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Artificial Intelligence Adoption in Recruitment and Quality of Hire in Startups the Mediating Role of Data-Driven Decision-Making

[1]D. S. Carmel Priyadarshini, [2]Dr. Tamil Selvi J
[1]Research Scholar, Annamalai University
[2]Associate Professor & Research Supervisor, Annamalai University

***Abstract*—Artificial Intelligence (AI) is revolutionizing the recruitment process, enabling organisations to automate their candidate assessment, gain insights from data, and make informed hiring decisions. In this conceptual paper, the authors explore how AI use in the recruitment process relates to startup organizations' quality of hire, suggesting a mediating role for data-driven decision-making. AI adoption is defined in terms of the use of AI for résumé screening, AI chatbots, predictive analytics, and recruitment automation. The paper builds on the current body of research on AI and HRM, and data-driven recruitment, and suggests that the use of AI will improve the quality of hire and data-driven decision making in HRM. It also believes that decision-making based on data enables the systematic and evidence-based evaluation of candidates, which leads to better hiring results from AI-generated data. The proposed framework deals with startups, which is a relatively under-researched context of an organization with critical talent demands, rapid growth, and limited resources. The paper provides a narrow focus for the future of empirical study on AI assisted recruitment.**

***Index Terms*—Artificial Intelligence; AI Adoption; Recruitment; Data-Driven Decision-Making; Quality of Hire; Startups; Talent Acquisition.**

I. INTRODUCTION

Artificial Intelligence (AI) is transforming Human Resource Management (HRM) and is altering the way organizations obtain, handle and utilize information about their workforce. In HRM, one of the most significant fields is recruitment, where there is a massive amount of data about candidates, and a variety of processes can be streamlined and accelerated through AI. AI can help in résumé screening, communication with applicants, applicant matching, predictive evaluation, and automation of the recruitment process. AI is therefore also seen by many as a means to help

organizations identify and select talent, rather than a technology that should simply be used in administration (Hmoud & Várallyai, 2021; Horodyski, 2023).

AI's role in recruitment is even more prominent in startups. Generally, start-ups function in a fluid market where resources are limited, roles change quickly, structures are small and it is important to hire good staff members fast for start-ups. In these circumstances, the selection of staff can have significant impact as it is possible for individual staff members to carry out more than one role and therefore to have a direct impact on the development of the organisation. The consequences of a bad hiring decision can be quite expensive, while hiring the right person for the right role and the right company can boost the startup's ability to expand. One way to tackle these challenges is by using AI-driven recruitment tools, which can help startups systematically extract data from candidates and inform better hiring decisions.

But, quick adoption of AI doesn't always translate to better hiring results. The usefulness of AI is partly dependent on how organizations use information created by the AI to make managerial decisions. This is a reminder of the need for data driven decision making, where recruitment decisions are made based on targeted data, analytic evidence and a structured approach, rather than largely on intuition and unstructured judgement. Data analytics research has shown that analysing workforce data can enhance evidence-based HR decision making by transforming workforce data into actionable insights (Shet et al., 2021). Specifically, studies on the use of AI in recruitment highlight the link between data quality, AI assisted automation and data informed hiring decisions (Purohit & Banerjee, 2025).

The process of decision making could ultimately affect quality of hire, defined as how well-chosen employees have the competencies, performance potential and job-related attributes that the organization needs. While AI can give insights to a candidate, it's only when they're interpreted correctly and integrated into the recruitment process that they add value to the organisation. In this way, data-driven decision making could be one of the key ways that AI helps to improve hiring outcomes.

Existing studies on AI in recruitment have focused on various aspects, such as technological adoption, recruiter attitudes, automation, fairness, and applicant responses, but have tended to analyse these topics individually. Not as much focus has been placed on the positive impact of AI use on the hiring process, especially in startups. To tackle this gap, the current conceptual study focuses on the link between AI use in recruitment and QOH and introduces data driven decision making as the mediator between the two. The study builds upon this trajectory and examines a parsimonious model that not only addresses the potential of AI to improve hiring but also suggests how that value can be achieved via evidence-based decisions in startups.

II. ARTIFICIAL INTELLIGENCE ADOPTION IN RECRUITMENT

Artificial Intelligence (AI) Adoption in Recruitment involves implementing and leveraging AI technologies within the organization to facilitate recruitment-related tasks such as attracting, screening, evaluating, communicating with, and selecting potential candidates. The digitization

of Human Resource Management (HRM) is changing the recruitment process from being mainly manual and intuitive to technology supported processes that can deal with huge amounts of candidate information. AI applications leverage technologies such as machine learning, natural language processing, algorithmic matching, predictive analytics, and generative AI to support recruitment efforts. Therefore, AI's use is not solely about simply buying AI recruitment software but also integrating intelligent technologies into the organizational recruitment processes and decisions (Pan et al., 2022).

