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Utilization Of Artificial Intelligence in Human Resource Management Recruitment: Its Opportunities and Challenges

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Abstract- ***This study assessed the utilization of Artificial Intelligence (AI), opportunities, and challenges in Human Resource Management (HRM) recruitment among Higher Education Institutions (HEIs) in the Province of Antique, Philippines, during Academic Year 2025–2026. The 74 respondents were HR personnel composed of staff, specialists, and managers/directors from public and private HEIs, selected through purposive-convenient sampling. A validated and reliability-tested researcher-made questionnaire, and data were analyzed using frequency count, percentage, mean, Mann-Whitney U test, Kruskal-Wallis H test, and Spearman's rho at the 0.05 level of significance. Findings revealed that respondents were predominantly bachelor's degree holders, serving mainly as HR staff, engaged under job-order employment, and primarily affiliated with public HEIs. The extent of AI utilization was rated "To a Moderate Extent," particularly in matching candidate qualifications with job requirements, resume screening, and maintaining talent pool databases. Opportunities were "Slightly Favorable," with emphasis on improving recruitment speed, reducing time to hire, assisting in onboarding, and widening candidate pools. Challenges were "Mostly Encountered," notably data privacy concerns, ethical issues, high costs, and limited technical knowledge. No significant differences were observed in AI utilization, opportunities, and challenges when classified by educational attainment, position, employment status, years in service, and type of HEI. However, correlation analysis revealed significant relationships between AI utilization and opportunities, and between opportunities and challenges, while utilization and challenges showed no significant relationship. The study highlighted that AI adoption in HRM recruitment offered slightly favorable opportunities but persistent challenges, pointing to the need for stronger technical capacity, ethical safeguards, and organizational readiness***

Keywords: Utilization, Opportunities, Challenges, Artificial Intelligence, Human Resource Management Recruitment

I. INTRODUCTION

Worldwide, Artificial Intelligence in Human Resource Management serves as a transformative tool that enhances recruitment by automating candidate screening, matching, and scheduling. According to Ghedabna et al. (2024), AI enhances recruitment by minimizing bias, strengthening workforce diversity, and enabling HR professionals to focus on strategic decision-making.

Opportunities offered by AI include predictive analytics that identify high-potential candidates and chatbots that improve applicant engagement through real-time communication. These innovations not only streamline recruitment but also contribute to better retention outcomes, as employees are more likely to succeed when matched effectively to roles (Dwivedi, 2025). AI thus supports workforce sustainability by aligning organizational needs with candidate capabilities.

However, challenges remain. Garg (2025) emphasized that reliance on AI raises concerns about data privacy, algorithmic bias, and ethical accountability. Poorly designed algorithms may inadvertently exclude qualified applicants, creating tension between efficiency and fairness. This highlights the importance of integrating human judgment with AI systems to ensure equitable recruitment practices.

In the Philippine Human Resource Management context, AI utilization remains emerging amid technological gaps, limited resources, and workforce readiness issues. Recruitment challenges talent scarcity, migration, and skill mismatches persist, making AI both promising and complex. Studies highlight that while AI enhances recruitment speed

and accuracy, firms struggle with costs and ethical concerns (Ghedabna et al., 2024; Dwivedi, 2025). Despite initiatives, integration gaps remain, as most research treats opportunities and challenges separately, overlooking their interconnected impact on workforce development (Garg, 2025; Dwivedi, 2025). This study examined the utilization of Artificial Intelligence (AI), opportunities, and challenges in Human Resource Management recruitment among Higher Education Institutions, thereby offering insights to guide fair, efficient, and sustainable labor policies in the Philippines.

Statement of the Problem

This study examined the utilization of Artificial Intelligence (AI), opportunities, and challenges in Human Resource Management recruitment among Higher Education Institutions in the province of Antique, Philippines, for Academic Year 2025- 2026. Specifically, this study sought to answer the following questions:

1. What is the profile of respondents in terms of educational attainment, position, employment status, years in service, and type of HEI?
2. What is the extent of utilization of Artificial Intelligence in human resource management recruitment as assessed by the respondents, when taken as a whole and when classified according to educational attainment, position, employment status, years in service, and type of HEI?
3. What are the Artificial Intelligence opportunities in human resource management recruitment as assessed by the respondents, when taken as a whole and when classified according to educational attainment, position, employment status, years in service, and type of HEI?
4. What are the Artificial Intelligence challenges in human resource management recruitment as assessed by the respondents, when taken as a whole and when classified according to educational attainment, position, employment status, years in service, and type of HEI?
5. Are there significant differences in the extent of utilization of Artificial Intelligence in human resource management recruitment as assessed by the respondents, when classified according to educational attainment, position, employment status, years in service, and type of HEI?
6. Are there significant differences in the Artificial Intelligence opportunities in human resource management recruitment as assessed by the respondents, when classified according to educational attainment, position, employment status, years in service, and type of HEI?
7. Are there significant differences in the Artificial Intelligence challenges in human resource management recruitment as assessed by the respondents, when classified according to educational attainment, position, employment status, years in service, and type of HEI?
8. Are there significant relationships among utilization of artificial intelligence, opportunities, and challenges in human resource management in recruitment among Higher Educational Institutions?

Hypotheses

1. There are no significant differences in the extent of utilization of Artificial Intelligence in human resource management recruitment as assessed by the respondents, when classified according to educational attainment, position, employment status, years in service, and type of HEI.
2. There are no significant differences in the Artificial Intelligence opportunities in human resource management recruitment as assessed by the respondents, when classified according to educational attainment, position, employment status, years in service, and type of HEI.
3. There are no significant differences in the Artificial Intelligence challenges in human resource management recruitment as assessed by the respondents, when classified according to educational attainment, position, employment status, years in service, and type of HEI.
9. There are no significant relationships among utilization of artificial intelligence, opportunities, and challenges in human resource management in recruitment among Higher Educational Institutions.

Theoretical Framework

This study was anchored on three theories related to Artificial Intelligence in Human Resource Management recruitment: Unified Theory of Acceptance and Use of Technology (UTAUT),

Resource-Based View Theory, and Socio-Technical Systems Theory.

For the utilization of AI in HRM recruitment, this study adopted the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh, Morris, Davis, and Davis (2003). UTAUT explains technology adoption through four determinants: performance expectancy, effort expectancy, social influence, and facilitating conditions.

