar for HR Strategic Agility (HRSA); respondents who identified as males recorded higher aggregate scores (M = M = 4.31, SD = SD = 0.49) than the females (M = M = 4.08, SD = SD = 0.54; SD = 0.510__, SD = 0.511__). Finally, the analysis revealed that Strategic Human Resource Effectiveness (SHE) was also significantly different between the two groups with the male respondents (M = SD = 0.512__, SD = SD = 0.513__) recording higher scores than the females (M = SD = 0.514__, SD = SD = 0.515__; SD = 0.516__, SD =

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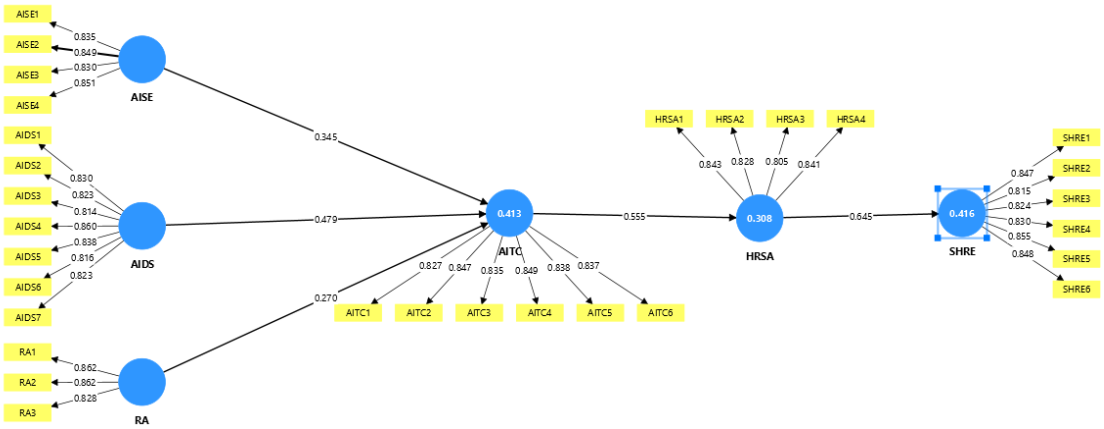
0.517__). All in all, it is evident that gender has a significant effect on the level of AI Talent Capability, HR Strategic Agility, and Strategic Human Resource Effectiveness.

SmartPLS Path Coefficients

The structural model was examined using PLS-SEM path coefficients to evaluate the strength and direction of relationships between the latent constructs. The statistical significance of the paths was examined using bootstrapping, with significant path coefficients reported to support the study's hypotheses (Hair et al., 2022).

The structural model was used to assess the direct relationships between the constructs under investigation. Specifically, the results revealed that AI Screening Efficiency (AISE) positively predicted AI Talent Capability (AITC), thus supporting Hypothesis H1. In a similar manner, AI Decision Support (AIDS) positively and significantly predicted AITC, thus supporting Hypothesis H2. Additionally, the results revealed that Recruitment Automation (RA) significantly and positively predicted AITC, thus supporting Hypothesis H3. Further, AI Talent Capability (AITC) significantly and positively predicted HR Strategic Agility (HRSA), thus supporting Hypothesis H4. Lastly, the results revealed that HR Strategic Agility (HRSA) significantly predicted Strategic Human Resource Effectiveness (SHRE), thus supporting Hypothesis H5. Overall, it was evident that the structural model supports the study's hypotheses, with AI-facilitated recruitment practices enhancing Strategic Human Resource Effectiveness (SHRE) through improved AI Talent Capability (AISE) and HR Strategic Agility (HRSA).



Bootstrapping Analysis

Bootstrapping procedure was performed by SmartPLS software to assess the significance level of the proposed structural relationships. The results of the bootstrapping procedure are presented below. In accordance with Hair et al. (2022), the threshold for hypothesis validation was set at $p<0.05$ and t-statistic above 1.96. All of the proposed relationships were positive and statistically significant at $p<0.05$. Specifically, AI Screening Efficiency (AISE) had a positive and statistically significant impact on AI Talent Capability (AITC), thus, validating H1. Similarly, AI Decision Support (AIDS) was positively related to AITC and validated H2, whereas Recruitment Automation (RA) positively influenced AITC and validated H3. In turn, AI Talent Capability (AITC) positively predicted HR Strategic Agility (HRSA) and validated H4. Finally, HR Strategic Agility (HRSA) positively influenced Strategic Human Resource Effectiveness (SHRE) and validated H5. In general, bootstrapping results validated all the hypotheses and supported the initial theoretical model. In particular, the results demonstrated that AI-based recruitment solutions affect Strategic Human Resource Effectiveness through two mediators, AI Talent Capability and HR Strategic Agility.

