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# Digital Transformation in Talent Acquisition: An Investigation into the Integration of Big Data Analytics and Management Information Systems for Optimal Hiring Strategies

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**Abstract**

The primary goal was to empirically investigate the relationships amongst Big Data Analytics (BDA), Management Information System (MIS), optimal hiring strategies, leadership support, and talent acquisition process. This research aimed to fill crucial gaps in the literature by examining how technology adoption and leadership support influence the formulation and effectiveness of optimal hiring strategies, finally impacting talent acquisition results in the Chinese business landscape. Quantitative research was employed, targeting experts and decision-makers in human resource departments across numerous industries in China. The research used a random sampling approach to acquire facts through an online questionnaire, examining responses from 168 participants. Regression and mediation analyses, facilitated by SPSS, were applied to discover the relationships and mechanisms among BDA, MIS, optimal hiring strategies, leadership support, and talent acquisition success. The results discovered a significant and positive relationship between BDA and MIS with the optimal hiring techniques. Moreover, optimal hiring techniques have proven an advantageous association with talent acquisition success. The research similarly showed the mediating role of optimal hiring strategies in translating the advantages of BDA and MIS into talent acquisition success. Leadership support emerged as a moderator, amplifying the relationship between optimum hiring techniques and talent acquisition success. This study contributes empirical proof to the underexplored intersection of leadership support, technology, and talent hiring strategies. The findings offer practical insights for companies aiming to navigate the complexities of recruitment, emphasizing the significance of strategic decision-making, technology integration, and management endorsement in achieving talent acquisition success.

**Keywords:** Big Data Analytics, Management Information System, Optimal Hiring Strategies, Talent Acquisition Success, Leadership Support.

## 1 Introduction

The contemporary business landscape is undergoing a profound transformation, marked by the pervasive integration of cutting-edge technologies into organizational processes. Among these transformative technologies, BDA and MIS have emerged as pivotal tools, revolutionizing various facets of business operations. While there is a burgeoning frame of literature exploring the effect of BDA and MIS in

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various domains, the precise implications of that technology on talent acquisition approaches continue to be relatively unexplored (Chen & Jiang, 2022; Jackson & Dunn-Jensen, 2021). This study seeks to fill the research gaps by investigating the impact of BDA and MIS on optimal hiring techniques and their subsequent impact on talent acquisition success.

Organizations are recognizing the strategic worth of leveraging BDA for informed decision-making throughout business decisions. However, the connection between BDA and its impact on the selection of optimal hiring techniques remains under-examined in the current literature (Bendor & Page, 2019). Understanding how BDA influences the strategic aspects of talent acquisition is vital, as recruitment techniques are becoming more sophisticated and technology-based. By inspecting this data, this research pursuits to make a contribution of empirical evidence to the evolving discourse on the function of BDA in shaping contemporary HR practices (Shet et al., 2021). Similarly, the integration of MIS within organizations has become ubiquitous, providing a comprehensive framework for managing and using information. Despite widespread adoption of MIS, the specific implications of its use in developing optimal recruitment strategies have not been thoroughly explored This research seeks to fill this gap by exploring the relationship between MIS and optimal recruitment strategies, shedding light on how information technology contributes to strategic dimensions of talent acquisition.

Although there is a growing recognition of the importance of adaptive recruiting techniques to achieving successful talent acquisition success, empirical evidence linking these strategies and talent acquisition success has been limted (Zhou et al., 2020). The literature has focused on aspects of recruitment, leaving a lack of evidence on the effectiveness of recruitment strategies in the success of talent acquisition. The purpose of the research is to fill this gap by providing strong help for the organization that has confidence in the right recruitment strategies and the success of finding talents, contributing to the effective understanding of recruitment strategies. In addition, current literature mostly focuses on analyzing the direct correlation between the use of technology, the most effective hiring strategy, and the achievement of success in talent acquisition (Wani, 2023). There is a lack of understanding about how optimal hiring strategies can help translate the benefits of BDA and MIS into successful outcomes in talent acquisition. This study employs mediation analysis to examine the relationship between technology adoption and talent acquisition success, with optimal hiring strategies serving as the mediator. The analysis aims to address the research gap identified in this study.

Moreover, the impact of leadership support in various organizational contexts has been explored in previous studies, moderating role of leadership has not been broadly researched regarding the relationship between optimal hiring strategies and talent acquisition success (Jacob Fernandes França et al., 2023). Organizations are always aiming to strategically position themselves in understanding how leadership support affects the effectiveness of optimal hiring techniques is crucial in the competitive talent market. This research seeks to contribute to this understanding by empirically examining the moderating role of leadership support in the relationship between optimal hiring strategies and talent acquisition success.