In the present study, it guided how HR professionals in Higher Education Institutions in Antique assessed the usefulness of AI tools, the ease of applying them, the influence of organizational culture and leadership, and the availability of resources that supported adoption. This framework provided a more precise lens for understanding AI utilization compared to general innovation diffusion models, as it directly addressed behavioral intention and actual technology use in organizational contexts.

For opportunities of AI in HRM recruitment, this study adopted Barney's Resource-Based View by Barney (1991). This theory posits that organizations gain sustainable competitive advantage from resources that are valuable, rare, inimitable, and non-substitutable. Applied to the present study, AI-driven recruitment systems were considered strategic resources that enhanced talent acquisition, improved candidate-job matching, and strengthened institutional competitiveness. In Higher Education Institutions, AI utilization created opportunities to attract and retain high-quality talent, reduce bias, and support workforce diversity.

For challenges of AI in HRM recruitment, this study was anchored on Trist and Emery's Socio-Technical Systems Theory by Trist and Emery (1951). This theory emphasizes the interdependence of social and technical systems in organizations. In the present study, it explained that while AI offered technical efficiency, challenges arose when social systems such as organizational culture, ethical norms, and employee trust were not aligned. Issues of bias, data privacy, and accountability remained pressing concerns, underscoring the need for balanced integration of technology and human judgment in recruitment.

In the context of Higher Education Institutions, these theories collectively explained how the utilization, opportunities, and challenges of AI in HRM recruitment were shaped by innovation diffusion, organizational resources, and socio-technical alignment. They highlighted both the transformative potential of AI and the challenges that institutions must overcome to ensure fair, efficient, and sustainable HRM practices.

Conceptual Framework

This study examined the utilization of Artificial Intelligence, opportunities and challenges in Human Resource Management recruitment among Higher Education Institutions in Antique, Philippines, for Academic Year 2025–2026. These recruitment dimensions were analyzed in relation to selected demographic attributes to identify patterns that shaped HR professionals' experiences with AI utilization, their ability to maximize opportunities, and their capacity to address challenges in institutional recruitment practices.

As to educational attainment, respondents were categorized as "Master's Degree" and "Bachelor's Degree." Those respondents with higher educational attainment had greater access to advanced training, leadership roles, and professional growth opportunities, which strengthened their ability to utilize AI in recruitment. Those with lower educational attainment had fewer opportunities, limiting readiness for AI utilization.

As to position, respondents were classified as "HR Managers/Directors," "HR Specialists," and "HR Staff." HR Managers and Directors guided utilization of AI by aligning recruitment strategies with institutional goals, HR Specialists handled technical applications of AI tools, and HR Staff relied on AI systems to improve efficiency and candidate matching. These distinctions shaped how AI was utilized across HR roles.

As to employment status, respondents were categorized as "Permanent," "Contractual," and "Job-order." Permanent employees had greater exposure to AI utilization due to long-term commitment, while contractual and job-order staff

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encountered challenges in adapting because of limited tenure and training opportunities.

As to years of service, respondents were grouped into "5 years and below" and "6 years and above." Those with longer service demonstrated stronger adaptability to institutional changes and greater capacity to utilize AI into recruitment. Newer employees were still adjusting to organizational culture and technological demands, shaping their experiences with AI systems.

As to type of HEI, institutions were classified as "Public" and "Private." Public HEIs often faced resource constraints and technological gaps, which created challenges but also opened opportunities for innovation. It was presumed that Private HEIs generally had better facilities and support systems, enabling smoother integration of AI tools, though performance pressures also shaped utilization.

Lastly, the researcher believed that the utilization of AI in HRM recruitment was closely connected to both opportunities and challenges. Opportunities such as efficiency, diversity, and competitiveness were evident in how AI streamlined recruitment processes and strengthened institutional capacity. At the same time, challenges involving bias, cost, and workforce readiness remained, requiring careful alignment of technology with organizational practices. In turn, HR professionals who maximized opportunities while addressing challenges sustained effective recruitment, thereby supporting institutional performance and workforce development.

These concepts are illustrated in Figure 1.

Research Paradigm

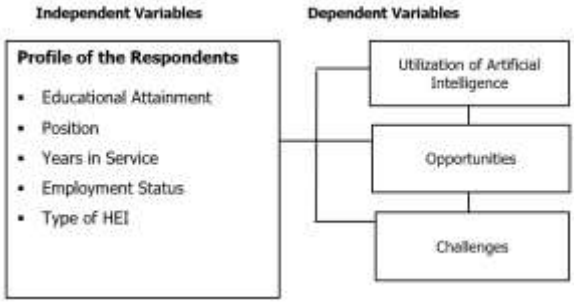

Figure 1. *Schematic Diagram Showing the Relationship between the Independent and the Dependent Variables of the Study*

Significance of the Study

This research on the utilization of Artificial Intelligence (AI) in Human Resource Management, focusing on opportunities and challenges in recruitment among Higher Education Institutions in the province of Antique, Philippines, is beneficial to the following stakeholders:

Commission on Higher Education (CHED) Officials. The findings provide CHED with insights into how the utilization of AI can be integrated into HRM recruitment across higher education institutions. Recommendations guide CHED in formulating policies, standards, and guidelines that promote ethical AI utilization, strengthen recruitment systems, and ensure that institutions remain competitive and aligned with national development goals.

Higher Education Institution Administrators. The results inform administrators in designing and enhancing recruitment policies and systems that utilize AI effectively. By identifying opportunities and challenges, administrators are able to prioritize resources, apply ethical practices, and strengthen organizational strategies that contribute to fair, efficient, and sustainable recruitment processes.

Human Resource Management Officers. HR officers' benefit from evidence-based insights into how the utilization of AI streamlines recruitment, improves candidate-job matching, and reduces administrative burdens. The study highlights both opportunities and challenges, enabling HR professionals to align

recruitment practices with institutional goals while ensuring transparency, inclusivity, and accountability. Applicants. Applicants for faculty and staff positions benefit from recruitment systems that are more transparent, responsive, and equitable. AI tools improve candidate experience by providing timely feedback, reducing bias, and ensuring fairer selection processes.

Non-teaching staff. Non- teaching staff gain from streamlined recruitment processes that reduce administrative delays and improve job matching. The study shows how the utilization of AI enhances staff recruitment by ensuring efficiency and fairness, while also addressing challenges such as system usability and organizational readiness.