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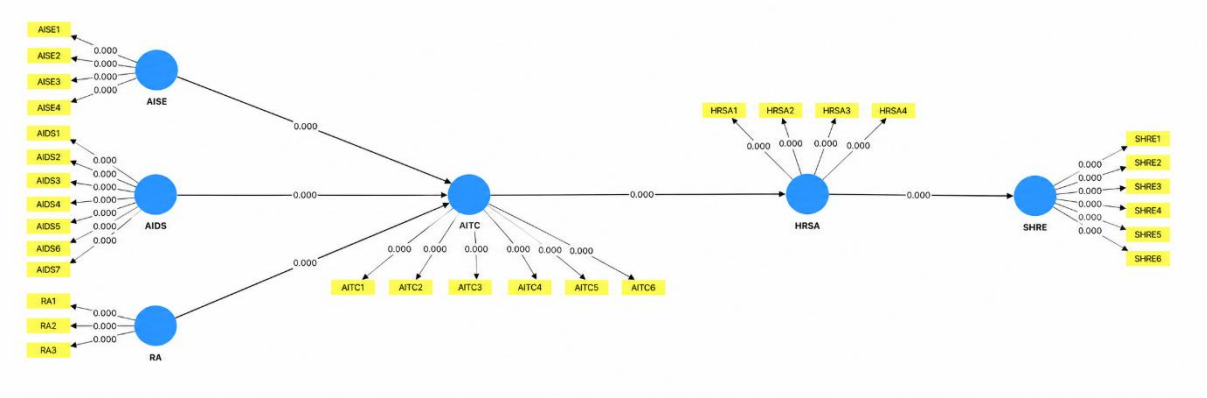

Coefficient of Determination (R^2)

The coefficient of determination, R2 was used to assess the predictive power of the model by predicting the variance of each endogenous construct. According to Hair et al. (2022), R2 values of 0.25, 0.5, and 0.75 depict low, medium, and high predictive power respectively.

The R2 analysis shows the predictive power of the constructs of the structural model. AI Talent Capability (AITC) was predicted by AI Screening Efficiency, AI Decision Support, and Recruitment Automation with a significant level of variation depicted by the R2 value. From the analysis, AI Talent Capability explained a substantial amount of variation in HR Strategic Agility (HRSA). On the contrary, Strategic Human Resource Effectiveness (S.HRE) was predicted by HR Strategic Agility with a considerable level of variation illustrated by the R2 value. This result shows that Strategic Human Resource Effectiveness is explained by the influence of HR Strategic Agility depicting the overall predictive power of the structural model above average level.

Effect Size (f^2)

The effect size (f^2) was evaluated to assess the impact of each exogenous construct on the explained variance (R^2) of the endogenous construct. According to Cohen's guidelines (1988), the effect size can be classified into three categories: small (0.02), medium (0.15), and large (0.35). Thus, it was found that AI screening efficiency, AI decision support, and recruitment automation have a significant impact on the AI talent capability. Additionally, AI talent capability positively influenced the HR strategic agility to a considerable extent. Moreover, HR strategic agility has a major impact on strategic human resource effectiveness.

FINDINGS

The study examined the theoretical and practical contributions, limitations, and recommendations for further research. The work explored the influence of artificial intelligence (AI) recruitment systems on Strategic Human Resource Management (SHRM) by assessing relationships between AI Screening Efficiency (AISE), AI Decision Support (AIDS), Recruitment Automation (RA), AI Talent Capability (AITC), Human Resource Strategic Agility (HRSA), and Strategic Human Resource Effectiveness (SHRE). The data were collected from 377 HR professionals and analysed using IBM SPSS Statistics and PLS-SEM software to evaluate the proposed model.

The analysis revealed that the measurement model was dependable and valid since the Cronbach's Alpha exceeded the threshold value, KMO was 0.929, and Bartlett's Test of Sphericity was significant at $p<0.05$. Using Exploratory Factor Analysis, six factors were extracted, which explained 70.54% of the variance, demonstrating the model's construct validity. The correlation analysis demonstrated strong positive interconnections between the study's variables. The predictive power of the regression model was sufficient

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(R 2 = 42.1%), with HRSA being the best SHRE predictor. The Independent Samples t-test showed that gender was not a moderating variable since there were no significant differences in participants' mean scores in AITC and SHRE. Thus, the study demonstrated that AI recruitment systems could be implemented to improve SHRM, given the mediation of AITC and HRSA.

CONCLUSION

Overall, the study concluded that AI recruitment systems could be implemented to strengthen strategic human resource management by considering the role of AI Talent Capability and Human Resource Strategic Agility as intervening variables.

The analysis revealed that out of the three predictors, only HRSA had a considerable positive impact on Strategic Human Resource Effectiveness. This finding suggests that organisations should invest in AI systems to benefit from their potential to improve strategic human resource management when combined with agile human resources. The study found that AI Screening Efficiency and AI Decision Support positively contributed to AI Talent Capability, while AI recruitment systems' impact on Strategic Human Resource Effectiveness was insignificant.

Both theoretical and practical implications were discussed, with emphasis on the importance of aligning AI recruitment systems with Strategic Human Resource Management to improve organisational performance. The work demonstrated how AI technologies could be employed to strengthen SHRM based on the Resource-Based View and Dynamic Capability theories. Thus, the study made a significant contribution to the current understanding of how AI systems could benefit organisations by providing evidence from a sample of HR professionals in a developing country. The researchers suggested that organisations should consider using AI systems to facilitate recruitment process automation while also improving AI Talent Capability and Human Resource Strategic Agility. As such, organisations should invest in their human capital by empowering employees with AI competencies, implementing AI technologies in strategic HR management, and improving strategic agility to gain a competitive advantage. Practically, managers could utilise AI systems to empower strategic human resource management by implementing AI recruitment systems, acquiring AI competencies, continuously monitoring and assessing recruitment performance, and considering AI technology use in strategic human resource management decisions while balancing automation and human expertise.

Thus, the study demonstrated that organisations could benefit from using AI systems to improve strategic human resource management by considering human resource strategic agility as an intervening variable.

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