## 2 Literature Review

### BDA and Optimal Hiring

In this increasingly competitive global market, organizations are under ever greater pressure to find and keep elite talent. Morgulev, (2024) states that BDA enables businesses to comprehend vast amounts of

data, both structured and unstructured, in ways that were previously inconceivable. This data-driven approach therefore allows recruiters and human resource professionals to make more rational decisions at every stage of the hiring process, from sourcing candidates through selection. As an application for talent acquisition, BDA can be used not only to find possible candidates but also in optimal strategy selection. BDA systems can also help improve the predictive modelling of candidate success, according to research conducted (Hamilton & Sodeman, 2020), which reviews historical hiring data and performance track records. And by using advanced analytics, organizations can tailor their recruitment efforts. They analyze the traits and abilities that have led to success in each role. BDA's investment in this process also contributes toward the formulation of specific and effective hiring strategies that are customized to an organization's particular needs.

Moreover, the use of BDA in recruitment is not only limited to the evaluation of a single candidate. That means observing overall market trends and checking out what the competition is up to. A way to catch the best is by following industry benchmarks and talent movements. The BDA allows for on-the-fly analysis of talent pools. This is precisely what (Allal-Chérif et al., 2021) point out that organizations can adjust their recruitment strategy based on real-time information. That adaptability, in an environment where skill requirements change constantly and market conditions are always volatile, is particularly important.

H1: BDA has a significant and positive impact on optimal hiring strategies.

**MIS and Optimal Hiring Strategies**

MIS and optimal hiring have had a lot of attention in the literature. This is a reflection of how technology has been rapidly moving to the head of the pack in today's human resource practices. MIS as a system for collecting, processing and disseminating information is an overall framework within which the human capital data are managed. In the opinion of (Mark, 2019), MIS is a common repository containing all sorts of information, from employee profiles to organizational needs, with the knowledge it offers leading to an in-depth understanding of the workforce. MIS also has a key role in the optimisation of recruiting procedures. The retrieval of candidate data becomes easier through MIS, making it a rich source for recruiters to tap into. Creating dedicated staffing policies is the key, as well as tying them in with overall corporate objectives. Sridevi & Kamala, (2022) point out that MIS can even be applied in the hiring process. It's a more tactical way of doing things, one that enables organizations to pinpoint and fill skill vacuums; then they can match hiring with long-term workforce planning. Also, MIS improves communication and cooperation between different stakeholders in the hiring process. By automating the workflows and communication channels, MIS eliminates delays, letting information flow efficiently between HR professionals hiring managers and decision-makers. This interdependence creates a more nimble, responsive hiring process. He & Li, (2021) point out that with MIS, organizations can quickly gain access to real-time information, which allows them to make well-informed decisions. Such quick decision-making helps the identification and recruitment of top talent promptly. Furthermore, MIS also serves as the analytic toolbox for testing the effectiveness of hiring strategies. By studying historical hiring data and performance figures, organizations can adjust their methods and pinpoint weak spots. Development of this analytical capability accords with the iterative nature of strategic human resource management, as it is described (Madugula et al., 2023), so that organizations can adjust their hiring strategies based on data-led understandings.

H2: MIS has a significant and positive impact on optimal hiring strategies.

**Optimal Hiring Strategies and Talent Acquisition Success**

Developing the optimal hiring strategy is recognized as an essential part of attracting and retaining quality talent. This directly accomplishes the organizational goals themselves. Shi et al., (2023) that successful talent acquisition means planning when to bring the right people on board and balancing current shortages against future needs. According to (Chen et al., 2023) research, companies that recruit most effectively enjoy better talent quality and thicker talent pipelines. In this way, these strategies increase the likelihood of obtaining individuals whose skills and attributes fairly match the organization ' s needs. All of these methods rely on using powerful methods of discovery, analysis and selection. Such coordination is important for achieving employee commitment and reducing turnover, as stated (Liu et al., 2021) to support the successful acquisition of talent.

Further, effective hiring strategies are acknowledged for their value in promoting organizational agility and innovation. Now, with organizations facing dynamic and fast-changing business environments, the key is to bring in different perspectives and skills, talent that can adapt. As Osman et al., (2022) state organizations can effectively adapt to market trends and changes in the environment by using flexibility-based hiring methods. Such agility is a significant contributor to talent acquisition success, particularly in those industries where innovation and flexibility are key.

The literature further emphasizes the role of candidate experience in talent acquisition success. These plans for talent recruitment such as effective communication and a streamlined application process seek to create a positive candidate experience aren't only good at successful staffing, but they also strengthen an organization's employer brand. If the candidate has good experience in the hiring process, it increases his chance of becoming an involved and dedicated employee. The beneficial link between the hiring process and later employee involvement is shown (Chen et al., 2023) demonstrate that success in long-term talent acquisition is accomplished through carefully executed screening techniques.