There are multiple phases of the recruitment and selection process during which AI can be used. AI tools can be used to sift through resumes, compare candidate profiles to job requirements, communicate with candidates on the initial call, help with evaluations, and organize candidate details for the recruiters to assess. This type of application allows businesses to process the information of applicants at a rate and scale that may be hard to reach in using traditional, manual recruitment processes (Albert, 2021). Therefore, the recruitment process is still a critical field where AI can be incorporated into modern HRM (Benabou & Touhami, 2025). But, it does not mean that the availability of AI technologies ensures their effective organizational adoption. Pan et al. (2022) identified that technological complexity could limit the use of AI in recruitment, while technological competence, and regulatory support could enable it. The results indicate that factors other than technology play a crucial role in successful adoption of AI, including the capabilities of the organization, readiness to implement AI, and the context in which it is applied.

AI is also changing the dynamics between recruiters and technology. AI is not intended to replace human recruiters but is more likely to supplement their decision-making capabilities and influence the way recruitment activities are conducted. Dutta and Adsule (2026) show that AI and generative AI are changing the way recruitment and selection processes are done while also retaining the necessity of human-to-machine interactions. They also highlight the evolving dynamics between people, processes, and artificial intelligence systems within the process of hiring. This is especially true for startups, where teams are smaller, resources are limited, organizational setups are constantly shifting, and talent needs are changing rapidly. While AI can offer scalable support in the processing of candidate information, startups must have the requisite technological and organizational strength to put to use the insights that AI can bring.

This study, therefore, defines the AI adoption in recruitment as the use of AI technologies in the recruitment process, including the use of AI for résumé screening, AI powered interactions with candidates, predictive analysis and recruitment automation. The applications may be used to enrich the information gathered, processed and analysed during the recruitment process, but the ultimate added value of AI insights depends on whether they are used to inform systematic and evidence-based recruitment decisions. This is the conceptual link to the next mediator variable to explore: Data driven decision making.

2.1 Data-Driven Decision-Making in Recruitment

Data driven decision making (DDDM) is defined as the process of using relevant data, analytical evidence and created insights to make decisions in an organisation that are not predominantly

based on intuition, personal experience, or subjective judgement. In Human Resource Management (HRM), the rise of workforce data and analytical technologies has generated a greater call to action to use evidence-based approaches in HRM. For example, people analytics refers to the process of collecting and analysing employee-related information in a systematic and efficient manner to gain insights that can inform organizational decisions and strategies (Knapp et al., 2020).

DDDM used in recruitment is the process of utilizing the information of candidates and analytical evidence to assist screening, shortlisting, assessment, and selection. While the professional judgment of recruiters will still be important, it is possible for the subjective assessment alone to lead to inconsistent evaluations of candidates. A data driven approach can be used in addition to professional expertise to gather systematically collected evidence of candidates' qualifications, competencies, experience and other job relevant aspects.

HR analytics has enhanced organisations' ability to evidence based decision making. HR analytics turns HR data into information to be acted on that can be used in talent acquisition and other HR-related activities. The Fourth Industrial Revolution has made data driven HRM more relevant, says Majam and Jarbandhan 2022, because HR organizations have access to more data pertaining to their employees and powerful analytical tools. As a result, HR is shifting from information management to analytical support in making organizational decisions.

When AI is used in the recruitment process, DDDM becomes more relevant. Comprehensive applicant data can be analyzed with AI technologies like résumé screening, predictive analytics, and applicant matching. But having analytical outputs do not naturally lead to data-driven decisions. Recruiters should understand and apply the information provided by AI, and weigh it against broader background and industry information. Therefore, in addition to technology, proper DDDM must be well prepared by organizations, with the ability to analyze, and utilize human judgment.

DDDM might be particularly valuable for startups, where recruitment may happen at a time when the organization is uncertain, not very specialized in HR, and the talent needs are constantly changing. Systematic use of candidate data can offer a systematic framework for the evaluation of applicants, which can help to mitigate informal or intuition-based hiring practices. But, data availability, analytical skill, and technological infrastructure could impact the use of such evidence by start-ups.

In this study, data driven decision making in recruitment is defined as the degree to which startups routinely apply data and the information derived from AI and analytics to support recruitment and selection decisions. DDM is in the middle of the suggested framework as it is the pathway through which information created by AI is converted into recruitment results and, eventually, quality of hire.

