INTEGRATION OF AI AGENTS IN RECRUITMENT: OPPORTUNITIES AND CHALLENGES

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Abstract

This research illustrates the potential implications of AI agent deployment in the recruitment ecosystem, primarily through a Bangladeshi multinational cultural lens. The goal is to streamline procedures, accelerate recruitment, introduce a paperless workflow, and facilitate more rigorous, robust evaluations of prospective candidates, reducing human error and bias to ensure optimal job alignment. However, a few international studies have highlighted AI's utility in the hiring process, but its actual use and impact in Bangladesh remain largely unstudied. Hence, the results of this study are anticipated to have a broader impact on Bangladesh's digitalization of the traditional hiring process, reducing time and human intervention while addressing algorithmic and behavioral biases. More importantly, the research also emphasizes the need to educate applicants and recruiters about technical errors in AI systems, including the trial period of operation and the duration of data feeding. Ultimately, this study supports not only AI implementation but also responsible adoption of AI, backed by a regulation framework, stakeholder understanding, and capacity-building initiatives, which can help digitally transform the hiring landscape. These gaps were addressed through a mixed-method approach combining quantitative surveys with qualitative interviews of job seekers and human resource professionals. Data has been collected from multiple organizations through surveys at different levels, secondary sources, interviews, and relevant case studies. Here, Gibson's Theory of Affordance serves as the analytical structure supporting the study by evaluating user acceptance and engagement with the AI-agent-based system. Future studies and cases should investigate the long-term feasibility of integrating AI agents into HR operations, especially the recruitment process, and evaluate the new challenges arising in other Bangladeshi companies.

Keywords: Artificial Intelligence (AI), AI-Agent, Hiring, Opportunities, Challenges

Introduction

Recruitment or hiring is an essential part of any organization, enabling it to operate and survive in a rapidly evolving, competitive environment based on the merit of its people. Hence, recruitment is considered one of the most resource-intensive functions of a

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modern organization, involving multiple stakeholders at various levels, such as the Human Resource team, Functional Personnel, Managers, and sometimes external units and third-party agencies, culminating in a process that is simultaneously time-consuming, financially burdensome, and inconsistent in terms of evaluation. This complex process often leads to delays, inefficiency, and resource waste, while incurring significant financial and non-financial costs. In recent times, the rigorous implementation of the recruitment process has come with lengthy procedures, significant time and resource investments, human error, and, sometimes, bias, especially in multinational companies that often work with large pools of data.

On the other hand, AI is a disruptive technology in the modern era, making work easier and more time-efficient. AI is said to help reduce time-consuming activities through automation and the streamlining of redundancy, match job requirements with candidates' existing skills more efficiently, and enable faster, more effective decision-making (Horodyski, 2023; Gusain et al., 2023). Additionally, such changes require considerable effort from recruiters. To cope with these challenges, technological innovations such as artificial intelligence (AI) have been used in the recruitment process (Fritts and Cabrera 2021; Vedapradha et al. 2019; Geetha and Reddy 2018). Backed by data, this technology has been used in the recruitment industry. According to a Statista survey (2017) of 8815 respondents, including talent acquisition professionals and hiring managers, 67% of the respondents said that artificial intelligence helps reduce the time-consuming nature of the hiring process (Statista 2022). As a result, global corporations have made significant progress in using AI for Talent Acquisition, as reflected in a report by Intelion Systems (2023), which states that AI use in recruitment is growing, with 35% to 45% of companies already using tools for this purpose. They also pointed out that as many as 99% of Fortune 500 companies were already using AI in some way in recruitment. However, Bangladesh is far behind in practically adopting these new norms, particularly in large corporations. This research explores the underexplored area of AI agent use in Bangladeshi Recruitment systems and considers a significant development in resource management and waste reduction.