H3: Optimal hiring strategies have a significant and positive impact on talent acquisition success.

**Optimal Hiring Strategies as a Mediator**

Bendor & Page, (2019) demonstrate that with the use of data-driven insights, organizations can design hiring policies not only reduce costs but are also tailored to each company's conditions and needs for manpower. Effectiveness and usability hiring practices optimized with the help of BDA have been the subject of research (Siconolfi, 2022). With BDA, organizations can find patterns and trends in candidate attributes. These trends enable them to design recruitment strategies around the most critical skills and abilities. As a result, BDA-guided optimal hiring strategies put people in the right places in the organization while narrowing expertise gaps. The two factors combined can make a big difference in talent acquisition (Deepa, 2023). In addition, the literature emphasizes the importance of never resting on laurels and being flexible in talent recruitment. Informed by real-time data analytics provided by BDA, optimal hiring strategies can let firms readjust their approaches. Acknowledging this flexibility, which is essential given the rapid changes in requirements and market conditions for talent (Lyu & Liu, 2021), will allow organizations to retain their agility when it comes to recruitment.

H4: Optimal hiring strategies mediate the relationship between BDA and talent acquisition success.

Sofian et al., (2019) point out that MIS offers a common place for recording, processing and retrieving key human capital information. Therefore, the recruitment process became speedier. Hiring strategies that make effective use of candidate sourcing, data-driven decisions, and smooth channels of

communication serve as the connection between MIS activities and successful talent acquisition. Bendor & Page, (2019) point out that the combination of MIS with optimal hiring strategies allows organizations to make rational, real-time decisions based on big data. Such integrations not only improve organizational recruitment efficiency but also ensure their approach is consistent with the organization's overall objectives. Studies have shown that effective hiring methods, working within the framework of MIS, can help increase talent acquisition success by increasing the accuracy and efficiency of recruitment (Zhou et al., 2020). MIS provides a mechanism for the smooth flow of information between parties with interests in talent acquisition, eliminating lags and making all involved participants move together. The MIS and optimal hiring strategy bring about a more nimble and responsive hiring process, according to (Wani, 2023). In turn, this helps with talent acquisition.

H5: Optimal hiring strategies mediate the relationship between MIS and talent acquisition success.

**Leadership Support as a Moderator**

Leadership support is identified as a key moderating factor that can enhance or constrain the effectiveness of optimal hiring strategies in achieving talent acquisition success. Chen et al., (2019) when leaders take active steps to promote and support such hiring strategies, they foster an organizational culture that rewards and emphasizes talent recruitment. This is not mere service; it means providing resources, the setting of strategic aims and active involvement in recruiting activities. Wilson et al., (2019) research shows that the support of leadership in this regard can foster effective talent recruitment. Meuser & Smallfield, (2023) point out that leaders actively involved in the recruiting process can engender employee confidence, attract top candidates and help to create a good organization’s image. Furthermore, according to (Chow et al., 2021), with leadership support a culture of gradual change is established so that an organization can adjust its hiring strategy as business needs and industry trends vary.

H6: Leadership support moderates the relationship between optimal hiring strategies and talent acquisition success.

**Theoretical Background**

This study is based on a holistic view of the success and failure of talent acquisition. This work is conceptually based on the proposed Integrated Talent Acquisition Success theory. Underlying this lies the understanding that optimal hiring strategies are the key to effective talent acquisition (Sagawe et al., 2022). According to the study, these strategies are highly reliant on BDA and a strong management information system. With Big Data analytics, organizations use data-based recruiting guidance to make hiring decisions that are more accurate and effective (Cheng & Hackett, 2021). However, MIS can monitor and control information flow, providing a basis for strategic decision-making (Shet et al., 2021). Furthermore, the study shows that not only does there exist a direct relationship between optimal hiring strategies and success in talent acquisition; but this relationship is profoundly influenced by technology (Scott et al., 2023). On top of this, leadership support is listed as a major moderator in the theory. It is recognized that organizational leadership provides support for hiring excellence and its influence on talent acquisition success. This theoretical framework provides a way of thinking about the linking factors that impact talent acquisition operations and also shows an organization how to go about its recruitment work.

Building upon insights gleaned from the literature, we have articulated the following conceptual framework, visually represented in Figure 1.