2.1 Quality of Hire

Quality of hire is the degree to which new hires perform as expected and are productive when hired. While metrics like time to hire and cost per hire capture the efficiency of the recruitment

process, quality of hire examines what value the recruitment process is generating. It thus assesses whether an organization has chosen people who can work effectively and contribute to the organizational goals. Quality of hire is considered critical during recruitment because hiring too for efficiency may fail to reflect the gains that may be squeezed out of the successful hires in future. (Dutta et al., 2023).

There are many dimensions to quality of hire and can measure it by factors including satisfaction with the person hired, employee contribution, competency achievement, person job fit, and hiring manager satisfaction after hiring. However, there is no single measure which can be used in all organisational settings. The International Organization for Standardization (ISO, 2018) acknowledges that organizations need to decide on suitable quality of hire metrics based on their context. Such a context approach is especially important in start-up organizations where staff are often expected to do more and deal with evolving circumstances quickly.

Person job fit, and person organization fit are also key things to consider when thinking about quality of hire. Shet and Nair (2023) propose a framework for the quality of hire from a person environment fit viewpoint and show the use of machine learning methods for supporting employee selection based on various person environment fit aspects. Suitability is not just about a candidate's qualifications and experience; it also involves assessing how well the candidate's skills and attributes align with the requirements of the role and the organizational culture.

Another aspect of quality of hire is linking hiring decisions to employee and organizational results. The strategic value of the recruitment is realised when the right candidates are selected who possess the required skills and output when appointed. This focus on outcomes following the hire is noted by Dutta and Vedak (2023) who emphasise the employee's performance and longer-term employment outcomes. Quality of hire can then be used to tell whether recruitment initiatives are creating the desired employee or simply being effective and filling positions.

For startups, it's especially crucial, as hiring the wrong person or people can have a disproportionately negative impact on a smaller team and tighter budget. Therefore, hiring the right employees, a fit person, and a person who is adaptable to the job is of great importance to the success of an organization and its development. Therefore, the definition of quality of hire used in this study is the degree of employees' demonstration of the competencies, job fit and adaptability, and the resulting performance of those who are newly hired by startups that fulfil the organizational expectations. In the proposed model, the quality of hire is the main recruitment result that can be measured by the effectiveness of AI adoption and data-driven business decisions.

2.3 AI Adoption in Recruitment and Data-Driven Decision-Making

As Artificial Intelligence (AI) becomes more common in the recruitment process, it is not only changing the way recruitment activities are conducted, but it is also revolutionizing the way hiring decisions are made. In conventional recruitment, recruiters' experience, professional judgement and interpretation of the information of candidates are frequently relied upon when making a recruitment decision. Although human judgment is crucial, AI integration in the

recruitment process boosts the ability of organizations to gather, process, and analyze vast amounts of applicant data. Machine learning and natural language processing, predictive analytics, and applicant tracking systems are all technologies that can revolutionize the way candidate information is used to inform evidence-based recruitment decisions (Madanchian, 2024).

One of the most important ways that AI helps with data-driven decision making is its ability to convert various candidate data into information that can be easily analyzed and compared. AI tools can be used to analyse candidate-related data such as their resumes, application information, assessment scores, competencies, and more, to uncover patterns that might not be apparent in a manual review. Talent Analytics using AI can thus provide actionable insights from vast amount of HR data and be applied in the evaluation and selection of candidates (Qin et al., 2023). It's a significant step away from gathering data about candidates, and towards systematically using it for hiring decisions.

Purohit and Banerjee (2025) also showcase the link between AI usage and data-informed hiring decisions. They highlight the importance of combining data with AI based automation in recruitment for data driven decision making. AI can structure candidate data, facilitate comparisons, and offer analytical insights to recruiters. In this way, AI's impact goes beyond mere automation of repetitive hiring tasks to bolster the information base that drives hiring decisions.

This connection has been supported by recent evidence. In their systematic review on AI in HR decision making (Amanullah et al., 2026), the authors are clear that modern AI tools are transforming HR decision making by leveraging predictive analytics, personalisation, and data analysis. Within the HR domain, recruitment has been recognized as a critical area where advanced technologies such as machine learning, natural language processing, generative AI, and advanced analytics can play a significant role in aiding advanced decision making. But AI-assisted decision-making with the right amount of human touch, transparency and interpretation, not blindly following AI recommendations, is essential to make good decisions.

