

How Artificial Intelligence Affects Various Aspects of Recruitment Processes: The Case of Tunisian Banks

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Abstract: Significant technological advancements are affecting human resource management, necessitating professional adaptation. Artificial intelligence is one such advancement. Our research aims to determine the use of AI tools in the recruitment process of Tunisian banks. To achieve this, we conducted an exploratory analysis based on case studies to identify the AI tools used and understand recruitment managers' perceptions of their effectiveness and dependability in the context of Tunisian banks. Recruiters report that the job market in the banking sector is slowing. They have noticed a shift in the candidate profile. While AI technologies are becoming more critical, traditional recruitment techniques remain essential in hiring. Recruiters believe AI tools can improve the recruitment process, but only if they are trustworthy and concise.

Keywords: Artificial Intelligence, Recruitment Process, Tunisian Banks.

1. INTRODUCTION

Ensuring the success of recruitment, onboarding, and selection functions is crucial for human resources management practices. This concept has brought about a rapid change in the way contemporary businesses operate (Fraij and Varrallyai, 2021). Given the new technologies and social evolution, paying particular attention to this idea is imperative. To remain competitive, companies need to adapt to these changes.

Artificial intelligence and its various components are among the most revolutionary technologies in the world. They have significantly transformed the practical aspects of HRM, including the tools, techniques, and methods used for identifying and acquiring qualified personnel. One of the primary objectives is to demonstrate the benefits of employing artificial intelligence technologies to achieve a successful recruitment process. (Imran, 2021)

In today's highly competitive job market, top firms are incorporating advanced technologies in their recruitment process to ensure they make the right hiring decisions. The focus is no longer just on filling positions but on attracting candidates with the best skills and qualities. To achieve this, companies must develop an effective recruitment model that enables them to identify and hire the most talented individuals. (Vardarlier & Zafer, 2020).

This research aims to investigate the use of Artificial Intelligence in the recruitment process of Tunisian SMEs, specifically for external recruitment purposes. We aim to identify HRM managers' perceptions of using such technologies. Our objective is to determine whether HRM managers perceive the necessity of replacing traditional recruitment tools with more advanced technology-based tools.

To conduct our research, we used a qualitative approach with semi-structured interviews. Our work is divided into four main sections. The first section is dedicated to the literature review, while the second discusses our methodological approach. We will then present the empirical data we collected on recruiters' perceptions of Artificial Intelligence tools and methods for present and potential candidates. Finally, we will conclude our work by analyzing the data we gathered.

2. Literature Review

2.1 The Evolution of the Recruitment Process: From Traditional Forms to Digitalization

Recruitment is a crucial function of human resource management because it effectively manages the flow of potential and current employees within the organisation. This essential function encompasses various activities to attract, develop, and mobilize the firm's human capital (Holm, 2012; Koch et al., 2018). At a strategic level, numerous studies have highlighted the significance of the recruitment function as a driving force to achieve the company's competitiveness (Kundhavaï et al., 2020).

According to Hmoud and László (2019), the recruitment process consists of interconnected tasks to strengthen an organisation's overall strategy. An inventory of the firm's human capital should be created and analyzed to determine the typical profiles of potential candidates to ensure that the recruitment process meets the firm's needs. This will enable the firm to adjust its recruitment stages accordingly. As noted by Singh (2017), this step is crucial in selecting suitable candidates for the job. After assessing the firm's needs, it is crucial to establish a budget and timeline for a successful recruitment process. The process of selecting, hiring, and contracting employees involves four main steps: sourcing, screening, selection, and contracting (Kundhavaï et al., 2020). Therefore, firms must prioritise the quality and efficiency of their recruitment process. They are responsible for finding the best candidates to fill the available positions while keeping the cost of the process in mind. (Singh, 2017). The traditional recruitment process had undergone significant changes by the end of the 1990s, resulting in the emergence of new methods and directions in recruitment, thanks to the introduction of the Internet as a recruitment tool. These changes disrupted various aspects of the recruitment process, paving the way for a more efficient and practical approach. (Parry et al., 2008). Placing brief advertisements in newspapers was reliable for paying lower fees. (Singh, 2017). Today, however, the use of Google is no longer limited to searching for job openings but also to gather as much information as possible about the targeted company.

According to Haslinda (2009), traditional recruitment entails using many papers to define selection criteria and then matching the position to the desired candidate's profile. Candidates' files are manually reviewed to make a pre-selection, followed by a final selection after interviews.