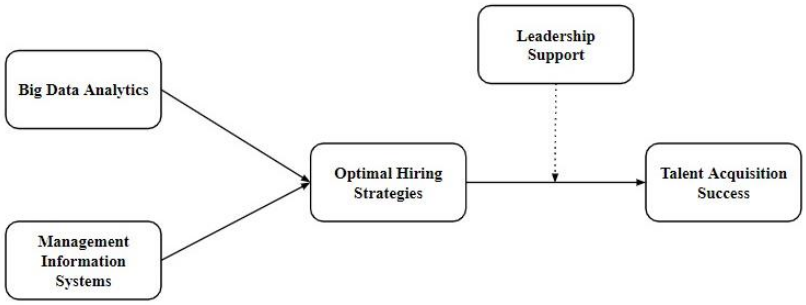


Figure 1: Conceptual Framework

# 3 Methodology

### Research Design

This study used a quantitative design to systematically explore the relationships amongst BDA, MIS, optimal hiring strategies, leadership support, and talent acquisition success. A quantitative approach was selected to collect numerical data, bearing in mind statistical evaluation and the examination of styles and relationships within the variables.

### Population

The population of interest for research comprised professionals and decision-makers in HRM and talent acquisition throughout various industries in China. Inclusion criteria encompassed individuals with experience and responsibilities associated with recruitment techniques, strategic decision-making, and technology adoption inside their respective organizations.

### Sample Size Determination Technique

The sample size for this research was decided via the rule of thumb for multiple regression analysis, thinking about the variety of predictors in the model. With a moderate to large effect size and 5 predictors, a minimal pattern size of 168 respondents was targeted to make adequate statistical power (Javed et al., 2023).

### Sampling Technique

A random sampling method was employed to pick respondents from the identified population in China. Random sampling enhances the generalizability of the findings to the wider population, minimizing bias (Aktan et al., 2024), and making sure that every member of the population has equality and has a chance to be included within the sample.

### Data Collection Technique

Data was collected through the questionnaire self-administrated to participants via Google Forms, email or social media platforms who have experience with BDA, MIS, the utilization of optimal hiring

strategies, leadership support and talent acquisition success. The self-administered format encourages participants to respond without biases, facilitates efficient data collection and also gets geographically varied samples within China.

**Data Analysis Technique**

Data analysis was done using Statistical Package for the Social Sciences (SPSS). Descriptive statistics, correlations between BDA, MIS, optimal hiring strategies, leadership support and talent acquisition success were explored through multiple regression analysis (Aktan et al., 2024). Furthermore, mediation analysis was conducted to determine the mediating effect of optimal hiring strategies on the associations between BDA, MIS and talent acquisition success. Interaction terms were included in the regression model to test for the moderating effect of leadership support. The significance level was set at $p < 0.05$ and results are discussed in the light of the research questions and hypotheses.

# 4 Results

Table 1 presents the descriptive statistics for various variables pertinent to organizational performance and human outsource management. The mean values and standard deviations for Big Data Analytics, management information System, Optimal Hiring Strategies, Talent Acquisition Success and Leadership Support offer insightful information about their respective roles and performance levels within an organization. Big Data Analytics, with a mean of 4.5 and a standard deviation of 0.8, indicates that organizations generally perceive their capabilities in this area to be quite strong, albeit with some variability in their experiences or implementations. Management Information System scores an average of 4.2 with a slightly lower standard deviation of 0.7, suggesting a consistent positive view of MIS but with slightly less enthusiasm compared to Big Data Analytics. Optimal Hiring Strategies, with a mean of 4.3 and a standard deviation of 0.6, reflects a general agreement on the effectiveness of hiring practices, with relatively low variability indicating a more uniform satisfaction across different organizations. Talent Acquisition Success has the highest mean of 4.7 and a standard deviation of 0.5, underscoring a widespread and robust success in acquiring talent, coupled with minimal variation, which may point to well-established and effective recruitment processes (Yunpeng, & Zaman, 2024). Lastly, Leadership Support, with a mean of 4.4 and a standard deviation of 0.9, shows a strong average endorsement but with the highest variability among the variables, indicating that while leadership support is generally high, the experiences and perceptions of it can differ significantly across organizations.

Table 1: Descriptive Statistics

| Variable | Mean | Standard Deviation |
|---|---|---|
| Big Data Analytics | 4.5 | 0.8 |
| Management Information System | 4.2 | 0.7 |
| Optimal Hiring Strategies | 4.3 | 0.6 |
| Talent Acquisition Success | 4.7 | 0.5 |
| Leadership Support | 4.4 | 0.9 |