Faculty. Faculty members benefit from improved recruitment processes that ensure fairness, transparency, and efficiency. AI-driven systems help institutions attract qualified educators, reduce bias in hiring, and strengthen faculty development by aligning recruitment with institutional needs.

Researcher. As part of the HR officers in HEIs, the researcher gained valuable insights into the utilization of AI in HRM recruitment. The study provided a foundation for further exploration of opportunities and challenges, which the researcher used to examine related variables such as employee engagement, organizational culture, and digital readiness in higher education institutions.

Future Researchers. This study contributes to the broader field of HRM and AI research by offering a foundation for further inquiry. It invites future researchers to explore additional methodologies, comparative studies, and emerging technologies that deepen understanding of the utilization of AI in recruitment, thereby supporting the development of more effective and sustainable HRM practices.

Definition of Terms

To provide clarity on key terms used in this study, the following definitions are presented both conceptually and operationally:

Definition of Terms

To provide clarity on key terms used in this study, the following definitions are presented both conceptually and operationally:

Artificial Intelligence Challenges in Recruitment. This term refers to the barriers and limitations associated with AI utilization in recruitment, including ethical concerns, algorithmic bias, data privacy issues, and organizational readiness (Lutfi and Mohammadi, 2025).

In this study, AI challenges in recruitment referred to the difficulties encountered in the utilization of AI within recruitment processes by HRM offices in Higher Education Institutions in the province of Antique, Philippines, for Academic Year 2025–2026. These were described as “Mostly Encountered,” “Slightly Encountered,” and “Least Encountered.”

Artificial Intelligence Opportunities in Recruitment. This term refers to the potential benefits that AI brings to recruitment, including efficiency, fairness, improved candidate-job matching, and enhanced candidate experience (Harris, 2025).

In this study, AI opportunities in recruitment referred to the benefits arising from the utilization of AI during the recruitment or hiring process, as identified by HRM offices in Higher Education Institutions in Antique, Philippines, for Academic Year 2025–2026. These were described as “Highly Favorable,” “Slightly Favorable,” and “Very Unfavorable.”

Utilization of Artificial Intelligence in HRM Recruitment. This term refers to the integration of AI technologies into human resource management functions such as recruitment, performance evaluation, and employee development. AI enhances efficiency by automating repetitive tasks, reduces bias in decision-making through algorithmic analysis, and supports organizational growth by detecting skill gaps and recommending tailored training programs (Ghedabna et al., 2024).

In this study, utilization of AI in HRM recruitment referred to the application of advanced digital tools and algorithmic systems in recruitment processes within Higher Education Institutions in the province of

Antique, Philippines, for Academic Year 2025- 2026. Its extent of utilization was described as "To a Very Great Extent," "To a Great Extent," "To a Moderate Extent," "To a Low Extent," and "To a Very Low Extent."

Scope and Limitations of the Study

This study focused on assessing the utilization of Artificial Intelligence (AI) in Human Resource Management, specifically its opportunities and challenges in recruitment among Higher Education Institutions (HEIs) in the province of Antique, Philippines, for Academic Year 2025–2026. The respondents of the study were seventy-four (74) Human Resource personnel, composed of staff, specialists, and managers or directors, representing both public and private Higher Education Institutions (HEIs) in the province of Antique.

Respondents were selected through purposive-convenient sampling, based on data provided by the Human Resource Offices of the participating institutions. A researcher-made questionnaire, developed from relevant literature and previous studies, served as the primary data-gathering instrument. The questionnaire consisted of four parts: Part I gathered the personal profile of the respondents (educational attainment, position, employment status, years of service, and type of HEI); Part II assessed the utilization of AI in HRM recruitment; Part III evaluated AI opportunities in recruitment; and Part IV identified AI challenges in recruitment.

The instrument was validated by a panel of experts in research, statistics, human resource management and information technology and was subjected to reliability testing. To establish reliability, the questionnaire was pilot-tested on 30 HR professionals, 15 employed in private HEIs in Iloilo City and 15 employed in public HEIs in the province of Iloilo who were not included as respondents in the main study.

Data were collected, tabulated, and analyzed using appropriate statistical tools, including frequency count, percentage, mean, Kruskal Wallis H test, Mann Whitney U test, and Spearman's rho. All statistical computations were performed using the Statistical Package for the Social Sciences (SPSS) software, with the margin of error set at the 0.05 alpha level.

The study was limited to Higher Education Institutions within the province of Antique as its geographic coverage.

II. REVIEW OF RELATED LITERATURE AND STUDIES

This sectionf presents the literature and research, relevant to the study on utilization of artificial intelligence, opportunities, and challenges in human resource management in recruitment.

Conceptual Literature

On Utilization of Artificial Intelligence in Human Resource Management Recruitment

Human Resource Management (HRM) is widely recognized as a pivotal organizational function that manages and optimizes the employee lifecycle, encompassing recruitment, onboarding, performance management, training, and development. It serves both strategic and operational roles, ensuring that workforce practices align with Higher Education Institutions' objectives and long-term competitiveness.

As Abraham (2024) notes, HRM is essential to organizational success by integrating employee management with broader institutional goals. Similarly, Coursera (2025) emphasize that HRM involves managing employees in ways that advance business outcomes and strengthen workplace culture. Collectively, these perspectives highlight HRM as a discipline that strategically utilizes human capital to achieve efficiency, development, and sustainability.

Artificial Intelligence (AI) has increasingly been integrated into HRM recruitment, transforming traditional hiring practices into more efficient, data-driven processes. Dadaboyev et al. (2025) define AI utilization in recruitment as the integration of intelligent technologies that automate candidate screening, enhance efficiency, and improve hiring outcomes, while also raising ethical concerns such as bias, transparency, and fairness. El Ouakili (2025) similarly describes AI in recruitment as the use of algorithms and machine learning tools to automate candidate sourcing, screening, and selection, thereby reducing manual workload and improving efficiency.

From a broader perspective, Monett, Lewis, and Thórisson (2020) explain AI as systems capable of performing tasks requiring human-like intelligence, including reasoning, learning, and perception, while the European Commission Joint Research Centre (2020) highlights AI as technologies that enable machines to sense, comprehend, act, and learn, extending human capabilities. Complementing these views, Emmert-Streib et. al, (2020) emphasize that AI is not a single technology but a collection of methods designed to replicate or augment human cognition.