Global data underscore that AI tools improve organizational efficiency and accuracy and reduce human subjectivity (Mujtaba & Mahapatra, 2024). Moreover, AI integrates the traditional people-oriented approach with a greater emphasis on data analytics (Gelinas et al., 2022). This also evaluates recruiters' awareness and willingness to adopt this technology, taking into account the risks, training period, AI-borne inaccuracies, and ethical and responsible implementation. It is evident that 88% of organizations worldwide have experimented with AI in recruitment activities; among these, 41% employed AI-based chatbots for candidate engagement, 44% used AI to identify candidates via social media and public data, and 43% leveraged AI for training recommendations (Mujtaba & Mahapatra, 2024). Therefore, the primary focus is to evaluate the efficiency improvement of AI agent recruitment in terms of time, cost, human effort, and errors in Bangladesh.

In general, AI agents are designed to reduce costs, human intervention, and time while expediting the selection process, minimizing errors, coordinating with the operations

team and other relevant stakeholders, and more. Therefore, this study positions itself as a connecting point between two realities: global advancement and local barriers, examining how AI agents can be meaningfully installed in the traditional recruitment system. It is said that AI agents are becoming very popular globally, but empirical evidence remains scattered and undocumented, especially in developing countries, where the struggle with proper infrastructure and technical frameworks is very likely, and a limited understanding of cost-benefit implications is prevalent. Studies on similar developing countries remain unexplored and outdated, narrowing the scope for further advancements and insights. Hence, guided by Gibson's Theory of Affordance as the theoretical framework, this study focuses not only on stakeholders' mindset towards adopting AI tools but also on how they perceive these tools' capabilities, based on organizational context, digital literacy, and cultural disposition.

Research Objective

The study focused on two primary research questions, each having a distinct dimension of the AI-agent-enabled hiring system in Bangladesh:

RQ 1: What will be the impact of AI agents on the conventional recruitment ecosystem in Bangladesh with respect to cost analysis, feasibility, accessibility, technological infrastructure, efficiency, error reduction, and expectancies?

RQ 2: Will the implementation of AI agents create a notable change in organizational and natural resource optimization, enhancing waste management and eco-friendly methods?

These questions were developed to capture the overall operational dynamics of recruitment with AI-agent adoption. It also aims to assess broader socio-environmental perspectives. These orientations present a blended theoretical grounding, methodological structure, and interpretive design framework for the study.

Literature Review

Interest in deploying artificial intelligence applications in human resource functions has surprisingly grown among scholarly activities and larger companies, with AI adoption expanding organizational footprints. Tambe, Cappelli, and Yakubovich (n.d.) noted that AI is not a linear enhancer of productivity, but rather a disruptive technology that reconfigures the entire decision-making process, accountability, and risk-management for work, which is ultimately the most appropriate theoretical explanation over time. They highlighted that AI-based decisions pose challenges that are often difficult to comprehend for both regulatory bodies and candidates, further complicating the process and its legal compliance. In the Bangladeshi context, this has been a particular observation: employment law has yet to properly adapt across industries to the digitalized workplace realities; however, candidates may have limited resources to address algorithmic decisions.

Mujtaba and Mahapatra (2024) provided a comprehensive, empirical assessment of AI's growing role in recruitment systems and selection processes globally, documenting widespread organizational experimentation alongside persistent concerns about fairness,

mitigation of bias, and the erosion of human judgment in hiring personnel. Their observation is that AI-backed recruitment is not a technology-based solution but an evolving sociotechnical pattern that requires consistent governance. Gelinas et al. (2022) have complemented this analysis by tracing the momentum shift from people-centric to data-centric HR decision-making, arguing that AI's predictive analytics capabilities are a representation of a genuinely new epistemology for talent assessment; that one premised on pattern recognition across large datasets, different than that of the holistic human evaluation approach. This shift has been cautioned, stating that it must be carefully managed to ensure that the historical biases embedded in training data do not become an algorithmic perpetuation of structural inequality.