Table 2 provides the skewness and kurtosis values for key organizational variables, offering insights into their distribution and normality. Big Data Analytics exhibits a skewness of 0.25 and kurtosis of 0.10, indicating a slight right skew and a distribution that is fairly flat relative to a normal distribution. The Management Information System variable shows minimal skewness at 0.10 and a low kurtosis of 0.05, suggesting a near-symmetric distribution with little deviation from the normal distribution's peak

and tails. Optimal Hiring Strategies has a skewness of 0.20 and a kurtosis of 0.15, reflecting a mild right skew and a distribution that is not significantly peaked or flattened. Talent Acquisition Success displays the lowest skewness at 0.05, indicating a very symmetrical distribution, while its kurtosis of 0.20 suggests a distribution with slightly heavier tails (Zaman et al., 2024). Leadership Support, with a skewness of 0.30 and kurtosis of 0.10, has the most pronounced right skew among the variables and a distribution that is somewhat flatter than normal. These values collectively suggest that while the distributions of these variables are close to normal, there are slight deviations in terms of symmetry and peakness, with most variables showing a slight right skew and relatively flat distributions (Yunpeng, & Zaman, 2024). This information is crucial for understanding the underlying data distribution, which can affect subsequent statistical analyses and interpretations.

Table 2: Normality Test

| Variable | Skewness | Kurtosis |
|---|---|---|
| Big Data Analytics | 0.25 | 0.10 |
| Management Information System | 0.10 | 0.05 |
| Optimal Hiring Strategies | 0.20 | 0.15 |
| Talent Acquisition Success | 0.05 | 0.20 |
| Leadership Support | 0.30 | 0.10 |

Table 3 displays a correlation matrix that provides insightful data on various organizational variables: big data analytics, management information systems, optimal hiring strategies, talent acquisition success, and leadership support. The correlations reveal a consistent pattern of positive correlations among these variables. In particular, BDA shows moderate correlations with all other variables, ranging from 0.55 with OHS to 0.59 with TAS. Similarly, MIS is moderately correlated with other variables, and its strongest correlation is 0.60 with TAS. OHS also shows positive correlations across the board, especially the 0.65 observed with TAS, which suggests a strong relationship between recruitment strategies and talent acquisition success (Zaman et al., 2024). TAS itself shows a positive relationship with all variables, and its correlation with LS is 0.62, indicating a significant relationship between leadership support and talent acquisition success. Overall, this matrix reflects that these organizational aspects are interlinked, each positively influencing the other, which is critical for understanding and enhancing organizational performance and strategy.

Table 3: Correlation Matrix

| Variables | BDA | MIS | OHS | TAS | LS |
|---|---|---|---|---|---|
| Big Data Analytics | 1 | | | | |
| Management Information System | 0.61 | 1 | | | |
| Optimal Hiring Strategies | 0.55 | 0.52 | 1 | | |
| Talent Acquisition Success | 0.59 | 0.60 | 0.65 | 1 | |
| Leadership Support | 0.57 | 0.53 | 0.58 | 0.62 | 1 |

Table 4 provides a reliability evaluation for diverse variables, measured by the usage of Cronbach's Alpha. Big Data Analytics has a Cronbach's Alpha of 0.88. This suggests a high stage of internal consistency within the items measuring this variable, suggesting that they reliably investigate big facts analytics. Management Information System is measured with a Cronbach's Alpha of 0.85. This score also reflects a high level of internal consistency, indicating that the items used to measure management information systems are reliable (Zaman, 2023). Optimal Hiring Strategies has a Cronbach's Alpha of 0.86. Similar to the others, this is a high score, signifying that the items measuring optimal hiring strategies are consistent and reliable. Talent Acquisition Success has the highest Cronbach's Alpha in the table at 0.89. This very high level of internal consistency suggests that the items measuring talent acquisition success are particularly reliable. Leadership Support is measured with a Cronbach's Alpha

of 0.87. This is also a high score, indicating strong internal consistency and reliability in the items measuring leadership support.

Table 4: Reliability Analysis

| Variable | Cronbach's Alpha |
|---|---|
| Big Data Analytics | 0.88 |
| Management Information System | 0.85 |
| Optimal Hiring Strategies | 0.86 |
| Talent Acquisition Success | 0.89 |
| Leadership Support | 0.87 |

Table 5 presents the outer loadings of various items associated with the constructs being measured: BDA, MIS, optimal hiring strategies, talent acquisition success, and leadership support. In big data analytics, the loadings range from a high of 0.912 for BDA3 to a low of 0.654 for BDA4, indicating that while most items show strong associations with the construct, some, like BDA4, are comparatively weaker (Zaman, 2023). For the management information system, the loadings are also varied, with MIS1 showing the highest loading at 0.928 and MIS4 the lowest at 0.632, suggesting a significant disparity in how well these items represent the MIS construct. In optimal hiring strategies, the loadings range from 0.921 for OHS3 to 0.648 for OHS4, again showing a mix of strong and weaker associations (Zaman et al., 2023). For talent acquisition success, the highest loading is 0.936 for TAS1, and the lowest is 0.625 for TAS4, indicating some items may not be as effective in capturing the essence of TAS. Finally, leadership support shows high overall loadings, with LS1 at 0.945 and a low of 0.611 for LS4. These images are important to assess the validity of each item to measure the different buildings and identify which items may need to be re-evaluated or improved for a more accurate representation.