For startups, in particular, recruitment decisions are often made when the business is under-resourced, HR department is not fully staffed, the roles keep changing and the future is uncertain. By managing candidate information and offering analytical evidence, AI can offer a more organized and structured informational base for recruitment, which can be valuable for startups. These features allow business leaders to augment their own judgment with AI-driven data and insights and still use their own judgment to put the pieces together. The increased use of AI technologies in recruitment is therefore likely to further drive startups' dependence on data and analysis from candidates when making employment decisions. The technology enablement of AI allows for the creation, processing and use of recruitment data to support data driven decision making.

Given the above theoretical analysis and empirical findings, the following statement is advanced:

H1: Artificial Intelligence adoption in recruitment positively influences data-driven decision-making in startups.

2.4 Data-Driven Decision-Making and Quality of Hire

Data driven decision making (DDDM) can have a great impact on the quality of the recruitment outcome as it can be a systematic and evidence-based base for assessing candidates. Traditional recruitment decisions have been founded on a significant amount of subjective assessment and intuition for applicants, and experience of the recruiters. While professional judgment is still important, intuition on its own could lead to inconsistencies and cognitive bias. The evidence-based approaches aim to improve the quality of decision-making through the use of reliable information and critical professional judgement and not based on personal impressions.

In recruitment, DDDM facilitates the combination of data from resumes, structured evaluations, interviews, competency tests, ATS, and past employment experiences. Routine application of this type of evidence can help to streamline the process of comparing candidates to a set of job specifications, thereby minimizing the need for unstructured impressions. This applies especially to the quality of hire as the goal of selection is to find people who are likely to succeed once they have been hired. Evidence based selection practices, thus, give a better information base for matching candidate capabilities with job and organizational requirements.

When a company has performance and recruiting data from previous years, the connection between DDDM and the quality of their hires is significant. Linking information gathered before hiring with outcomes like the performance of employees, retention, competency development, and managerial assessment after the hire helps organizations determine which hiring factors correlate with successful hires. The process of recruiting can then be a learning experience in the organization, as data from the results of past hiring decisions help shape future candidate evaluations. This feedback allows quality of hire to become an actually measured recruitment outcome, rather than taken for granted.

There is some emerging empirical evidence in support of this relationship. In the study of recruitment in Indian product-based technology companies, Mallick et al. (2025) explored the potential of the use of predictive analytics and data driven decision making to enhance recruitment results such as quality of hire. Their results indicate that the systematic processing of recruitment data can help organizations to shift from a fragmented and subjective recruitment to more analytic decisions about which candidates to select. In a wider context, evidence-based HR practice also involves using sound evidence in a way that enhances the organization's decision-making processes, not just that of HR practitioners.

One of the reasons why DDDM might be useful in startups is that every appointment can have significant organizational implications. Startups often have slim teams, clear-cut duties, changing job demands, and know that they cannot afford an ill-fitted employee. That is, if you're going to be a startup recruiter, you should be able to have a more structured and defensible selection process by systematically analysing candidate competencies, assessment results, job requirements, and available historical information. Important, DDDM is not meant to always rely on quantitative evidence to make hiring decisions. Rather, evidence should be used in conjunction with recruiters' context-based understanding and professional judgment.

Therefore, the present study proposes that startups using systematically data collection and analytical evidence of candidates in the selection process will be able to select candidates with the competencies, characteristics and potential in accordance with the job and organizational requirements. Data driven decision making should, therefore, add to the quality of hire through the enhancement of information basis of candidate evaluation and selection.

Given all the above theoretical arguments and empirical evidence, the following proposition is advanced:

H2: Data-driven decision-making positively influences quality of hire in startups.

2.5 AI Adoption in Recruitment and Quality of Hire

Artificial Intelligence (AI) has significant potential to enhance the quality of candidate evaluation and selection in the recruitment process. Quality of hire is dependent upon the organization's capacity to recruit candidates with the characteristics of knowledge, skills, competencies, and job-related attributes that match the job requirements of a specific job. Artificial intelligence (AI) technologies can aid in this process by sifting through vast amounts of information in applications, uncovering patterns, and methodically comparing the profiles of applicants and job requirements (Campion & Campion, 2024).

A significant way in which AI can improve the quality of hire is by improving person job matching. Machine learning algorithms can review résumés, employment records, skill sets, and job descriptions to determine if a candidate is a good fit for a specific job opening. Gong et al. (2024) show how using AI for person job fit models can leverage candidates' career paths to enhance the match between candidates and jobs. These skills can help the recruiting team find applicants with the qualities that match the skills a candidate needs to succeed in the role.