However, different perceptions have emerged in studies of AI and its implications. Akhter, Bhattacharjee, and Hasan (2024) provided indispensable grounding in the Bangladeshi context, exposing the current status of AI adoption in HR management. They also pointed out the structural and conceptual challenges that distinguish local implication trajectories from global practices. The findings showed a landscape in which large corporate entities and their subsidiaries began precautionary engagement with AI-based tools, while many domestic organizations, including medium- to large-sized enterprises, remained at the "pre-adoption" (awareness) stage. Primarily, the documented structural constraints concern infrastructure limitations, the lack of trained human resources in AI, and cost analysis. Rahman et al. (2025) extended the discussion by proposing a structural framework for AI-driven recruitment that integrates the objectives of inclusivity, sustainability, and efficiency, demonstrates a contextually grounded integration, and reconciles competitive imperatives.

In contrast, AI agents are a comparatively new concept in the recruitment domain, which are distinct from earlier AI-based tools because of their architectural sophistication and operational scope. Earlier AI applications simply depicted keyword-matching algorithms and structured questionnaire platforms, where they were used to perform discrete, rule-bound tasks; whereas AI agents are meant for the automation of the process, with multi-step action, defining the environment, forming and pursuing goals while making decisions under an uncertain structure, and adapting the behavior as the response to feedback (Colbak, 2025). This quality represents a qualitative expansion of AI capability, with remarkable implications for restructuring recruitment workflows.

Koman, Kubina, and Borsos (2024) systematically document the current and emerging possible applications of AI agents across the recruitment lifecycle. At the primary stage, AI agents can autonomously scan professional networks, job boards, and social media platforms to identify candidates whose profiles match the role specifications for a specific position, often surfacing passive candidates who would not have applied through conventional channels. At the screening stage, NLP (natural language processing) models resume content, assess writing quality and coherence, and score candidate profiles against designated, weighted criteria, reducing manual review time by up to 75% in documented case studies (Horodyski, 2023). During the assessment stage, AI-powered video interview platforms analyze verbal content, speech patterns, and, more controversial, facial

expressions, to generate candidate evaluations. Furthermore, scheduling, communicating, and offering management can be handled by conversational AI agents (conversational) capable of maintaining contextually appropriate dialogue across multiple candidates simultaneously.

In another view, Colbak (2025) described the developmental trajectory, referring to AI as a 'co-pilot' that augments human decision-makers with data and recommendations. AI essentially acts as an 'autopilot', executing end-to-end workflows with minimal to no human intervention. These changes raise significant governance questions about the tolerable extent of AI autonomy in substantial employment decisions, as well as about the accountability and regulatory frameworks needed when AI agents make errors and produce discriminatory outcomes. However, Fritts and Cabrera (2021) and Vedapradha et al. (2019) examined the organizational and ethical implications of this AI-powered transition, arguing that the shift to autonomous AI agents in hiring requires the development of oversight frameworks, audit mechanisms, and candidate selection processes.

The ethical reasoning of AI agents in recruitment is crucial and multidimensional. Mori, Sassetti, Cavaliere, and Bonti (2025) conducted a literature review on the use of AI in recruitment through the lens of ethical norms, which further identified three primary concerns: first, the replication of historical biases in training data; second, the transparency of algorithm-based decision-making systems, delivering a meaningful candidate resource; and lastly, the threat of potential replacement of human intervention and judgement in the final output that would have profound consequences for individual livelihoods and the organizational culture of hierarchy and positions. Their analysis proposes an ethics-by-design framework that integrates fairness, transparency, and accountability into AI ecosystems from the outset, rather than treating ethical compliance as a post hoc corrective.

However, Lashkari and Cheng (2023) examined the transparency scale in AI-driven hiring from a technical perspective, segmenting the metrics used in algorithmic operations and reviewing bias-cancellation methods. One key finding is that multiple fairness criteria, such as demographic parity, individual fairness, and equalized odds, are not mathematically compatible, suggesting that satisfying one criterion may often require sacrificing another. This technical complexity underscores the limitations of algorithmic fairness resolution through fixes alone; with organizational commitments, the fairness concept takes priority in this context. In the Bangladeshi landscape, where religious, gender, ethnic, and most importantly, socioeconomic dimensions of inequality intersect in historically evident ways, these decisions have a profound impact on errors.