The introduction of the internet and its widespread use worldwide is causing a revolution in traditional recruitment methods. This transformation results in a new approach known as "e-HRM," or electronic human resource management (Bondarouk et al., 2017). Modern organisations recognise the value of utilizing a dependable information system during recruitment. This system enables them to outsource daily human resource management tasks and better utilise their time. As a result, HRM managers have more time to devote to other important tasks. Tansley et al. (2013) state that the primary goal of using e-HRM is to achieve optimal cost management and efficiency, followed by improving candidate services and decentralizing the HRM function.

Several studies have suggested similarities between online and traditional recruitment (Shukla et al., 2022). These parallels can be seen throughout the recruitment process. The first step is to identify HR needs, then attract potential candidates, and finally conduct interviews and assess the candidate's suitability for the position.

Previously, the standard recruitment process required candidates to physically present at the company's office with their files to attend a face-to-face interview. Candidates can now conduct interviews remotely using electronic platforms such as Zoom or Microsoft Teams. In addition to the interview, candidates can apply online. (D'Silva, 2020; Shukla et al., 2022). The COVID-19 pandemic has accelerated the trend toward online recruitment. HR managers are now attempting to use video meetings, chatbots, and electronic platforms to streamline the recruitment process and improve communication. The increasing reliance on these technologies emphasises the critical role that artificial intelligence plays in the hiring process. (D'Silva, 2020).

2.2 Artificial Intelligence: Features and Contributions in the Recruitment Process

Artificial intelligence is a branch of computer science that focuses on developing intelligent machines that can function and adopt some practices like humans (Lu et al., 2018). According to Winfield (2020), Artificial intelligence aims to comprehend intelligence by designing computer programs that demonstrate intelligent behaviour through symbolic inference or logical execution.

According to the Labor International Organization Report (2019), Ibrahim and Hassan (2019) discovered that artificial intelligence technologies impact employability. AI is expected to replace nearly 17% of HRM jobs in the coming years, according to Fraij and László (2021). These positions typically involve simple administrative tasks and the implementation of tools and techniques needed to carry out a specific department or organisation strategy.

The hiring process is changing significantly with the rise of professional electronic recruitment platforms such as LinkedIn, Move-Job, and Job-Builder. Hiring managers can now more effectively match job seekers' qualifications with the requirements of open positions by utilizing AI. These platforms employ advanced search engines that use data mining algorithms to find potential candidates based on social networks. (Ibrahim and Hassan, 2019). These intelligent search tools perform admirably, accurately selecting potential candidates and assisting businesses in lowering recruitment costs. (Shukla et al., 2022).

Furthermore, these algorithms can predict candidate performance and retention based on an analysis of their profile. Once qualified candidates are identified, they are notified of the new job offer. Applicant tracking systems also constantly search for candidates in the company's database through filtering algorithms. Various tools can support human work during the candidate screening stage. The resume analysis tool is a valuable tool for recruitment. According to Shukla et al. (2022), this tool can weed out unsuitable candidates. The chatbot is another valuable tool for communicating with candidates. A chatbot is an autonomous agent that can contact candidates via email, SMS, Messenger, or WhatsApp and ask them relevant questions.

3. RESEARCH DESIGN AND METHODOLOGY

This research aims to determine the extent to which artificial intelligence is used in the recruitment processes of four Tunisian commercial banks. We adopted an exploratory qualitative approach based on the case study method to understand HR managers' perceptions of technology effectiveness throughout recruitment. Following the logic of discovery, we chose a phenomenological approach to investigate the extent of AI tools used in these entities.

To gather empirical data, we conducted four open-ended semi-structured interviews with 13 questions about using artificial intelligence technologies. The semi-structured interview is a valuable tool that encourages researchers to ask new questions, which leads to discovering new avenues for furthering their research. (Miles and Huberman, 1994). Furthermore, Interviewees can share their thoughts on recruitment technology tools. This approach allowed the interviewees to express themselves freely on the different themes raised and was part of a comprehensive and exploratory methodology. Semi-structured interviews allow the researcher to adapt and formulate new questions and follow up on the exchanges. We conducted these interviews in various private sector companies operating in different fields of activity to maintain consistency in processes and collect data from diverse backgrounds. Our sample includes HRM managers in the banking sector who oversee recruitment and communicate with candidates.

Table 1 provides a summary of the methodological framework.

Table 1. A summary of the methodological framework.

