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From Recruitment to Selection: Artificial Intelligence in Banking Sector with Special Reference to Kollam District

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Abstract

In recent years, it has become more common practice in the recruiting industry to utilise enormous volumes of data to find applications, analyse applicant profiles, conduct interviews, select top prospects, and so on. As a consequence of this, it has the potential to influence the function of human resources, the perspective of people looking for work, and the general culture and policies of the firm. This situation poses several difficulties closely related to real-world circumstances, as recruiters may not be aware of this technology's availability or because companies implementing it may still be in the early stages of the adoption process. The primary purpose of this research is to critically analyse the impact that Artificial Intelligence (AI) is having on Human Resource management practices, more specifically on recruitment and Selection in organisations. The researcher has focused on four AI capabilities in the banking industry and how they affect the hiring and selection process. Thirty employees of the banking industry in Kerala's Kollam region completed an online survey that the researcher used to gather primary data. To illustrate some of the conclusions regarding the influence of AI capabilities on recruitment and selection, the researcher has additionally concentrated on external secondary data (publications and reports). This motivates us to investigate the topic further.

Keywords: Artificial Intelligence, Recruitment process, Selection process, Banking, Chatbots, Automation

Introduction

In today's fast-evolving technological landscape, Artificial Intelligence (AI) has emerged as a transformative force across various industries, significantly impacting operational and decision-making processes. Among the sectors witnessing profound changes, the banking industry stands out due to its increasing reliance on AI for optimising functions such as recruitment and selection. Traditionally, human resource management in banks was labour-intensive and prone to biases, inefficiencies, and inconsistencies. However, with the advent of AI, banks can now leverage intelligent systems to streamline these processes, ensuring faster, more objective, and data-driven decisions. In the context of the banking sector in Kerala, a state known for its progressive outlook and strong educational background, the integration of AI into recruitment and selection practices has gained momentum. Kerala's banking institutions, both public and private, are increasingly adopting AI-driven solutions to meet the growing demands for skilled manpower, especially in a sector that

demands high levels of precision, compliance, and customer orientation. The use of AI-powered tools, such as chatbots, predictive analytics, and machine learning algorithms, helps banks automate candidate screening, assess competency levels, and enhance the overall efficiency of the hiring process.

This article explores the influence of AI on recruitment and selection processes within the banking sector of Kollam, focusing on the benefits, challenges, and prospects of this technological integration. By analysing real-world applications and case studies, the paper aims to provide insights into how AI is transforming the recruitment landscape, contributing to improved talent acquisition, reduced bias, and enhanced decision-making processes.

Materials and Methods

This study is descriptive in nature, which is based on primary and secondary data. The population of the study consist of all employees in the Banking sector in Kollam District. Convenient sampling is used for the study 30 samples were selected from the population to conduct the study. To make the study realistic and accurate, we collected primary data through a structured interview schedule. The secondary data used for the study are magazines, journals, websites, etc. It is used to establish a theoretical framework for the study. The study mainly aims to analyse the extent of AI adoption in recruitment and selection processes in the banking sector of Kollam city, to identify the key benefits of using AI in recruitment and selection, such as reducing time-to-hire, improving candidate quality, and minimising human biases, and to assess the challenges and limitations faced by banks in Kollam while implementing AI-driven recruitment solutions.

Some Examples of Banks Using AI in Kerala are: Federal Bank, South Indian Bank and Kerala Gramin Bank. Federal Bank is one of the leading private sector banks in Kerala. Federal Bank has been at the forefront of adopting AI in various facets, including recruitment. They use AI-driven chatbots for candidate interaction and ATS for resume screening, ensuring a smooth and efficient hiring process. Based in Thrissur, South Indian Bank has embraced digital transformation, including using AI for recruitment purposes. Their recruitment portal integrates AI for screening, matching candidates with appropriate job roles, and scheduling interviews. As a prominent rural bank in Kerala, Kerala Gramin Bank uses AI-based platforms to streamline the recruitment of staff in various branches. This includes automated assessments and video interviews powered by AI.