Marabelli, Newell, and Handunge (2021) contributed to research with a wider perspective on the ethical dimension related to the algorithmic decision-supporting system, enforcing the theory that the challenges would not normally appear during the deployment, rather would arise gradually across the system's cycle, as the technology interacts with the work demographics. This note is important for organizations in Bangladesh in the context of first-generation AI-agent adoption: the ethical risks of this AI-agent-based recruitment are not fully acknowledged. Therefore, a frequent monitoring framework, periodic evaluation, and

adaptive governance are required beyond a single compliance assessment.

The theoretical structure of this study was developed based on Gibson's (1979) "Theory of Affordance," which originated in ecological psychology and often describes the probable actions evident in the environment relative to their capacities. Translating to the domain of information systems and technology adoption, affordance theory states that "The 'use value' of a technology is not inherent in the technology itself but emerges relationally from the interaction between technological features and user attributes, which includes capabilities, motivations, expectations, and organizational context" (Faraj & Azad, 2012). An AI-agent-based hiring chatbot, for instance, affords rapid, low-friction, and less redundant communication for a digitally equipped and literate HR manager but may cause confusion, exhaustion, and distrust for a candidate with limited smartphone access.

This relational theory specifies that affordance theory is particularly well-suited to analyze AI-agent adoption as heterogeneous in Bangladesh's corporate sector, where digital literacy, infrastructure access, and organizational culture vary significantly across companies and stakeholder groups. The theory empowers the study to move beyond binary adoption and non-adoption queries, asking about the different approaches stakeholders take to engage with AI-powered recruitment tools and how organizational and policy interventions can realign perceived affordances with desired outputs.

The concept of advancing AI- or AI-based technology in recruitment originates in economies with higher GDP, higher income, and technological maturity, where organizational functions are digitally mature, regulatory sophistication is advanced, and the labor market structure differs significantly from that in Bangladesh and similar South and Southeast Asian economies. This geographic and institutional imbalance in the study, with no proper further investigation specifically on AI-agent usage, is the research gap addressed in this study. Rahman et al. (2025), however, represented a valuable exception, providing a study with a proposed framework suitable for the South Asian context, which foresaw the AI-driven sustainable recruitment foregrounding local conditions such as the heterogeneity of digital infrastructure, dynamics of the skills market, regulatory, and an adoption trajectory with a so-far promising outcome.

Geetha and Reddy (2018), in a pre-foundational analysis of AI-based applications in the recruitment process, developed a prototype of AI-powered hiring tools, which remains analytically useful for emerging markets, although it depicts the current state of the AI agent paradigm. It has been emphasized that organizational readiness defines the alignment of leadership commitment, tech infrastructure, and workforce capability, all of which are prerequisites for an effective AI-enabled environment. AI adoption has yet to stabilize in Bangladesh's work culture, where a few big corporations are integrating AI tools into daily operations, while many are still on their way to building the foundational tech competencies needed to leverage advanced AI systems. This readiness gap in the pre-stage is rather institutional, encompassing data governance practices, ethical considerations, readiness to adopt the digital shift, and legal and compliance policies for a more responsible AI-backed ecosystem.

Research Methodology

Project Overview and Approach

The team carried out a project during the internship, focusing on the implementation and analysis of AI agents in the recruitment processes of participating organizations in Bangladesh. The goals of the project were to design, model, and test a prototype recruitment system using AI agents and evaluate the practical feasibility, efficiency gains, and organizational impact of the system in the context of the Bangladeshi business environment.

Project Approach

The internship project was a mixed-methods study that incorporated system design, stakeholder engagement, and empirical observation.