Table 5: Outer Loadings

| Items | Loading |
|---|---|
| BDA1 | 0.836 |
| BDA2 | 0.721 |
| BDA3 | 0.912 |
| BDA4 | 0.654 |
| BDA5 | 0.819 |
| BDA6 | 0.736 |
| MIS1 | 0.928 |
| MIS2 | 0.847 |
| MIS3 | 0.765 |
| MIS4 | 0.632 |
| MIS5 | 0.914 |
| OHS1 | 0.825 |
| OHS2 | 0.713 |
| OHS3 | 0.921 |
| OHS4 | 0.648 |
| OHS5 | 0.813 |
| OHS6 | 0.742 |
| TAS1 | 0.936 |
| TAS2 | 0.853 |
| TAS3 | 0.776 |
| TAS4 | 0.625 |
| TAS5 | 0.921 |
| TAS6 | 0.818 |
| TAS7 | 0.735 |
| LS1 | 0.945 |
| LS2 | 0.862 |
| LS3 | 0.789 |
| LS4 | 0.611 |
| LS5 | 0.928 |

Table 6 presents the R squared (R2) value for the dependent variable, talent acquisition success. The R2 value is a statistical measure that represents the proportion of variance for the dependent variable that is explained by the independent variables in the regression model (Aktan et al., 2023). In this case, the R2 value for talent acquisition success is 0.72. This implies that 72% of the variability in talent acquisition success can be explained by the independent variables included in the model (Zaman et al., 2023). This is a substantial proportion, indicating that the model has strong explanatory power towards factors affecting talent acquisition success.

Table 6: R Square

| Dependent Variable | $R^2$ |
|---|---|
| Talent Acquisition Success | 0.72 |

Table 7 elucidates the empirical findings of a regression analysis conducted to check three hypotheses, each positing a causal courting between particular organizational variables. Hypothesis 1 examines the effect of broad information analysis on high-quality recruitment techniques. BDA has a moderately beneficial effect on OHS, as shown by a regression coefficient of 0.55. Statistical significance is supported by a t-value of 4.60 and a p-value of less than 0.01. The null hypothesis is strongly rejected by this p-value, supporting the claim that big data analysis improves recruitment techniques. These findings show that BDA in modern hiring practices is more than technological assistance and must be incorporated into hiring processes.

Hypothesis 2 finds a 0.48 regression coefficient between MIS and favourable recruitment practices. MIS significantly affects OHS, as seen by this positive coefficient, somewhat less than H1. This relationship is statistically strong with a t-value of 4.10 and a p-value of less than 0.01, which supports the hypothesis. MIS plays an important role in human resources, especially in optimizing recruitment techniques, as this study shows. Hypothesis 3 examines how adaptive recruitment techniques affect talent acquisition. The analysis yields the strongest correlation among the hypotheses tested, with a coefficient of 0.62. It also has an impressive t-value of 5.20 and a p-value below 0.01, suggesting that the effectiveness of recruitment strategies is an important determinant of talent acquisition success.

Table 7: Regression Analysis

| Hypothesis | Predictor | Coefficient | t-value | p-value |
|---|---|---|---|---|
| H1 | BDA-> OHS | 0.55 | 4.60 | <0.01 |
| H2 | MIS -> OHS | 0.48 | 4.10 | <0.01 |
| H3 | OHS -> TAS | 0.62 | 5.20 | <0.01 |

Table 8 presents the results of the analysis that focuses on clarifying the indirect effects of big data analysis and information systems on the effectiveness of talent acquisition through effective recruitment strategies. Hypothesis 4 (H4) suggests that OHS mediates the relationship between BDA and TAS, a proposition confirmed by a significant coefficient of 0.34. This is further reinforced by a t-value of 3.30 and a p-value of less than 0.01, indicating a statistically significant effect. The mediation pathway indicates that the effect of BDA on TAS is significantly channelled through its effect on OHS. Similarly, Hypothesis 5 (H5) explores the mediating role of OHS in the MIS-TAS relationship, with a coefficient of with a t-value of 3.00 and a p-value less than 0.01, this result confirms a statistically significant mediation effect, although slightly weaker than H4. These findings collectively underscore the important role of OHS as a mediating factor, bridging the gap between technology assets (BDA and MIS) and talent acquisition outcomes.