While AI brings numerous advantages to the recruitment process, there are also some challenges that banks face in its implementation:

1. Data Bias: AI systems need to be carefully designed and trained to avoid inherent biases in the data they process.
2. Cost of Implementation: Smaller banks may face financial constraints in implementing AI systems for recruitment, although this is becoming more affordable with cloud-based solutions.
3. Employee Resistance: There can be resistance from traditional HR staff or concerns over the depersonalization of the recruitment process.

The recruitment and selection processes in the banking sector have traditionally been labour-intensive, time-consuming, and often subject to human biases and inefficiencies. In recent years,

Artificial Intelligence (AI) has emerged as a promising solution to these challenges, offering banks the potential to streamline candidate screening, enhance decision-making, and improve the overall quality of hires. However, despite the growing interest in AI-driven recruitment, the adoption and integration of these technologies remain uneven, particularly in regional contexts.

The banking sector in Kerala is witnessing increased competition and a growing demand for highly skilled employees, but the current recruitment methods may not be fully equipped to meet these needs in an efficient and unbiased manner. Moreover, while AI offers significant advantages—such as reducing time-to-hire, improving accuracy in candidate assessments, and minimising bias—there are concerns about the potential challenges, including technical complexities, high costs, and ethical issues related to privacy and fairness in AI-driven recruitment. This study seeks to address the gap in understanding how AI is influencing recruitment and selection processes in the banking sector of Kollam District.

Results and Discussions

Table 1: Personal Profile of the Respondents

Sl. No.	Profile	Classification	No. of respondents	Percentage (%)
1.	Gender	Male	12	40
		Female	18	60
		Total	**30**	**100**
2.	Age	Below 25	11	36.67
		25-30	13	43.33
		Above 30	6	20
		Total	**30**	**100**
3.	Designation	HR Manager	7	23.33
		Branch Manager	6	20
		Officer	9	30
		Assistant manager	8	26.67
		Total	**30**	**100**

The study shows that the majority of respondents are females. The majority of respondents are in the age group of 25-30. Most of the respondents are officers in banks.

The respondents' level of awareness of the use of AI in the recruitment and selection process was collected and presented in Table 2. It is referred that in Table 2 that 63.33% of the respondents are aware of the use of AI in the recruitment and selection process in the Banking sector, using AI, whereas 36.67 % are unaware. The majority of the respondents are aware of the awareness and usage of AI in recruitment and selection.

Table 2: Awareness and Usage of AI in Recruitment and Selection

Sl. No.	Awareness	No. of respondents	Percentage (%)
1.	Yes	19	63.33
2.	No	11	36.67
Total		30	100

The awareness of respondents in the implementation of AI tools for recruitment and selection in banks is collected and presented in Table 3.

Table 3: Level of Implementation of AI Tools in Banks

Sl. No.	Level of implementation	No. of respondents	Percentage (%)
1.	Fully	11	36.67
2.	Partially	14	46.67
3.	No	5	16.66
	Total	**30**	**100**

Table 3 shows that 46.67 % of respondents' banks partially use AI for recruitment and selection. 36.67 % partially use and 16.66 % respondent`s yet to start using AI. On analysing the banks which implement AI for the purpose of recruitment, most of the banks partially implemented AI.

Various AI tools used in banks for recruitment and selection are given in Table 4 below. It shows that 40% of banks use Resume screening software during the recruitment of employees. 36.67% of banks use Chatbots for candidate queries. 16.66 % banks use video interview analysis tools for recruitment and selection of employees, and the remaining 6.67% banks of respondents selected use predictive analytics for candidate fit. Most of the respondents' banks use recruitment screening software for recruitment in banks.

Table 4: Types of AI Tools Used in Banks

Sl. No.	Types of AI tools	No. of respondents	Percentage (%)
1.	Chatbots for candidate queries	11	36.67
2.	Resume screening software	12	40
3.	Video interview analysis tools	5	16.66
4.	Predictive analytics for candidate fit	2	6.67
	Total	**30**	**100**

The challenges faced by banks while implementing AI in recruitment and selection are given below in Table 5. It shows the agreement of respondents relating to the challenges faced by banks while implementing AI on recruitment and selection process.