Recruitment System Design

The research team created and tested a planned and efficient recruitment system that included the following five AI agents:

- Agent 1: (Campaign Start for Recruitment): This agent streamlines the commencement of recruitment campaigns to ensure that they are regular and on schedule.
- Agent 2: (CV Collection & Pre-screening): The use of this agent will save CV screening over 70% of the manual time, allowing the ability to quickly identify qualified candidates.
- Agent 3: (Appointment Data Preparation): This agent helps enhance logistics, reduces the administrative burden, and tests a standardized procedure for interviews.
- Agent 4: (Transmittal of the Final Document): This agent simplifies the paperless recruitment process by allowing appropriate digital filing and providing an audit trail for compliance.
- Agent 5: (Analysis). This agent can be regarded as a powerful tool for generating data-driven insights, benchmarking performance, and providing process optimization suggestions.

Data Collection Methods

System Design Documentation

Process mapping was used to systematically and comprehensively document the current recruitment processes in partner organizations. This involved planning and defining integration points for each AI agent, specifying the technology infrastructure and tools, creating user interface mockups, and outlining system flow diagrams. In addition, the integration specifications and API requirements are outlined.

Stakeholder Interviews & Feedback Sessions

Informal interviews and discussions with HR managers and recruitment professionals from the pilot organizations (company representatives) (n = 15-20), as well as with hiring managers, team leaders, and job seekers who had contact with the AI agent system were conducted. Face-to-face discussions were conducted during these sessions.

Practical Testing and Observation

Direct observation and testing of the prototype system were conducted, followed by trials with real recruitment data (with appropriate permissions). This included taking time to process each percentage point in the automation process, as well as recording manual interventions, technical problems, system constraints, output quality metrics, and total resources used.

Document Review

Existing documentation from the organization was analyzed, including current recruitment workflow documentation, CV Evaluation Criteria and scoring sheets, Hiring Statistics, recruitment timelines, technology infrastructure assessment, and cost of current recruitment processes.

Quantitative Analysis

Several objective measures, including time reduction, were used to evaluate the output. This included the time to screen the CV, the time to schedule an interview, and the overall time to reduce the recruitment cycle time. The manual workload saved was estimated to be approximately 70% of the previous workload. A cost analysis was conducted to assess the monetization of tool costs and reduction in staff time costs. The total cost of ownership (TCO) was also analyzed, and the cost-per-hire reduction was calculated and compared with the current setup. For example, a reduction in paper consumption was estimated by analyzing current paper consumption, which was estimated to be no more than 96.13% of the paper when digitized. The environmental impact was also quantified.

Qualitative Analysis:

We collected and analyzed stakeholder feedback by coding these responses into opportunities, concerns, and barriers. The comments were grouped into stakeholder groups (candidates and HR managers). We also gathered common pain points, pain-point solutions, and possible recommendations for system improvements, and attempted to document the implementation challenges.

Technical Performance Assessment:

The evaluation included several areas of system performance, such as the accuracy of AI candidate matching and screening results, reliability and uptime of the integration, effectiveness of integration across platforms, ease of use of the UI/UX, errors and system failures, and scalability assessment.

Validity and Reliability:

During system testing, each agent was independently evaluated using sample data. Full end-to-end testing was conducted using real recruitment scenarios to evaluate the validity of the AI's suggestions. Edge cases and system limitations were uncovered, and any bugs and workarounds were documented. Moreover, user feedback was verified by HR professionals through system designs and requests for their suggestions for improvement. Testing was conducted with real users, and design improvements were made iteratively.

Practical Constraints and Limitations:

Various problems in the field were identified during the design and testing of this system. These encompassed data quality issues, compatibility constraints with legacy systems, differences in digital literacy among users, opposition to change within organizations, and privacy and data security concerns unique to Bangladesh. Some limitations of the project that affected the results were limited integration with legacy HR systems, API capacity limits, the cost of AI tools, inadequate data quality in some enterprises, and limited time for thorough system tuning. Due to time constraints and the system's status as a prototype, testing was conducted with a small sample size. It is worth noting that the situation in the Bangladeshi business sector may differ from other markets, and AI technology is constantly evolving, which may make the findings of this study obsolete in the future. Moreover, there is limited experience with AI agents in the local job market, and the regulatory landscape for AI in Bangladesh is still evolving.