Within HRM recruitment, AI is applied to streamline hiring processes, reduce bias, and improve candidate-job matching. Gélinas et al. (2022) describe AI as a tool that enhances fairness and accuracy in recruitment outcomes, while the IEEE Editorial Board (2021) defines AI as the simulation of human intelligence processes by machines, including learning, reasoning, and self-correction. These perspectives collectively illustrate AI as a transformative technology that enables machines to mimic and extend human intelligence in recruitment contexts. HRM practices, as Liu et. al, (2020) explain, involve attracting, motivating, and retaining employees to ensure organizational survival and competitiveness. Likewise, Cooke et. al, (2020) view HRM as a multidisciplinary field concerned with people management, encompassing recruitment, training, performance, and employee relations, while Jain (2020) emphasizes HRM's strategic role in utilizing human capital to achieve organizational goals.

Recent studies further highlight AI's growing role in recruitment. Raza (2025) notes that machine learning and predictive analytics are increasingly applied to improve efficiency and candidate experience. Ghedabna et al. (2020) argue that AI revolutionizes hiring by automating resume screening, candidate evaluation, and interview scheduling. Similarly, Hukkeri & Pol (2025) emphasize that AI integration enhances recruitment efficiency and onboarding effectiveness, enabling organizations to identify and hire qualified candidates more strategically. El Ouakili (2025) also points out that AI recruitment tools analyze resumes, predict candidate success, and support HR managers in making evidence-based hiring decisions. Finally, Gélinas et al. (2022) underscore that AI in HRM recruitment integrates predictive analytics and natural language processing to improve efficiency, fairness, and candidate experience.

On Artificial Intelligence Opportunities in HRM Recruitment

The integration of Artificial Intelligence (AI) into Human Resource Management (HRM) recruitment offers significant opportunities for Higher Education Institutions (HEIs). As these institutions strive to remain competitive in attracting and retaining talent, AI provides transformative tools that streamline recruitment processes, enhance candidate experiences, and align workforce practices with organizational objectives. By automating routine tasks and introducing data-driven decision-making, AI reduces administrative burdens while ensuring transparency and fairness in hiring. Within HEIs, AI-driven recruitment systems strengthen institutional capacity to identify qualified faculty and staff, support organizational development, and promote sustainability. These opportunities position AI not only as a technological advancement but also as a strategic enabler of efficiency, equity, and long-term competitiveness in higher education.

Vieriu and Petrea (2025) explain that AI offers opportunities to enhance student learning and academic development by providing personalized educational experiences and adaptive learning systems, underscoring its transformative role in improving outcomes for learners.

Eager et al. (2020) emphasize that AI creates opportunities for socioeconomic growth by driving innovation in industrial sectors, improving productivity, and supporting sustainable development, with implications for reshaping economies. Gil de Zúñiga et. al, (2023) argue that AI enriches communication research by serving as a conceptual framework to study human–machine interactions, thereby advancing social science methodologies.

Sheikh et al. (2023) describe AI as an opportunity to extend human capabilities in policy-making, healthcare, and governance, where intelligent systems support evidence-based decisions and improve efficiency. Emmert-Streib et al. (2020) emphasize that

AI augments human cognition, offering new methods for problem-solving, predictive analytics, and decision support across industries. Russell and Norvig (2021) explain that AI presents opportunities to create intelligent agents capable of reasoning and learning, applicable in robotics, natural language processing, and autonomous systems.

In applied contexts, Hazarika (2020) highlights AI's potential to augment healthcare provider performance by reducing workload stress, improving diagnostic accuracy, and supporting clinical decision-making, ultimately transforming patient care. Similarly, Shabbir and Anwer (2020) underscore AI's role in business innovation, noting its ability to automate processes, enhance customer engagement, and enable predictive analytics, thereby creating competitive advantages and driving digital transformation.

On Artificial Intelligence Challenges in HRM Recruitment

While the integration of Artificial Intelligence (AI) into Human Resource Management (HRM) recruitment offers significant opportunities, it also presents notable challenges that Higher Education Institutions (HEIs) and organizations must address. These challenges revolve around fairness, transparency, data privacy, ethical concerns, and the technical and financial barriers associated with AI adoption. Understanding these limitations is essential to ensure that recruitment practices remain equitable, trustworthy, and sustainable.

Raza (2025) highlights that although AI improves efficiency in recruitment, it raises concerns about fairness and bias in algorithms, which may disadvantage certain candidates and perpetuate inequality. Dadaboyev et al. (2025) explain that AI recruitment systems often lack transparency, making it difficult for HR managers to understand how decisions are made. The absence of explainability creates barriers to trust and accountability in hiring practices. Similarly, Lutfi and Mohammadi (2025) emphasize that AI recruitment tools pose challenges related to data privacy, as sensitive candidate information is processed and stored digitally, raising concerns about compliance with data protection regulations. Raza (2025) further notes that AI reduces personal interaction between recruiters and candidates, potentially harming the candidate experience and weakening employer branding.

Ethical and legal issues also emerge in AI-driven recruitment. Benabou and Touhami (2020) argue that AI creates risks of discrimination and challenges in complying with labor laws, underscoring the need for careful governance. Ore and Sposato (2022) caution that organizations may become overly dependent on AI recruitment tools, which can lead to errors if systems malfunction or data is flawed, thereby undermining the reliability of recruitment outcomes. Ghedabna et al. (2020) add that integrating AI into existing HR systems is complex, requiring significant investment and training, which often slows adoption and creates resistance among HR professionals.

Trust and skill gaps further complicate implementation. Dadaboyev et al. (2025) highlight that candidates may distrust AI-driven recruitment systems, fearing unfair treatment or lack of human judgment, which can negatively affect engagement and organizational reputation. Lutfi and Mohammadi (2025) also point out that HR managers often lack the technical expertise to effectively use AI recruitment tools, creating barriers to implementation and widening the skill gap in HR practice. Finally, Ore and Sposato (2022) emphasize that AI recruitment systems are expensive to develop and maintain, posing financial challenges for small and medium-sized enterprises and limiting accessibility and scalability.

Related Studies

Foreign Studies

The utilization of Artificial Intelligence (AI) in Human Resource Management (HRM) recruitment has become a transformative practice, reshaping how organizations attract and select candidates. Within Higher Education Institutions (HEIs), AI offers opportunities to streamline recruitment processes, enhance efficiency, improve candidate-job matching, and strengthen transparency in hiring decisions. At the same time, its adoption presents challenges such as algorithmic bias, data privacy concerns, reduced human interaction, and the need for technical expertise and ethical safeguards. These dynamics position AI in HRM recruitment as both a strategic enabler of institutional growth and a complex tool requiring careful governance to balance efficiency with fairness.