AI can also enhance candidate evaluation by incorporating various sources of recruitment data. The recruitment systems using neural networks can integrate candidate data with past recruitment information, uncovering complicated connections among the attributes of applicants and the requirements of jobs (Wang et al., 2022). This enables the recruitment systems to go beyond the simple keyword matching toward a more holistic evaluation of the candidate's suitability. Likewise, machine learning techniques can be used to process other criterion-relevant candidate data from resumes and brief written responses, such as psychologically relevant attributes (Grunenberg et al., 2024). These are just a few examples of how AI can streamline the process of evaluating candidates on multiple dimensions.

But, adopting AI does not mean better quality hires. Data quality, model design, transparency, and the suitability of the criteria for candidate evaluation may all affect the recommendations provided by the algorithms. In their article, Chen et al. (2025) emphasize the need for transparency in explaining any disparities between algorithmic and human evaluations of person job fits. Hence, AI-based recommendations should be used in combination with expert judgment, not as a replacement for it. In turn, the impact of AI on quality of hire relies on the proper interpretation and use of analysis information in hiring decisions.

They are especially important for startups, which often have more limited teams, changing job requirements and hybrid roles, that can have a bigger impact on bad hiring decisions. AI powered screening, predictive matching, and structured candidate assessment can offer a more structured foundation for startups to discover candidates that have competencies and traits aligned with jobs and organizational needs. As a result, the use of AI in hiring will likely lead to better quality hires by startup companies.

The following hypothesis is formed based on the prior theoretical arguments, and empirical evidence:

H3: Artificial Intelligence adoption in recruitment positively influences quality of hire in startups.

2.6 Mediating Role of Data-Driven Decision-Making

The use of Artificial Intelligence (AI) in recruitment can have a direct positive impact on recruitment results, the value of AI could be significantly shaped by the way organizations leverage the information produced by AI systems. While AI technologies can gather, process and analyse considerable candidate information, it is not enough to simply have the technology to make better hiring decisions. The significance of AI is in the value it brings to the organisation when it can provide outputs that are turned into evidence for action, and embedded into the recruitment process in an effective and systematic way. Thus, data driven decision making (DDDM) becomes an important explanatory mechanism that connects the use of AI in the recruitment process with the quality of hire.

AI tools for recruitment, such as automated résumé screening, predictive analytics, candidate-matching algorithms, and recruitment automation, give recruiters structured data about candidate capabilities and suitability. Purohit and Banerjee (2025) highlight the critical role of integrating high-quality data and employing AI-driven recruitment automation to enable data-informed hiring decisions. Likewise, a recent systematic evidence review reveals that AI is transforming HR decision making, boosting predictive and analytical capabilities in key HR processes, such as recruitment (Amanullah et al., 2026). Therefore, by adopting AI, recruitment decisions can be increasingly made on the basis of evidence, creating the technological and informational infrastructure.

DDDM, in turn, offers the means by which these technological capabilities can shape quality of hire. In addition to relying on intuition, recruiters can now logically integrate candidate data, assessment scores, compatibility predictions and previous recruitment data into selection decisions in a systematic way. Analytical recruitment frameworks have proven the capabilities of machine learning and optimization algorithms to anticipate recruitment success and to make better hiring and placement decisions (Pessach et al., 2020). Likewise, using machine learning for employee selection proves that analytics can help enhance person environment fit, a key component of quality of hire (Shet & Nair, 2023). These findings highlight the potential of AI beyond simply providing information for analysis, to being systematically integrated into recruitment decisions.