Key Findings

Despite the contemporary study and data collection currently underway, the anticipated results suggest that AI agent installation in corporate hiring will significantly enhance recruitment efficiency and has the potential to optimize resources, indicating a positive change in terms of the sustainability mandate.

Additionally, this study will help assess the reduction of human bias and error, provided that Bangladesh develops a relatable technological infrastructure, an accessible interface, increasing awareness, and a regulatory framework. The results are expected to contribute to modernizing the current hiring system, accelerate automated, data-driven decision-making, improve internal coordination, and promote stakeholder education on the use of AI. However, this prospect may also face barriers and backtracks, including recruiters' concerns about job security, transparency, cost analysis, lack of readiness for transformation, adoption of new technologies, reliability, and discrepancies in AI-generated decisions. Notable variations may be visible between global practices and local implementations, given the varying conditions of technological advancement, infrastructure, and the economy.

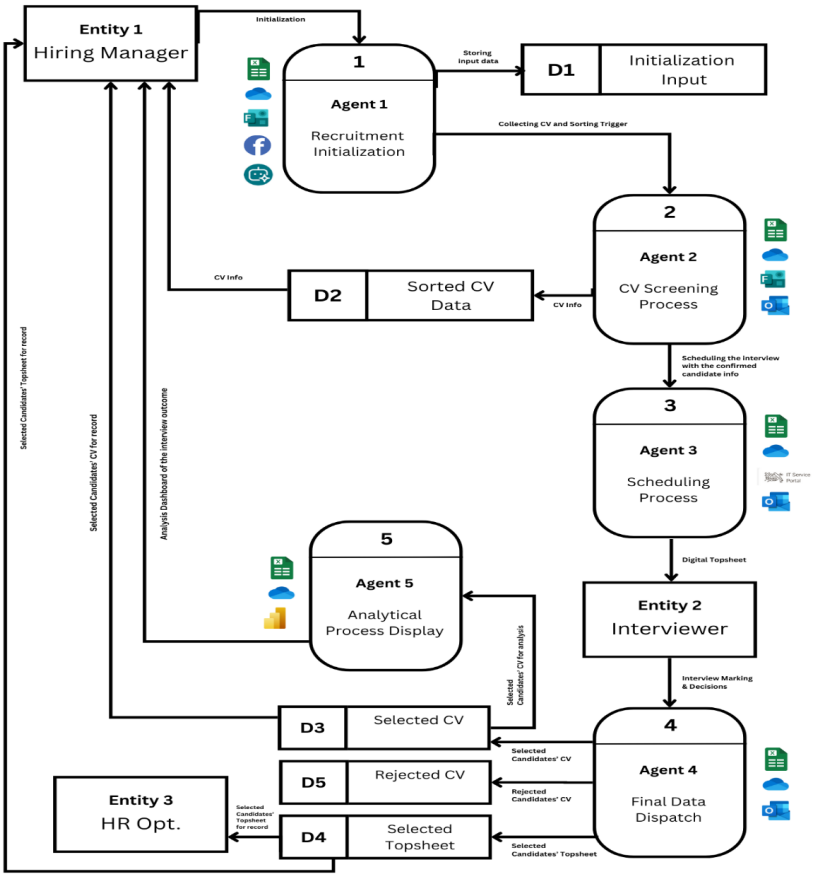

Figure 1. AI-Agent System Modelling (Authors' Developed)

A distinctive contribution of this study is its focus on AI recruitment through a sustainability lens. Traditional recruitment in Bangladesh results in substantial paper use throughout the process. AI agent installation is expected to reduce paper consumption, signifying the organizational environmental, social, and governance (ESG) mandates that are gradually becoming important within multinational corporations operating in Bangladesh. Apart from paper reduction, AI-backed recruitment is said to optimize energy and human resource expenditures associated with in-person early-stage interviews, resulting in lower carbon footprints.