Liu et al. (2020) examined HRM practices in Long Hope Communication Co., Ltd., finding that training, promotion opportunities, and feedback supported productivity. However, overall efficiency was constrained by weak appraisal systems, lack of management support, and low employee involvement. They concluded that HRM practices require improvement to sustain motivation and organizational performance.

Cooke et al. (2020) reviewed global HRM research trends, noting the replication of Western models in developing contexts, limited attention to sectoral and ownership differences, and insufficient focus on employee perceptions. Their study called for context-sensitive approaches and highlighted opportunities in sustainability, diversity, HR analytics, and the future of work.

Benabou and Touhami (2020) conducted a systematic review of 91 studies on AI in HRM, showing that AI enhances recruitment, integration, career management, payroll, and compensation. However, they also identified challenges including ethical issues, bias, data privacy, and the need for employee reskilling. They emphasized balancing innovation with ethical safeguards and employee well-being.
Ghedabna et al. (2020) explored AI's impact on HR functions, finding that it improves efficiency by automating tasks, analyzing candidate data, predicting performance, and identifying skill gaps. Despite these benefits, they cautioned that ethical challenges such as bias, privacy, and transparency require careful governance.

Ore and Sposato (2022) studied recruiters in a multinational organization, reporting that AI improves efficiency by automating routine tasks but also generates fear and distrust, particularly concerns about job loss. They emphasized that human recruiters remain essential, underscoring the need for balance between technology and human oversight.

Gélinas et al. (2022) conducted a scoping review of 85 articles on AI in HRM, classifying them across six dimensions of the HR life cycle—strategic planning, recruitment, training, performance management, compensation, and human relations—and identifying legal and ethical issues as a seventh dimension. They recommended future research on the connections between these dimensions and their impact on HR outcomes.

Benabou and Touhami (2023) updated their review, again highlighting AI's benefits in recruitment, integration, career management, payroll, and compensation, while stressing ethical concerns, data privacy, and the need for reskilling. Ghedabna et al. (2024) examined AI's role in recruitment, performance management, and employee development, noting improvements in efficiency, reduced bias, and career support through predictive analytics. They cautioned that bias, privacy, and transparency remain persistent limitations.

Dwivedi (2025) conducted a systematic review of 54 articles, finding that intelligent automation reshapes HR strategies including recruitment, evaluation, training, engagement, and compensation. While AI boosts performance and productivity, adoption and ethical challenges persist, requiring strategic frameworks for integration.

Garg (2025) analyzed AI's influence on HR practices, highlighting opportunities in recruitment, engagement, performance management, and learning. The study concluded that AI can enhance efficiency and reduce bias if implemented responsibly, but organizations must address ethical, legal, and technical complexities.

Raza (2025) explored AI technologies such as machine learning, natural language processing, chatbots, and predictive analytics in recruitment and selection. Using qualitative methods, the study found that AI improves efficiency, reduces time to hire, and enhances candidate experience. However, concerns about fairness, bias, privacy, and reduced human interaction remain.

El Ouakili (2025) investigated AI's impact on recruitment using mixed methods, finding that AI significantly improves efficiency and reduces hiring costs. However, its role in promoting diversity and reducing bias remains uncertain, with participants expressing concerns about fairness and inclusivity.

Harris (2025) analyzed AI and automation in recruitment, highlighting benefits such as speed, accuracy, and improved candidate experience. The study warned of algorithmic bias, data privacy concerns, and lack of transparency, emphasizing the need for ethical frameworks and human oversight to ensure fairness.

Lastly, the study of Lutfi and Mohammadi (2025) examined challenges in AI adoption for HRM, identifying skill shortages, ethical dilemmas, employee reluctance, and data protection issues. They also noted technical problems such as opaque systems and unequal access to technology. Despite these difficulties, they concluded that AI can enhance productivity and decision-making if organizations invest in staff training and adopt transparent, ethical approaches.

Local Studies

In the Philippine setting, scholars have increasingly examined the integration of Artificial Intelligence (AI) into Human Resource Management (HRM) recruitment, highlighting both its transformative potential and the challenges that accompany adoption. These local studies provide insights into efficiency gains, candidate experiences, and organizational development, while also addressing issues of cost, privacy, workforce readiness, and employee trust. Together, they illustrate how AI is reshaping HRM practices in the country and emphasize the importance of leadership support, ethical safeguards, and human-AI collaboration.

Cacatian et al. (2025) explored AI integration in HR recruitment in Metro Manila through interviews with HR professionals. Their findings revealed that AI significantly improves efficiency by automating repetitive tasks and streamlining hiring processes. However, concerns about over-reliance and employee resistance were noted. The study concluded that AI is transformative for HR practices, provided organizations secure leadership support and manage change effectively.

Mirji (2021) examined the limitations of AI in recruitment, identifying issues such as poor candidate matching, language barriers, data inadequacy, skepticism among HR professionals, and high implementation costs. While AI offers convenience in candidate searches, its shortcomings hinder effectiveness. The study recommended socio-technical system design and human-machine collaboration to enhance recruitment tools.

Gonzales (2024) analyzed how AI is reshaping HR management in the Philippines, highlighting its role in automating administrative tasks, streamlining recruitment, improving employee experiences, and enabling predictive workforce analytics. Despite challenges such as high costs, data privacy concerns, and workforce readiness, the study emphasized that AI offers efficiency, scalability, and better decision-making. Gonzales concluded that human-AI collaboration will define the future of HR.

Mobo (2025) investigated AI adoption in Philippine HRM, noting uneven integration across sectors such as maritime and higher education. AI was perceived as a complementary rather than replacement technology, though challenges like data silos persist. The study stressed the importance of preparing workers to collaborate effectively with AI systems.

Caynila and Centeno (2025) examined the IT-BPM industry, a major contributor to the Philippine economy, and its transformation through generative AI. Their findings suggested that GenAI will augment rather than displace jobs, underscoring the urgent need for workforce reskilling and upskilling to meet evolving demands.