Table 5: Agreement Relating to the Challenges for AI Implementation

Challenges	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Agree(1)	TS	WS	MS	Status
High initial cost	7	6	5	4	8	90	3	3	Agree
Lack of technical expertise	11	2	3	8	6	86	2.86	3	Disagree
Resistance from employees	8	2	6	7	7	93	3.1	3	Agree
Data privacy concerns	6	9	2	5	8	90	3	3	Agree
Limited applicability	1	11	5	8	5	95	3.167	3	Agree

It shows that most of the respondents agree that the high initial cost, resistance from employees, data privacy concerns, and limited applicability are the major challenges faced by banks.

Table 6: Effectiveness of AI in Recruitment

Factors	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Agree (1)	TS	WS	Rank
Resume screening	9	10	3	3	5	105	7	III
Candidate shortlisting	16	4	5	3	2	119	7.93	II
Interview scheduling	7	6	8	3	6	95	6.33	V
Reducing time-to-hire	16	8	2	2	3	125	8.33	I
Improving candidate experience	6	8	6	7	3	97	6.46	IV

Table 6 shows that AI is most effective in reducing time to hire employees, followed by the candidate shortlisting process at 2nd rank. Resume screening at the 3rd rank followed by improving candidate experience at the 4th rank. On analysing the implementation of AI tools in the recruitment and selection process majority of banks get a benefit from reducing the hiring time of employees in banks.

Before the Emergence of AI in Recruitment Processes, recruitment in the banking sector was largely dependent on human intervention for every step of the process. HR teams had to manually sift through large volumes of resumes to shortlist candidates, often leading to delays, inefficiencies, and potential errors. The process of filtering candidates based on qualifications, skills, and experience was time-consuming and prone to subjective bias, as individual recruiters' opinions could affect the outcome. Traditional recruitment methods in banks involved multiple rounds of interviews, extensive paperwork, and a long cycle from job posting to final hiring. This often led to higher time-to-hire, which posed a problem, especially during high recruitment demand. Candidate assessments relied heavily on human judgment, often leading to inconsistencies in evaluating skills and competencies. Subjective opinions sometimes influenced hiring decisions, which could result in the wrong hires or potential talent being overlooked. Without AI, recruitment required significant human effort and time, translating to higher operational costs. Banks needed larger HR teams to handle various recruitment tasks manually, from resume screening to conducting interviews and background checks. Human biases, whether unconscious or conscious, played a role in recruitment decisions. There was a risk of overlooking qualified candidates due to biases related to gender, age, ethnicity, or other personal characteristics. Traditional recruitment methods often limited the reach of banks to a specific geographical area or required physical interactions (interviews and assessments), restricting access to a diverse talent pool.

With AI-driven systems, banks can now automate the initial resume screening process. AI algorithms can quickly parse resumes, filter candidates based on pre-defined criteria, and shortlist candidates with relevant skills and qualifications. This drastically reduces the time HR teams spend on manual screening. AI tools, such as applicant tracking systems (ATS), help banks manage the recruitment pipeline more efficiently. These systems automate repetitive tasks and streamline the process, reducing time-to-hire. For example, AI chatbots can handle initial candidate interactions, answer basic queries, and schedule interviews, speeding up communication between candidates and HR. AI-powered tools allows banks to conduct standardized assessments of candidates based on their skills, cognitive abilities, and personality traits. These tools use data-driven algorithms to evaluate candidates objectively, minimizing the risk of human bias and ensuring a more consistent selection process. By automating many steps of the recruitment process, AI reduces the need for extensive HR involvement, leading to cost savings for banks. AI-enabled systems can handle large volumes of candidates more effectively, reducing the resources required for recruitment campaigns.