Research question	To what extent are artificial intelligence tools and techniques used in recruitment?
Context	Tunisia
Population	Tunisian commercial banks
methodology	Qualitative Exploratory Research
Data collect	Semi-structured interview

sample	Four banks
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During the initial phase of our investigation, we attempted to restore virtual meetings for each HRM manager from the banks we targeted using the Zoom platform and Teams. We devised a well-organized and detailed agenda for these interviews to collect helpful information with greater precision. The meeting Schedule for each manager and bank is summarized in the table below.

Table 2. Summary table of interviews conducted.

	Zoom	Teams
HRM contacted	3	4
Interview duration	30 min	38min
Number of AI tools used	3	2

There are seven interviews, two of which are with career management and human capital development managers, and the remaining five are with managers in charge of monitoring recruitment procedures. These executives have 7 to 10 years of experience in their respective companies.

During the interview, the questions are broadly categorized into three parts. The first part is dedicated to understanding the bank's structure, including its departments and hierarchy. This helps gather information about the bank's functions and job profiles. The second part focuses on the challenges encountered in the labour market and the possible solutions to overcome them. Finally, the third part concentrates on the level of implementation and challenges of AI technologies in the bank.

We operationalized our enquiry by asking: What is the value of using AI in career management, particularly in recruitment and selection? Employing an open interview schedule, we asked, for example: "What are the several steps when you decide to recruit a new employee?"; "What AI tools do you use for new recruitment?" "Is AI more reliable than humans for recruitment decisions?"

In addition to the prepared questions, additional ones are asked during the interview to gather more data and enrich knowledge about other processes and the use of advanced technologies.

4. RESULTS AND IMPLICATIONS

4.1. The labor Market and the Recruitment Activity

This section will discuss the job market in Tunisia's banking sector and aspects of the recruitment process.

Based on the responses of three interviewees, it can be concluded that young graduates show the highest level of interest and motivation to work in the banking sector. These individuals prefer working in a bank over other companies, as they believe they can benefit from various advantages, such as performance bonuses, access to loans and belonging to a specific socio-professional category. However, the banking sector has experienced a slowdown in the last three years, with a decrease in yield and the granting of new credits, as reported by Tunisie Valeurs (Tunisia Values). Another career manager mentioned that "the emergence of digitalization has led to a need for continuous training to develop newer skills for those who aspire to work in the sector or continue working in it."

Two hiring managers have identified a potential weakness in the candidate's compatibility with current banking techniques, which are undergoing significant changes. The transformations are primarily associated with digital tools such as client file management, day-to-day operation processing, and asset management via advanced software.

"We often encounter an adaptation problem with new hires due to their lack of familiarity with application tools."

The difficulties in recruiting in the banking sector can be attributed to changes in young candidates' value systems. These changes present barriers to young recruits adapting to the organization's culture. Despite this, one manager has recently observed a positive trend in candidates' attitudes toward aligning with the bank's organizational culture. "I believe that many candidates are willing and able to adapt to the bank's culture."

Some managers view the main challenges encountered during the recruitment process differently. It is a common misconception that employees are motivated solely by monetary incentives. However, advanced work tools, appropriate software, flexible work schedules, and consideration of each employee's family situation are equally essential motivators: "When new candidates negotiate, working conditions are among their top priorities. As a result, we can conclude that the mentality of young employees or candidates is changing due to the search for fulfillment."

4.2. Artificial Intelligence as a Vector for Change in the Recruitment Process

To understand the changes in the recruitment process, we have studied the methods and technologies used during interviews. We asked about the tools used at each stage and compared them with traditional recruitment practices. The process starts with an initial screening and then proceeds to contact the candidate. "We need to define the qualifications for the position and then conduct interviews to find the right candidates."

Contemporary companies have demonstrated the remarkable use of AI technologies by HR managers. However, interview four results show that there is still ambiguity among those responsible for the usefulness of AI technologies and their role in facilitating various steps for successful recruitment. Moreover, interview 2 reveals that hiring managers almost entirely neglect these tools. This neglect is explained by the perception of hiring managers, who feel that AI technologies are not helpful enough in recruitment. There is no increased competition in using these solutions in the banking sector.

"In today's world, the classic interview and selection techniques are not enough. It is crucial to focus on the candidate's profile and their unique abilities to handle essential relationships with customers and various bank partners."

Interviewee 3 provided a different perspective, stating that the recruitment process has evolved significantly over the last decade. The manager acknowledged that using AI technologies has increased the gap between the candidate and the recruiter. Most interviews nowadays are conducted via electronic platforms such as Zoom, Teams, and professional networks.