Lastly, the study of Cucio and Hennig (2025) assessed AI's impact on the Philippine labor market using occupational exposure and complementarity frameworks. They found that one-third of occupations are highly exposed to AI, with most likely to be augmented rather than replaced. However, BPO jobs face higher displacement risks. The study highlighted government initiatives such as the National AI Strategy Roadmap, while noting persistent challenges in regulation, infrastructure, and workforce readiness.

Relevance of the Related Literature and Studies

The conceptual literature and previous studies reviewed in this research were highly relevant and aligned with the investigation, as they emphasized the utilization, opportunities, and challenges of Artificial

Intelligence (AI) in Human Resource Management (HRM) recruitment. For utilization, Emmert-Streib, Yli-Harja, and Dehmer (2020) and Shabbir and Anwer (2020) clarified AI's definitions and broader applications, framing it as a set of methods designed to replicate or augment human cognition while driving innovation in HR processes. In terms of opportunities, Hazarika (2020) and Russell and Norvig (2021) highlighted AI's potential to enhance efficiency, reduce workload stress, and improve candidate matching through intelligent agents capable of reasoning and learning. Conversely, challenges were underscored by Benabou and Touhami (2020) and Ore and Sposato (2022), who identified ethical concerns, bias, data privacy issues, and recruiter distrust, stressing the need for human oversight and balanced governance.

Foreign studies such as those by Benabou and Touhami (2020) and Ore and Sposato (2022) emphasized AI's dual role in recruitment enhancing efficiency while raising ethical and trust concerns. Local studies by Cacatian et al. (2025) and Gonzales (2024) contextualized these issues in the Philippines, showing that AI improved recruitment efficiency and reshaped HR functions, but also revealed challenges such as employee resistance, high costs, and data privacy concerns.

Together, these selected conceptual, foreign, and local studies provided essential insights that informed the study's framework. They identified key variables such as recruitment efficiency, candidate experience, algorithmic bias, data privacy, and workforce readiness, and demonstrated how these factors influenced organizational performance, employee trust, and long-term HR sustainability.

Ultimately, this body of literature offered a strong foundation that enabled the researcher to refine the research problem, strengthen the analytical framework, and ensure that the investigation on utilization of AI in HRM recruitment its opportunities and challenges was grounded in credible and contextually relevant scholarship.

III. RESEARCH METHODOLOGY

This part encompasses a thorough discussion of the research design, study's respondents, data gathering instrument, data gathering procedure, and the statistical tools to be employed.

Research Design

This study aimed to examine the utilization of Artificial Intelligence (AI), opportunities, challenges in Human Resource Management (HRM) recruitment among Higher Education Institutions (HEIs) in the province of Antique, Philippines, for Calendar Year 2025-2026. A descriptive research design was employed in the study.

This approach was chosen to systematically describe the existing conditions and provide an accurate profile of how practices indicated the utilization of AI in HRM recruitment processes without manipulating any variables. According to Saunders, Lewis, and Thornhill (2019), descriptive research seeks to capture the characteristics of events, persons, or situations, serving either as an extension of exploratory research or as a precursor to explanatory studies. As Hamaker et al. (2020) explain, descriptive research outlines the features of a group or phenomenon, predictive research projects future outcomes, and explanatory research seeks to uncover causal mechanisms.

The primary objective of descriptive studies is to depict individuals, events, or conditions as they naturally exist. Researchers do not alter variables but instead document and analyze the sample being studied (Siedlecki, 2020).

This research design was appropriate for the study, as it allowed the researcher to observe and analyze the existing practices that indicated the utilization of AI in recruitment. By doing so, the investigation provided a comprehensive understanding of both the opportunities such as efficiency, improved candidate quality, and reduced bias and the challenges, including ethical concerns, data privacy, and workforce readiness, that shaped the utilization of AI in Human Resource Management within the Philippine context.

Respondents of the Study

The respondents of the study were seventy-four (74) Human Resource personnel, composed of staff, specialists, and managers or directors, representing both public and private Higher Education Institutions (HEIs) in the province of Antique. They were purposively chosen based on official data provided by the Human Resource Offices of the participating institutions. Only those who were available during the conduct of the study and who voluntarily agreed to participate were included as respondents, thereby ensuring both accessibility and willingness. This purposive-convenient sampling technique allowed the researcher to capture insights from HR personnel directly involved in recruitment and management practices.

The distribution of respondents is presented in Table 1.

Table 1. Distribution of Respondents

HEI	N	%
Public	51	68.9
Private	23	31.1
Total	74	100.0

Data Gathering Instrument

The researcher utilized a modified, researcher-made questionnaire adopted from relevant literature to gather data for the study. The instrument consisted of four parts.

Part I collected the profile and relevant information of the respondents, including educational attainment, position, employment status, years in service, and type of HEI. Part II obtained responses from HR personnel regarding the utilization of AI in HRM recruitment. Respondents answered using a five-point Likert scale (5 – Strongly Agree to 1 – Strongly Disagree). Operationally, the scale was described as: 5 – To a Very Great Extent, 4 – To a Great Extent, 3 – To a Moderate Extent, 2 – To a Low Extent, and 1 – To a Very Low Extent.

Part III captured responses on AI opportunities in HRM recruitment. Respondents indicated their answers using a three-point frequency scale (3 – Always, 2 – Sometimes, 1 – Never). Operationally, this was described as: 3 – Highly Favorable, 2 – Slightly Favorable, and 1 – Very Unfavorable. Part IV gathered responses on AI challenges in HRM recruitment. Respondents also answered using a three-point frequency scale (3 – Always, 2 – Sometimes, 1 – Never). Operationally, this was described as: 3 – Mostly Encountered, 2 – Slightly Encountered, and 1 – Least Encountered. Parts II, III, and IV of the questionnaires were carefully modified from established instruments used in previous studies to suit the specific objectives and context of the present research.

Utilization of Artificial Intelligence in HRM Recruitment

Scale of Means	Description	Interpretation
4.21 – 5.00	To a Very Great Extent	The application of advanced digital tools and algorithmic systems in HRM recruitment consistently enhanced processes, improved efficiency, elevated candidate quality, and promoted fairness in hiring across all HEIs.
3.41 – 4.20	To a Great Extent	The application of advanced digital tools and algorithmic systems in HRM recruitment consistently enhanced processes, improved efficiency, elevated candidate quality, and promoted fairness in hiring in most HEIs.
2.61 – 3.40	To a Moderate Extent	The application of advanced digital tools and algorithmic systems in HRM recruitment consistently enhanced processes, improved efficiency, elevated candidate quality, and promoted fairness in hiring only in some HEIs.
1.81 – 2.60	To a Low Extent	The application of advanced digital tools and algorithmic systems in HRM recruitment consistently enhanced processes, improved efficiency, elevated candidate quality, and promoted fairness in hiring in a few HEIs.