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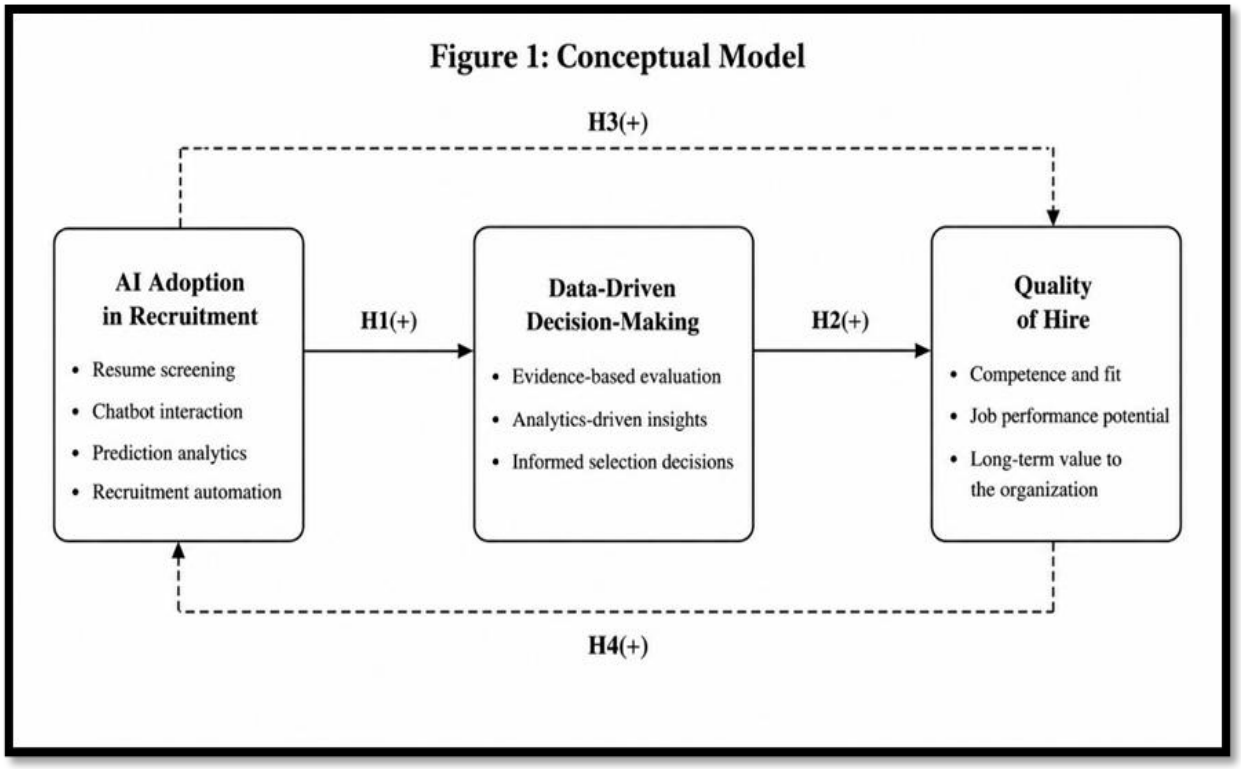
Mediating role of DDDM is more relevant for startups. In turn, the adoption of AI could help startups fill some of the gaps their HR teams encounter in terms of both specialization and resources. Conversely, AI implementation might help overcome some of the HR team's shortcomings within startups, such as limited experience and manpower. But the attributes brought by AI bring recruitment value only if the valuable insights from AI are put to effective use in the evaluation and selection of candidates. The use of AI can therefore enhance the evidence and systematic use of recruitment evidence, and this, in turn, can facilitate an informed process in identifying individuals with the right skills, traits and capabilities for the job and organisation.

The proposed mediation treatment is thus a sequential process. The integration of AI fortifies organizations' abilities to create and manage candidate data. This improved analytical ability promotes the use of data and evidence in hiring. The systematic use of these pieces of evidence can then benefit the evaluation and selection of candidates, leading to better quality hire. DDM thus offers one pathway in which the uptake of technology can be linked to actual recruitment results.

With this sequential logic, the present study theorizes that the impact of AI on the quality of hire can be direct, as well as indirect through data-driven hiring decisions. Based on this, the following hypothesis is put forward:

H4: Data-driven decision-making mediates the relationship between Artificial Intelligence adoption in recruitment and quality of hire in startups.

The Conceptual Model:



III. RESEARCH GAP

The use of Artificial Intelligence (AI) in Human Resource Management (HRM) has sparked significant interest in the field and specifically focused on the use of AI in recruitment and selection. Previous research has examined how AI can be leveraged throughout the talent acquisition process, from candidate sourcing to screening resumes, assessing candidates, matching, and selecting (Albert, 2019). The organizational and contextual factors affecting organizational adoption of AI in employee recruitment have also been studied, revealing that organizational competence with the technology, perceived complexity of the technology, and environment can impact organizational adoption decisions (Pan et al., 2022). While these developments are significant, there are still critical areas that need improvement to bridge the gap in understanding the impact of AI in recruitment.

First, the current literature has largely focused on the adoption, use, and performance of AI tools in recruiting, with a lesser focus on how the adoption of AI can improve the overall recruitment decision-making process. Second, the existing literature has not been extensive enough to examine how the adoption of AI can positively impact the overall recruitment decision-making process, in detail. While AI implementation doesn't always ensure better hiring results. While AI technologies can create, organize, and analyze candidate-related information, the organizational value will still come down to how decision makers use and interpret the information generated as analysis. Incorporating high-quality data and AI-driven automation is indeed crucial for making data-driven recruitment decisions, as recent research has shown (Purohit & Banerjee, 2025). The journey of how information created by AI is translated into better hiring results, however, needs to be developed further conceptually.