The interviewer triggers various aspects during the recruitment process. These factors aid in our understanding of the steps and content of job interviews, particularly considering technological advances in communication. Video conferencing is one example of an AI application that emerged during the COVID-19 crisis. "Because of the pandemic, our bank has been asked to increase video conferencing to make it easier for candidates to conduct interviews and to benefit from faster recruitment and final hiring procedures. However, we have encountered numerous roadblocks that prevent us from making the best decisions."

When using video conferencing, managers face a significant challenge: effectively analyzing the behavior of virtual candidates. Virtual presence cannot replace the importance of physical presence because it can conceal important aspects of nonverbal communication. Body language and opaque facial expressions can degrade the quality of results and their interpretation.

While our initial inquiries with HRM managers focused on the general use of AI technologies and their impact on the recruitment process, it is critical to delve deeper into these managers' expectations regarding implementing such tools.

According to the survey results, most respondents needed a better understanding of artificial intelligence (AI) as an emerging tool in the modern business world. However, they agreed that AI is a decision-making tool based on

data. This entails the creation of programs using intelligent algorithms. During the interview, the HR manager mentioned that “AI assists them in managing large amounts of data, which helps them make informed decisions about specific applications. AI tools aid in identifying key characteristics of potential candidates who may be suitable for employment in the future during the recruitment process.”

According to four HRM managers, the use of AI in bank HRM departments is less widespread than we expected, with a significant weakness being a need for more data processing software. This shortage can cause significant delays in the recruitment process. During interviews with seven bank executives, it was discovered that LinkedIn is the primary platform for recruitment and selection. LinkedIn is an effective tool for candidates to manage their professional image and find better opportunities for advancement. “LinkedIn has helped us overcome time and space obstacles.”

“GPT techniques have significantly improved communication on recruitment platforms.” Adds the manager in interview 3. Some respondents argue that not all managers use GPT chatbots, tools that aid natural language processing. However, one of the interviewees stated “that after employing this technique, they obtained concise responses from candidates who provided more detailed information about their profile, education, and skills”. Nonetheless, a candidate's physical presence can reveal reliable characteristics for decision-making. According to the manager in Interview 5, machines' contribution to decision-making is still limited.

4.3. AI's Constraints

Several limitations and challenges associated with using AI technologies were identified during the interviews. HR leaders have varying opinions and perceptions regarding AI's benefits in the recruitment and selection process. The complexities of using these tools and their precision may explain the disparities in opinions. An interviewee mentioned the AI's inability to accurately select the right profiles for suitable positions because of ambiguity in understanding the characteristics of candidates best suited for the job.

Maintaining a human presence during recruitment is critical to better assessing a candidate's suitability. However, AI is not without limitations. “It is crucial to remember that AI has limitations and to maintain the human aspect in decision-making processes. Furthermore, AI cannot consider the candidate's environment and communication during recruitment. During the recruitment process, we not only seek to accomplish our desired goals through the candidate we select, but we also require them to exhibit their ability to integrate themselves within the work environment. This quality can only be assessed through human interaction and cannot be determined by an AI system, as shared by one of our managers during the third interview.

The implementation of AI technologies increases the bank's costs. Because of the high costs, many executives hesitate to invest in AI. “When incorporating AI technologies into the recruitment process, having a shared belief in their strengths is critical. Implementing these advanced techniques necessitates a significant investment.”

Ensuring data privacy and accurate recording on AI platforms is challenging for interviewees 2 and 3, requiring administrative managers to invest effort and knowledge of protection tools.

5. DISCUSSION AND CONCLUSIONS

After analyzing the job market, it has undergone significant changes. These changes have impacted job search procedures and the recruitment process. In the banking sector, candidates are becoming more ambitious and seeking fulfillment even during recruitment. Digital technologies have given them more bargaining power. However, the job market in banking is experiencing a slowdown due to a mismatch between the candidate's profile and the position. Some HRM managers believe we should rely more on AI techniques for recruitment to make adequate and convincing choices for the bank. However, others distrust these techniques and believe there should be room for honest communication with candidates. This helps to define their profile and check their skills and abilities. During the recruitment process, we found that the theoretical proposals were like those on the ground. Only a few steps have changed, with video conferencing and platforms like Zoom and Teams replacing traditional interviews.

Our research study aims to investigate the extent to which artificial intelligence is utilized in the recruitment processes of four commercial banks in Tunisia. The objective is to gain insights into the candidates' various perceptions of the effectiveness of the recruitment processes while using AI technologies. We will conduct a qualitative analysis to better understand the impact of AI on recruitment.