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Scale of Means	Description	Interpretation
1.00 – 1.80	To a Very Low Extent	The application of advanced digital tools and algorithmic systems in HRM recruitment consistently enhanced processes, improved efficiency, elevated candidate quality, and promoted fairness in hiring in very few HEIs.

Artificial Intelligence Opportunities in HRM Recruitment

Scale of Means	Description	Interpretation
2.35 – 3.00	Highly Favorable	All Higher Education Institutions (HEIs) in the province of Antique benefit from efficiency, fairness, improved candidate matching, and enhanced candidate experience, and they strengthen recruitment outcomes through the utilization of Artificial Intelligence (AI).
1.68 – 2.34	Slightly Favorable	Some Higher Education Institutions (HEIs) in the province of Antique benefit from efficiency, fairness, improved candidate matching, and enhanced candidate experience, and they strengthen recruitment outcomes through the utilization of Artificial Intelligence (AI).
1.00 – 1.67	Very Unfavorable	Very Few Higher Education Institutions (HEIs) in the province of Antique benefit from efficiency, fairness, improved candidate matching, and enhanced candidate experience, and they strengthen recruitment outcomes through the utilization of Artificial Intelligence (AI).

Artificial Intelligence Challenges in HRM Recruitment

Scale of Means	Description	Interpretation
2.35 – 3.00	Mostly Encountered	All Higher Education Institutions (HEIs) in the province of Antique encountered AI-driven barriers in HRM during the recruitment process, including ethical concerns, algorithmic bias, data privacy issues, and organizational readiness.
1.68 – 2.34	Slightly Encountered	Some Higher Education Institutions (HEIs) in the province of Antique encountered AI-driven barriers in HRM during the recruitment process, including ethical concerns, algorithmic bias, data privacy issues, and organizational readiness.
1.00 – 1.67	Least Encountered	Very few Higher Education Institutions (HEIs) in the province of Antique encountered AI-driven barriers in HRM during the recruitment process, including ethical concerns, algorithmic bias, data privacy issues, and organizational readiness.

Validity of the Research Instrument

The modified researcher-made questionnaire is submitted for validation with the assistance of research experts in human resource management, statistics, and grammar. The Good and Scates Criteria for Validation are employed to evaluate whether the questions are appropriate, clear, reasonable, non-superficial, typical, and sufficiently inclusive. The questionnaire is carefully refined to suit the specific objectives of the study, drawing insights and structure from a review of related literature. It is then reviewed and validated by a panel of jurors selected for their expertise in research methodology, testing and assessment, and the English language.

Validity refers to the appropriateness, meaningfulness, correctness, and usefulness of the inferences that the researcher makes (Fraenkel & Wallen, 2017). The comments, corrections, and suggestions of the validators regarding the items in the checklist are

carefully considered and incorporated into the final draft of the research instrument before it is subjected to reliability testing.

Reliability of the Research Instrument

To determine the reliability of the questionnaire designed to measure the Utilization of Artificial Intelligence, opportunities and challenges encountered in HRM recruitment, the instrument was pilot tested among thirty (30) respondents from Higher Education Institutions (HEIs). Fifteen (15) respondents were drawn from public HEIs in the province of Iloilo, while fifteen (15) came from private HEIs in Iloilo City. These respondents were not part of the actual survey population but shared similar demographic characteristics with the intended study participants. The pilot testing was conducted to refine the questionnaire for clarity, ease of completion, and accurate recording of responses during the main data collection phase.

The data gathered from the pilot test were tallied and subjected to reliability analysis using Cronbach's alpha, a statistical method that evaluates the internal consistency of responses across related items within each construct. A Cronbach's alpha coefficient of 0.80 or higher was considered acceptable, indicating that the items reliably measured the intended concepts. According to Saunders, Lewis, and Thornhill (2019), alpha values range from 0 to 1, with higher values reflecting stronger internal consistency.

The reliability results of the instrument demonstrated very high internal consistency across all three constructs. The Utilization scale yielded a Cronbach's alpha of 0.90, the Opportunities scale registered 0.90, and the Challenges scale produced 0.92. These results confirmed that the questionnaire was a highly reliable tool for assessing the utilization, opportunities, and challenges of Artificial Intelligence in HRM recruitment among HEIs in Iloilo.

Hence, the instrument used in this research can be considered consistent and dependable for evaluating the intended dimensions of the study.

Data Gathering Procedure

After the validity and reliability of the data-gathering instrument had been established, the questionnaire was reproduced and prepared for distribution. The researcher personally administers the instrument to the selected respondents. To guarantee ethical conduct throughout the research process, the researcher ensures that respondents' names are not mentioned in any part of the study. Respondents are also assured that they will not be subjected to any emotional or physical harm.

Proper documentation of dates and materials used in the study is maintained to avoid copyright infringement and plagiarism. A communication letter is presented to individuals who assist in the validation and verification of the questionnaire items, ensuring that the final instrument is well-organized, accurate, and ethically sound for the present study.

Statistical Tools Used

This study employed several statistical tools to analyze the data gathered from the respondents. These tools included frequency count, percentage, mean, Mann-Whitney U Test, Kruskal-Wallis H Test, and Spearman's rho. Each tool was applied to address specific aspects of the research problem and to ensure accurate interpretation of the results.

Frequency Count. This was used to determine the distribution of respondents based on key demographic variables such as educational attainment, position, employment status, years in service, and type of HEI. It also identified the frequency of responses for each item in the questionnaire.

Percentage. This was applied to present the proportion of respondents within each demographic category, offering a comparative view of the sample composition and the rate index of the given variables.

Mean. This was employed to determine the overall assessment of the utilization of Artificial Intelligence in HRM recruitment, as well as the opportunities and challenges, when taken as a whole and when classified according to demographic variables such as educational attainment, position, employment status, years in service, and type of HEI.

Mann-Whitney U Test. This was used to determine whether there were significant differences in the utilization, opportunities, and challenges of AI in HRM recruitment when classified according to

educational attainment, years in service, and type of HEI.