Secondly, while data driven decision making (DDDM) has gained significant traction in HR analytics and evidence based HRM, its specific role as a process between the adoption of AI and the outcomes of the recruitment process has been comparatively less explored. AI can ingest large amounts of applicant data to produce predictive gain aha moments, while DDDM is the organizational method in which gain aha moments are actually used to make hiring decisions. Banerjee and Purohit (2025) show that while the adoption of technology and the decision-making process are closely linked, AI can be truly helpful in recruitment and high quality data can aid in making data-driven decisions. However, more theory is needed to explain if and how DDDM can be an intervening mechanism between the adoption of AI and better recruitment results.

Third, current studies and literature of the use of AI in recruitment often focus on the technology and process related outcomes, and quality of hire should be considered as a strategic recruitment outcome. Quality of hire goes beyond the efficiency and completion of the recruitment process to whether the worker selected has the competencies, adaptability, performance potential and person environment fit the organization has. In the realm of recruitment, Shet and Nair (2023) show how machine learning and HR analytics can play a role in multiple aspects of person environment fit in the employee selection process, establishing an important linkage between

analytical recruitment practices and quality of hire. But, more conceptual integration is required to better understand how AI adoption and data-informed hiring decisions work together to drive quality of hire.

Last but not least, there has been a relatively limited amount of research on startups in this body of research. Startups have unique aspects to them: limited resources, fewer people in the HR team, shifting job descriptions, rapid growth, and not having the ability to handle bad hires. The wise use of recruitment information from AI and the success of quality hires are truly significant. It is important to note that results from contexts in larger and/or established organizations might not fully capture the recruitment realities and information processing needs of startups.

The aim of the present study is to fill these gaps, creating an integrated conceptual framework that connects the introduction of AI in recruitment processes, data-driven decision making, and the quality of hire in startups. In particular, the framework states that DDDM is a "mediating mechanism" that can be used to link the use of AI to the quality of hire. This study thus shifts the focus from the question of whether or not organizations are using AI to the question of how technological capabilities linked to AI are being turned into improved hiring outcomes via evidence-based recruitment decisions. This mechanism-oriented view and the emphasis on quality of hire as a strategic outcome are therefore the core conceptual deliverables of the proposed framework, with the focus on the startup context.

IV. THEORETICAL FOUNDATION: INFORMATION PROCESSING THEORY

The proposed conceptual framework is based on the Information Processing Theory (IPT) which was developed by Galbraith (1973, 1974) and further developed by Tushman and Nadler (1978). IPT proposes that the uncertainty of an organization raises the amount of information that needs to be processed and that effectiveness requires that adequate capacity be built within the organization to gather, process, and use pertinent information (Galbraith, 1974; Tushman & Nadler, 1978).

IPT offers a suitable basis for clarifying these connections between AI's use in recruiting, data-driven decision making (DDDM), and quality of hire. There is a lot of uncertainty with recruitment since the organization has to assess multiple information from various candidates including their skills, competencies, experience, performance capabilities, and suitability for the job. It is especially important when starting a business, the job needs often change, the structure of the company is not well defined and hiring decisions can have a drastic impact on an individual.

IPT's view of AI is that it increases the information processing ability of the organization. With the help of AI applications like résumé screening, candidate interactions, predictive analytics, applicant matching, and recruitment automation, companies can gather, structure, and analyze massive amounts of candidate data. These features convert unstructured data into structured information for assessment of candidates.

But simply having a better information processing ability doesn't necessarily mean that the hire is better. All information has to be dealt with systematically and used to inform recruitment decisions. DDM is thus the process by which information created by AI is translated into evidence-based candidate evaluation. In a systematic way, using all the candidate data and insights, organisations can enhance competency assessment, job fit assessment and informed selection, which boosts quality of hire.

IPT is also making the connection between AI adoption and quality of hire, as better information processing can lead to better candidate screening, matching, and assessment. Therefore, the framework suggests both direct and indirect pathway via DDDM. The application of IPT to the recruitment of startups brings a modern twist to the standard theory, in which AI has become an increasingly powerful tool for the way companies process and use information to make hiring decisions.

V. THEORETICAL IMPLICATIONS

The conceptual study of the present is added to the growing body of literature related to Artificial Intelligence (AI) in Human Resource Management (HRM) where AI in recruitment can be understood as Data Driven Decision Making (DDDM) and its relation with Quality of Hire (QOH). The framework does not assume that adopting AI will automatically lead to better recruitment results but instead makes DDDM an intervening mechanism. This approach builds on the existing body of research on AI in recruitment by moving the focus from the technology to the organizational processes that enable the value added by information produced by AI in recruitment.