However, several barriers hinder AI adoption. One of the most significant is algorithmic bias, because AI systems are often trained on historical data on the hiring process, which may reinforce the prevailing gender, socioeconomic, and educational biases. For Bangladesh, this scenario could perpetuate the pre-defined preferences for candidates from elite institutions and urban backgrounds. Moreover, data privacy and security are

major concerns, as AI agents will rely on enormous amounts of sensitive and personal information, while Bangladesh currently lacks comprehensive, structured data protection regulations. Moreover, resistance from hiring personnel and team leaders may seem evident due to concerns about job security, reliability, transparency, and motivation to change the system. Another important challenge is AI's limitations, which mean it cannot fully capture the contextual judgment, cultural understanding, and interpersonal insights that humans possess.

The study targets to show both theoretical and practical views on AI agent implementation: Theoretically, it uses the structure of Gibson's Affordance theory on the recruitment domain and related stakeholders' perceived idea; on the other hand, the practical part proposes a recruitment model that being AI Agent-enabled considering the insights, ethical safeguards, and respective concerns ensuring fairness and adaptability.

Discussion And Implications

The expected contribution of this study goes beyond Bangladesh's recruitment context, offering insights into how developed economies can navigate optimal use, ethical considerations, organizational challenges, and compliance with AI-agent adoption in the hiring lifecycle. The study is based on a theoretical approach, mostly by applying Gibson's Affordance Theory, explaining perceptions of AI-agent-powered human resource management, and shifting the prime focus from individual technological acceptance to the broader intersections among stakeholders and AI tools, resulting in organizational efficiency and sustainable practice. This perspective focuses on the advantages of AI agents, the creation of automated functions across various scopes, and the challenges at different layers of operations. The study also proposes a prototype experimental model of an AI agent-enabled recruitment system tailored to the multinational corporation environment of Bangladesh, following a widely used recruitment process. This design can also be modified to meet future implementation requirements in other emerging economies in the region. The important views of this study include Bangladesh's regulatory readiness, policy framework, data protection laws, algorithmic accountability standards, and certification frameworks for a just and transparent recruitment process, which are outlined as gaps in this research. This requires coordinated and collaborative efforts from industry experts, policymakers, and regulatory agencies. Deploying AI agents for functional work will not be enough for any entity; this study also highlights the significance of AI literacy among employees, AI readiness, and an adoption mindset, which are crucial for full-fledged operation. In the long run, AI-agent-based recruitment will enable organizations to work towards their sustainable goals through a paperless work system and ESG-aligned practices, which are also applicable to the apparel, banking, RMG, and other sectors.