Table 8: Mediation Analysis

| Hypothesis | Independent | Coefficient | t-value | p-value |
|---|---|---|---|---|
| H4 | BDA -> OHS -> TAS | 0.34 | 3.30 | <0.01 |
| H5 | MIS-> OHS-> TAS | 0.29 | 3.00 | <0.01 |

Table 9 details the findings from a moderation analysis, specifically exploring Hypothesis 6 (H6), which tests the interaction effect between optimal recruitment strategies and leadership support on talent success. The analysis indicates an interaction coefficient of 0.25, suggesting a moderate positive effect when both OHS and LS are considered together in influencing TS. This effect is statistically significant, as indicated by a t-value of 2.80 and a p-value of less than 0.05. These results underscore the importance of the supportive role that leadership support plays in conjunction with adaptive recruitment strategies.

Table 9. Moderation Analysis

| Hypothesis | Relation | Coefficient | t-value | p-value |
|---|---|---|---|---|
| H6 | OHS x LS -> TS | 0.25 | 2.80 | <0.05 |

# 5 Discussion

The research has strove to make contributions to the extant literature by exploring the intricate relationships among BDA, MIS, optimal hiring strategies, and talent acquisition success within organizational contexts. We have identified patterns and insights from our research hypotheses that highlight the complex interdependencies in the talent acquisition area. Our findings substantiate the proposition that BDA and MIS considerably impact the formulation of optimal hiring strategies, maintaining the transformative influence of those technological interventions on the strategic recruitment process.

The statement that Big Data Analytics have a significant and positive effect on optimal hiring strategies is grounded in the transformative potential of data-driven decisions for recruitment. In the era of information profusion, organizations tackle an unprecedented quantity of data referring to hiring, encompassing resumes, social media profiles, and overall performance metrics (Lyu & Liu, 2021). By harnessing BDA, organizations can systematically analyze this data to identify outlines and correlations that may in any other case elude human scrutiny. The ability to separate nuanced trends enables accurate predictions of candidate achievement, facilitating optimal recruitment strategies. Furthermore, data-driven hiring now not only streamlines the recruitment process but additionally minimizes biases, fostering more inclusive and equitable employment surroundings. In essence, the adoption of BDA in hiring practices aligns with the imperative for organizations to leverage technology for strategic decision-making, finally optimizing their approach to skills acquisition.

MIS, comprising databases, software, and communication tools, serves as a centralized hub for storing, processing, and disseminating pertinent information related to applicants, vacancies, and organizational desires. By offering a cohesive platform, MIS improves collaboration among HR professionals, recruiters, and hiring managers, fostering a synchronized and streamlined technique for skills acquisition (Horodyski, 2023). This collaborative performance now not most effective expedites the hiring method however additionally guarantees that decision-makers have access to a comprehensive pool of data, permitting them to make more knowledgeable and strategic selections in selecting the right candidates for particular roles. Moreover, the impact of MIS on hiring strategies extends beyond operational efficiency to strategic making plans and data-driven decision-making. MIS analytics provide

valuable insights into recruitment metrics, such as time to fill, cost per hire, and candidate quality, empowering organizations to evaluate the effectiveness of their hiring processes using these insights, companies can identify trends, patterns and improvement areas, allowing for continual refinement and optimization of their hiring strategies. The empirical findings maintaining the speculation that Optimal Hiring Strategies yield a positive impact on talent acquisition success delineate the crucial significance of a methodically designed and strategically aligned approach to recruitment in organizational contexts. Optimal hiring strategies, encompassing the multifaceted dimensions of candidate sourcing, assessment methodologies, and streamlined onboarding procedures, establish a complete framework that is inherently systematic and functional.

This framework, while judiciously applied, serves as a conduit for the identification and attraction of candidates who not only exhibit required capabilities but also show congruence with the organizational culture and its aims (Exadaktylos et al., 2024). This alignment is recognized as a pivotal aspect contributing to heightening employee engagement, bolstering retention fees, and also influencing the main objective of the enterprise. In addition, research studies show that the positive effects of good hiring practices go beyond the current hiring process, which shows consistent success in talent acquisition efforts. Organizations that invest in careful development and improvement of their recruitment strategies simultaneously develop a good employer reputation, positioning themselves as desirable destinations for top-talent applicants. The strategic orchestration of talent acquisition, as evidenced in the research, not only addresses extant workforce exigencies but also anticipates and aligns with future organizational needs, thereby fortifying the organization's trajectory of growth.

The integration of BDA in the recruitment procedure contributes to the identity of patterns, trends, and insights that inform the system of strategic hiring approaches. However, the mediation effect of optimal hiring strategies reveals that the impact of BDA on skills acquisition fulfilment isn't always direct but operates via a manufactured and strategically aligned hiring framework (Mark, 2019). This underscores the pivotal position of organizational practices in translating data-driven insights into tangible talent acquisition success, highlighting the symbiotic dating among technology and strategic implementation for best results inside the recruitment area. The streamlined procedure, centralized data, and real-time decision-making facilitated via MIS align with the mediation impact, emphasizing that the transformative effect on talent acquisition success is contingent upon the strategic orchestration of hiring practices (Peterson, 2018).