In this study, we aimed to understand the opinions of HR managers regarding the use of digital tools in recruitment processes. The findings suggest that most managers are sceptical about the reliability and effectiveness of these tools. They believe face-to-face evaluation is necessary to ensure quality recruitment and that AI technology assessments cannot be relied upon solely. However, they also acknowledge that these tools can be improved by incorporating other advancements, making them more adaptable to the job market. In conclusion, a reliable recruitment process should be more comprehensive than AI technology but can benefit from its advancements.

REFERENCES

- [1]. [1] Bandarouk, T., Parry, E., Furtmuller, E. (2017). Electronic HRM: four decades of research on adoption and consequences. *The International Journal of Human Resource Management*, vol 28, issue1
- [2]. Carole Tansley a, Jimmy Huang b, Carley Foster a, (2013). Identity ambiguity and the promises and practices of hybrid e-HRM project teams, vol 22, issue 3
- [3]. D'Silva, C. (2020). A Study on Increase in E-Recruitment and Selection Process. *International Journal of Research in Engineering, Science and Management*, 3(8), 205–213.
- [4]. Fraij, J. Varralyai, L. (2021). literature Review: Artificial Intelligence Impact on the Recruitment Process. *International Journal of Engineering and Management Sciences* 6 (1) 108-119
- [5]. Haslinda, A. (2009). Evolving Terms of Human Resource Management and Development. *Journal of International Social Research*, 2(9), 180-1866).
- [6]. Holm, A. B. (2012). E-recruitment: Towards a Ubiquitous Recruitment Process and Candidate Relationship Management. *Zeitschrift Für Personalforschung*, 26(3), 241-259.
- [7]. Hmoud, B., & László, V. (2019). Will artificial intelligence take over human resources recruitment and selection? *Network Intelligence Studies*, 7(13), 21–30.
- [8]. Ibrahim, W. M. R. W., & Hassan, R. (2019). Recruitment trends in the era of Industry 4.0 using artificial intelligence: pro and cons. *Asian Journal of Research in Business and Management*, 1(1), 16-21.
- [9]. Imran, R. (2021). Re-Inventing Human Resource Management Through Artificial Intelligence. In *Fourth Industrial Revolution and Business Dynamics*, 243–258
- [10]. Koch, I., Edita, P., Hermann, M., Andrea, K. (2018). Cognitive structure, flexibility, and plasticity in human multitasking—An integrative review of dual-task and task-switching research. *Psychological Bulletin*, 144 (6)
- [11]. Kundhavai, S., Sumathi, K., & Ahamed, S. (2020). Role of Artificial Intelligence While Hiring through Referral Recruitment: A Conceptual Review and Model for Future Research. *International Journal of Psychosocial Rehabilitation*, 24(5), 3453–3464
- [12]. Liu, R., Yang, B., Zio, E., & Chen, X. (2018). Artificial intelligence for fault diagnosis of rotating machinery: A review. *Mechanical Systems and Signal Processing*, 108, 33-47
- [13]. Miles, M.B., Huberman, A.M. (1994). *Qualitative Data Analysis*, 2nd ed., Sage, Thousand Oaks, CA, Posted by John Baek.
- [14]. Parry, E., & Tyson, S. (2008). An analysis of the use and success of online recruitment methods in the UK. *Human Resource Management Journal*, 18(3), 257–274.
- [15]. Shukla, A., Arora, V., & Kumar, G. D. (2022). Virtual Meeting Platforms for Online Activities during Covid-19: Empirical Evidence. *A Review of Economic & Social Development*, 57(4), 572–
- [16]. 585.
Singh, S. (2017). E-Recruitment: A New Dimension of Human Resource Management in India. *International Journal of Advance Research in Computer Science and Management Studies*, 5(3), 99–105.
- [17]. Tansley, C., Kirk, S., Tietze, S. (2013). The currency of talent management—A reply to “talent management and the relevance of context: Towards a pluralistic approach”. *Human Resources Management Review*, vol 23, issue 4, Pages 337-340
- [18]. Vardarlier, P., & Zafer, C. (2020). Use artificial intelligence as a business strategy in the recruitment process and social perspective. In *Digital Business Strategies in Blockchain Ecosystems* (pp. 355–373). Springer, Cham
- [19]. Winfield, A. (2020). Intelligence is not one thing. *Journal of Artificial General Intelligence*, 11(2), 97-100

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