Table 1. Summery of Opportunities Challenges

OPPORTUNITIES	CHALLENGES
Substantial Time Savings - CV screening - Interview scheduling - Overall cycle time reduction	**Algorithmic Bias Risk** - Systems trained on historical data may perpetuate biases - May disadvantage candidates from non-elite institutions - Requires ongoing bias auditing and mitigation
Cost Reduction - Estimated 20-30% reduction in cost per hire - Reduced administrative staff time	**Data Privacy and Security Concerns** - Bangladesh lacks comprehensive data protection laws - Sensitive personal information at risk - Requires robust data security infrastructure
Paper Elimination - 96.13% reduction in paper consumption - Environmental sustainability benefits - ESG compliance and corporate responsibility	**Change Management Resistance** - Staff concerns about job security - Preference for traditional hiring methods - Requires significant training and organizational change
Improved Candidate Matching - Objective evaluation standards - Consistency across all candidates - Better matching of skills to requirements	**System Limitations** - Cannot fully capture contextual judgment - Misses cultural fit and interpersonal insights - Accuracy issues with Bangladeshi CVs
Enhanced Efficiency - HR team can process 2.5-3x more applications - More thorough evaluation of qualified candidates - Reduced hiring backlog and delays	**Legacy System Integration Challenges** - Many organizations have outdated HR systems - API compatibility issues - Requires workarounds and manual handoffs
Better Resource Optimization - 70% reduction in manual work - Frees HR professionals for strategic tasks - Enables focus on employer branding and retention	**Infrastructure Limitations** - Digital infrastructure varies across Bangladesh - Limited AI expertise and technical capacity - Cost-benefit analysis challenges for SMEs
Data-Driven Decision Making - Real-time analytics dashboards - Source of hire analysis and metrics - Evidence-based recruitment strategy	**Regulatory Uncertainty** - Bangladesh AI governance framework incomplete - Compliance requirements unclear - Legal liability for algorithmic decisions
Scalability and Growth Support - System handles high-volume recruitment - Maintains quality as company grows - Enables expansion without proportional staff increase	**Stakeholder Skepticism** - HR professionals worry about accuracy - Candidates concerned about fairness - Requires transparent communication and trust-building

Transparency and Appeal Mechanisms - Clear audit trails of decisions • Can document decision criteria • Enables appeal and review processes	**System Errors and Failures** - AI recommendations sometimes inaccurate (False positive rate) - Technical bugs and integration failures - Requires human oversight and verification
Organizational Learning and Innovation - Positions organization as forward-thinking - Attracts tech-savvy talent - Competitive advantage in talent acquisition	**Training and Skill Gaps** - Staff need training on new systems - Limited AI literacy in Bangladesh - Ongoing support and troubleshooting required
Fairness and Bias Monitoring - Can implement fairness constraints - Enables regular bias audits - Maintains diversity hiring goals if designed properly	**Cost Barriers** - Implementation costs high for small organizations - Premium AI tools expensive - ROI difficult to justify for lower-volume hiring
Process Standardization - Consistent hiring procedures across organization - Reduces subjective decision-making - Better compliance with hiring standards	**Incomplete Solution** - AI agents cannot make autonomous final decisions - Still requires human review and approval - Efficiency gains limited without human oversight

Limitations And Future Directions

This study acknowledges the limitations of the scope of future research. The mixed-methods design is theoretically robust; however, the actual implications may vary during practical implementation, with concerns such as human adoption behaviors, unforeseen organizational bottlenecks, and counterintuitive stakeholder perceptions. This may create a divergence from the anticipations noted earlier. Since the AI-Agent has very little historical evidence in the South Asian region, there are very few empirical studies. This led to a completely new theory of emerging AI-agent-based perceptions proposed in this study. On the other hand, this study has focused on Bangladeshi multinational corporations and their recruitment processes, thereby imposing limitations on other sectors within and beyond the global context. Recruitment stages vary across companies; however, the proposed model and findings can apply to most entities. Additionally, Bangladesh provides a specific reference to technological infrastructure, feasibility, and digital conditions, which may differ from other orientations.

Conclusion

This study examines a theoretically proven experiment of recruitment processes with appropriate AI agent integration, with an analytical view of Gibson's Theory of Affordance. It emphasizes Bangladesh's emerging economy, which has remained underrepresented in existing studies to date. This research aims to provide concrete insights, especially those that are locally relevant, and provides an equation for broader implications, navigating

the opportunities and challenges in the landscape. The study also highlights the AI-driven workforce transition, showing improvements in operational time, human intervention, and administrative workflow, while promoting sustainable practices. Key constraints, such as algorithmic bias, data mismanagement, AI errors, data protection policies, infrastructure status and limitations, digital literacy, and cultural resistance, must be addressed through responsible, appropriate implementation strategies, including periodic audits, transparency practices, and necessary learning sessions. Despite the challenges, this study does not discourage adoption; rather, it offers an optimistic path to integrating the AI agent into the recruitment process, identifying the long-term benefits, which can bring a paradigm shift to industry operations.

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