The study also extends Information Processing Theory (IPT) to AI supported recruitment. As with IPT, AI adoption increases an organization's ability to collect, process and analyze candidate data during times of hiring uncertainty. But the framework argues that when analytical information is incorporated into evidence-based hiring decisions, then increased information processing capacity becomes valuable. Therefore, a technological information processing ability is linked with the quality of hire in DDDM. The framework also places IPT in the context of startups where job demands change, resources are limited and the demand for talent is unpredictable which results in a higher information processing demand. Hence, the study combines technology, decision making, and recruitment outcomes in a parsimonious theoretical model.

VI. PRACTICAL IMPLICATIONS

The proposed framework for startup founders, HR managers and recruitment practitioners: The first thing that needs to be done by the startup is to look at AI adoption not merely as the automation of recruitment activities. When investing in résumé screening software, AI chatbots,

predictive analytics, and automation in recruitment, there should be processes in place to help recruiters effectively interpret and utilize the information created by AI.

Second, startups need to focus on improving their data-driven recruitment capability, setting up proper selection criteria, building up of accurate candidate information, linking recruitment information with the outcomes after hire, and recruiters' analytical skills. AI generated recommendations are meant to be used in conjunction with human judgment. Algorithmic outputs should be considered in conjunction with the context information, which includes requirements of the job and the needs of the organization.

Lastly, groups ought to regularly audit AI facilitated choice suggestions with subsequent worker execution and person job fit. This feedback can be used to gauge whether the use of AI in recruitment aligns with improving the quality of hire or simply adds to the technological sophistication of the recruitment process.

VII. FUTURE RESEARCH

The suggested relationships need to be tested through an experiment. Future studies could validate the framework by analysing data collected from startup founders, HR managers, recruiters and talent acquisition professionals, and investigate the direct and indirect relationships with structural equation modelling. It would be particularly useful to do a longitudinal study, as the quality of hire manifests itself in the results after hire that can be seen over time.

Future studies could also investigate whether the proposed relationships differ based on the size of startups, developmental stage, industry, technological capability, or environmental uncertainty. A comparative analysis of startups and existing businesses could help clarify if the use of AI in information processing results in different recruitment outcomes in different contexts. Some of the other boundary conditions that can be explored by researchers include AI transparency, data quality, AI literacy of recruiters, and human oversight.

Finally, future research might widen the scope to include additional outcome measures like employee performance, retention, organization fit, and innovation while maintaining the current model as a learning lens to the effects of AI supported, data driven recruitment on quality of hire.

VIII. CONCLUSION

Artificial Intelligence revolutionizes Hiring by leveraging vast amounts of candidate data, automating hiring processes, and providing valuable insights through analytics to aid in hiring decisions. But using AI doesn't automatically mean you're going to achieve better recruitment results. The utility of AI hinges significantly on how organizations make sense of the AI-driven information and use it to make informed managerial choices. To tackle this problem, the current conceptual paper introduces a cohesive model that connects AI adoption in recruitment, data-based decision making to quality of hire in startup organizations.

The model is based on Information Processing Theory and views the use of AI in recruitment as an organizational information processing capability that helps startups to cope with the complexity and uncertainty of candidate assessment. AI resume screening, AI Chatbots, predictive analytics, and recruitment automation help companies more systematically gather, organize, and analyse recruitment-related data. Data driven decision making then acts as the bridge between these technological capabilities and evidence-based candidate assessments and selection decisions. Therefore, this study suggests that the use of AI has a direct and indirect impact on quality of hire via data driven decision making.

These connections are important in the start-up setting. The landscape of start-ups is often characterized by constrained resources, small HR teams, changing job needs and relatively low tolerance for bad hires. Keeping this bottom line in mind, AI and data-driven recruitment methods may be able to systematically find candidates who have the skills and abilities that align to your organization's needs while doing it better. Even so, technology should be a tool alongside the human decision-making process, especially if it requires interpretation in the context.

Overall, the paper is a significant addition to the literature on AI in recruitment, and in doing so it takes the step beyond whether or not organizations are adopting AI to what forms of AI adoption can lead to better quality hiring outcomes. The framework uses data driven decision making as the mediator to offer a theory-driven explanation of how technological capability can lead to the recruitment outcome in a focused manner. Empirical testing of the proposed relationships could also be used in the future to further our understanding of the application of AI in recruitment, while also providing evidence of the circumstances in which AI is used in decision making that leads to quality of hire in start-ups.

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