AI systems, when properly designed, can reduce human bias in recruitment decisions. These systems focus solely on candidate qualifications, skills, and performance data, rather than personal characteristics. However, it's crucial to ensure that AI algorithms are free from any inherent biases that may exist in the data they are trained on. AI enables banks to cast a wider net by leveraging online platforms and virtual assessments. Banks can now recruit talent from diverse geographical regions without requiring candidates to be physically present, helping to tap into a more diverse talent pool. AI allows banks to use predictive analytics to forecast future talent needs based on historical data and current trends. This helps HR teams anticipate skill gaps and be more proactive in their recruitment efforts. AI-powered tools such as virtual assistants and chatbots provide a better candidate experience by offering real-time feedback, answering questions, and guiding candidates through the application process. This enhances communication and engagement, making the recruitment process more candidate-friendly. The banking sector In Kerala, like in many other parts of the world, has

begun embracing Artificial Intelligence (AI) to enhance the recruitment process. AI is revolutionising how banks manage human resources, particularly in hiring, by offering speed, efficiency, and objectivity.

Conclusion

The adoption of AI in recruitment in Kollam District's banking sector is evolving, with clear benefits in terms of efficiency and improved candidate quality. However, challenges related to cost, technical integration, and human acceptance persist. AI has proven effective in minimising biases, but its success hinges on the strategic combination of human oversight and technological solutions. In conclusion, banks in Kollam are leveraging AI to revolutionise their recruitment processes, making them more efficient, objective, and data-driven. This not only helps banks attract top talent but also ensures a more streamlined and bias-free recruitment system, contributing to the broader goal of digital transformation in the banking sector. This study puts forward the following suggestions to improve the efficiency of recruitment using AI in banking.

Increased Training: Banks should invest in training HR professionals to work alongside AI, enhancing their comfort and trust in AI tools, and focusing on complementary skill sets that technology alone cannot address, Strategic AI Integration: Rather than replacing human involvement entirely, AI should be used to support and enhance decision-making, with critical tasks still overseen by HR professionals to maintain a balanced approach, Cost Management: To manage costs, banks can initially implement AI in phases, starting with less complex tasks like resume filtering before moving to more advanced areas like candidate engagement and performance prediction, Customization: Banks should work towards customizing AI solutions to fit their specific recruitment needs, ensuring that AI is flexible and adaptable to the local workforce and market conditions in Kerala, Data-Driven Approach: Continuously gather data on AI performance to evaluate its effectiveness and refine the algorithms to align with long-term recruitment goals, and Collaboration with Tech Experts: Collaborating with AI solution providers and tech experts can help banks overcome technical challenges and ensure smoother implementation. These suggestions will help guide the article toward addressing both the advantages and the practical challenges of AI in recruitment with special reference to Kollam District.

References

Barnett J (2016). "The Role of Artificial intelligence in people management". *The business journals*, Retrieved from https://www.bizjournals.com/bizjournals/how-to/human-resources/2016/06/therole-of-artificial intelligence-in-people.html.

Bhalgat, Karan Hiren (2019). "An Exploration of How Artificial Intelligence Is Impacting Recruitment and Selection Process".

Black, J. Stewart and Patrick van Esch (2020). "AI-Enabled Recruiting: What Is It and How Should a Manager Use It?" *Business Horizons*, vol. 63, no. 2, pp. 215–226.

Dignum, Virginia (2018). "Ethics in Artificial Intelligence: Introduction to the Special Issue." *Ethics and Information Technology*, vol. 20, no. 1, pp. 1–3.

Dijkkamp, J. (2019). *The recruiter of the future, a qualitative study in AI supported recruitment process* (Master's thesis, University of Twente).

Fernández, Carmen and Alberto Fernández (2019). "AI in Recruiting Multi-Agent Systems Architectu Re for Ethical and Legal Auditing." *The Twenty-Eighth International Joint Conference on Artificial Intelligence* (IJCAI-19),

Han, D. (2020). The Rose: Artificial intelligence in the current hiring process. *Marriott Student Review*, *3*(3), 5.

Hmoud, Bilal, and Varallyai LASZLO (2019). "Will artificial intelligence take over human resources recruitment and selection?" *Network Intelligence Studies*, vol. 7, no. 13.

Johansson, J., & Herranen, S. (2019). The application of artificial intelligence (AI) in human resource management: Current state of AI and its impact on the traditional recruitment process.