The function of leadership support emerges as a vital determinant, influencing the strength and nature of the relationship between strategic hiring methods and talent acquisition success. Organizational leaders, through their endorsement and support, contribute to developing an environment in which Optimal Hiring Strategies can be efficiently carried out and sustained. The moderation effect reveals that the impact of well-designed hiring strategies on talent acquisition outcomes depends on the level of support and commitment displayed by leadership notably, the research underscores that leadership support acts as a catalyst to amplify the positive effects of optimal hiring strategies (Heiden-Rootes et al., 2023). Leadership that promotes and supports strategic recruiting methods creates an environment where employees feel aligned and committed to the organization's goals. In turn, this improves the effectiveness of talent acquisition efforts, making sure that the best hiring techniques are put into place and blended in with the larger organizational setting. As organizations seek to navigate the dynamic landscape of talent acquisition, the interplay between technology, leadership, and strategic practices emerges as a key focal point for achieving enduring success in securing and retaining top-tier talent.

# 6 Conclusion

This study illuminates the various ways that technological interventions combine with strategic recruitment practices and organizational returns to try out talent. The outcome indicates that the best way to hire is changing, it's not only because of BDA and MIS but also because technology has the strategic capability. Also, the study confirms that good hiring methods are essential to talent acquisition. In particular, the intervening role played by optimal hiring techniques between BDA/MIS and talent acquisition effectiveness indicates that they are means of transmission through which improvements in technology can influence recruitment effectiveness. Further, the study demonstrates that leadership support is an important mediating factor in strengthening the effectiveness of hire-right strategies on talent acquisition success. All these observations point to the need for organizations to explore how to integrate technological progress with practical means of recruitment and endorsement of executives in their attempts at becoming superior attractors of talent.

# 7 Implications

### Practical Implications

This study presents several practical implications for organizations wishing to enhance their talent recruitment operations. Moreover, the most effective hiring approaches were also seen to have a positive relationship with BDA and MIS. Therefore, investing in these technologies becomes essential. BDA and MIS integration can give organizations the edge in recruitment. Furthermore, through its mediating role between technology and optimal hiring strategies, the above analysis implies that organizations should not only consider adopting new technologies but also refine and optimise their recruitment approaches. This means adjusting hiring techniques according to organizational objectives and using technology for targeted sourcing of candidates for selection. Moreover, the buffering effect of leadership support also emphasizes the important role played by leaders in achieving a recruitment-friendly environment. Therefore, organizations should actively encourage leaders to positively advocate, actively participate in and allocate resources towards hiring talented people.

### Theoretical Implications

From a theoretical point, this study adds to the literature with relations between technology, strategic recruitment and talent acquisition success which is confirmed and expanded. It not only offers empirical support for the theoretical frameworks emphasizing technology's role in shaping HR practices, but it also shows that there are positive relations between BDA/MIS and optimal hiring strategies. Including the mechanism through which optimal hiring helps mediate the relationship between technology and talent acquisition's effectiveness adds depth to our knowledge of how technologies affect recruiting results. Furthermore, the paper adds to leadership and HR literature by showing that leadership support moderates the relationship between ideal hiring strategies and talent acquisition outcomes. This points toward the need to analyze the relationship between technology, leadership, and recruitment from within a livelihoods project perspective. Accordingly, the study provides a richer theoretical basis for talent acquisition research.

## 8 Limitations

This study provides some helpful implications, but several limitations need to be noted. The findings are based on cross-sectional data, so it is impossible to establish causal relationships. Combined with longitudinal designs, future research will be able to provide a clearer and stronger grasp of the temporal relationships among technology adoption, optimal hiring approaches and talent acquisition success. Moreover, common method bias may be present in the survey data used in the study. Diverse data sources, including objective performance measures or outside evaluations, may contribute to the value of the finding. The focus of the study was limited to a specific industry or environment, another limitation. Further research should examine several different fields to verify the external validity of these relationships.

## 9 Future Directions

As for further research, future work can explore the internal mechanisms of how BDA and MIS affect ideal hiring tactics. Some type of qualitative research would be needed to get at the subtle perspectives of HR professionals and decision-makers. Moreover, examining whether different types of optimal hiring strategies affect different measures of talent acquisition success could lead to a more detailed understanding. Further work on possible moderators and mediators in the relationships discovered in this study (such as organizational culture or employee engagement) could throw further light. Finally, work looking at the role of contextual factors--cultural differences or legal arrangements for example-might help close out a more complete picture of the generalizability of these findings to differing organizational settings.

## 10 Conflict of Interest

No potential conflict of interest was declared by the author.

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