Kruskal-Wallis H Test. This was applied to assess significant differences in the utilization, opportunities, and challenges of AI in HRM recruitment when classified according to position and employment status.

Spearman's rho. This was utilized to measure the significant relationships among the study's key variables, specifically the utilization of AI, opportunities, and challenges in HRM recruitment among HEIs.

All statistical analyses were conducted at the 0.05 level of significance to ensure statistical reliability.

IV. RESULTS AND DISCUSSIONS

This section presents the results summary of the study, discussions of the conclusions drawn based on the findings, and the recommendations offered for future action and policy direction for the utilization of artificial intelligence, opportunities, and challenges in human resource management in recruitment among Higher Educational Institutions

Summary

This study examined the utilization of Artificial Intelligence (AI), opportunities, and challenges in Human Resource Management recruitment among Higher Education Institutions in the province of Antique, Philippines, for Academic Year 2025- 2026. Specifically, this study sought to answer the following questions:

1. What is the profile of respondents in terms of educational attainment, position, employment status, years in service, and type of HEI?
2. What is the extent of utilization of Artificial Intelligence in human resource management recruitment as assessed by the respondents, when taken as a whole and when classified according to educational attainment, position, employment status, years in service, and type of HEI?
3. What are the Artificial Intelligence opportunities in human resource management recruitment as assessed by the respondents, when taken as a whole and when classified according to educational attainment, position, employment status, years in service, and type of HEI?
4. What are the Artificial Intelligence challenges in human resource management recruitment as assessed by the respondents, when taken as a whole and when classified according to educational attainment, position, employment status, years in service, and type of HEI?
5. Are there significant differences in the extent of utilization of Artificial Intelligence in human resource management recruitment as assessed by the respondents, when classified according to educational attainment, position, employment status, years in service, and type of HEI?
6. Are there significant differences in the Artificial Intelligence opportunities in human resource management recruitment as assessed by the respondents, when classified according to educational attainment, position, employment status, years in service, and type of HEI?
7. Are there significant differences in the Artificial Intelligence challenges in human resource management recruitment as assessed by the respondents, when classified according to educational attainment, position, employment status, years in service, and type of HEI?
8. Are there significant relationships among utilization of artificial intelligence, opportunities, and challenges in human resource management in recruitment as assessed by the respondents Among Higher Educational Institutions?

The seventy-four (74) HR personnel composed of staff, specialists, and managers or directors from public and private HEIs were the respondents of the study selected through purposive convenient sampling; data were gathered using a validated researcher-made questionnaire adopted from relevant literature, pilot-tested on 30 HR professionals, and analyzed through frequency count, percentage, mean, Mann-Whitney U Test, Kruskal-Wallis H Test, and Spearman's rho using SPSS at the 0.05 level of significance, while the scope was limited to HEIs within the province of Antique.

Findings

1. The 74 Human Resource personnel from public and private Higher Education Institutions in Antique during Academic Year 2025–2026 were

mostly bachelor's degree holders (71.6%) with 28.4% holding master's degrees; in terms of position, 59.5% were HR staff, 24.3% HR specialists, and 16.2% HR managers or directors; by employment status, 41.9% were job-order, 31.1% permanent, and 27.0% contractual; in years of service, 63.5% had five years and below while 36.5% had more than five years; and by type of HEI, 68.9% were employed in public institutions and 31.1% in private institutions, reflecting a workforce largely composed of bachelor's degree holders, frontline HR staff, job-order employees, and personnel serving in public HEIs.

2. The extent of utilization of Artificial Intelligence in Human Resource Management recruitment among Higher Education Institutions as assessed by the respondents was generally rated "To a Moderate Extent" (M = 2.74), with higher ratings observed in candidate-job matching (M = 3.41, Great Extent) and resume screening (M = 3.03, Moderate Extent), while advanced applications such as predictive analytics (M = 2.35) and video interview analysis (M = 2.38) were rated low; when classified, respondents with master's degrees (M = 2.90), HR specialists (M = 2.91), job-order employees (M = 2.87), those with more than five years in service (M = 2.75), and personnel from public HEIs (M = 2.77).
3. The Artificial Intelligence opportunities in Human Resource Management recruitment among Higher Education Institutions were "Slightly Favorable" (M = 1.86), with respondents recognizing benefits such as faster recruitment speed, reduced time-to-hire, smoother onboarding, wider candidate pools, and identification of skill gaps; when classified, those with master's degrees (M = 2.03), HR specialists (M = 1.96), job-order employees (M = 1.90), respondents with five years and below in service (M = 1.87), and personnel from public HEIs (M = 1.87).
4. The Artificial Intelligence challenges in Human Resource Management recruitment among Higher Education Institutions were "Mostly Encountered" with an overall mean of 2.39, as respondents highlighted data privacy concerns (M = 2.59), ethical issues (M = 2.59), high cost of AI tools (M = 2.54), lack of technical knowledge (M = 2.51), and unavailability of infrastructure (M = 2.51) as the most pressing barriers; when classified, challenges were consistently experienced across educational attainment (Master's degree holders M = 2.40, Bachelor's degree holders M = 2.39), position (HR Specialists M = 2.55, HR Managers/Directors M = 2.35, HR Staff M = 2.34), employment status (Job-order M = 2.44, Contractual M = 2.43, Permanent M = 2.29), years in service (5 years and below M = 2.36, 5 years and above M = 2.44), and type of HEI (Public M = 2.41, Private M = 2.35).
5. There were no significant differences in the extent of utilization of Artificial Intelligence in Human Resource Management recruitment among Higher Education Institutions in Antique when classified by educational attainment (Master's degree mean rank = 41.21, Bachelor's degree mean rank = 36.03, U = 478.50, p = .348), years in service (5 years and below mean rank = 36.12, 5 years and above mean rank = 39.91, U = 569.50, p = .464), and type of HEI (Public mean rank = 38.77, Private mean rank = 34.67, U = 521.50, p = .446).
6. There were no significant differences in the level of Artificial Intelligence opportunities in Human Resource Management recruitment among Higher Education Institutions in Antique when classified by educational attainment (Master's degree mean rank = 43.60, Bachelor's degree mean rank = 35.08, U = 428.50, p = .120), years in service (5 years and below mean rank = 37.88, 5 years and above mean rank = 36.83, U = 616.50, p = .838), and type of HEI (Public mean rank = 38.09, Private mean rank = 36.20, U = 556.50, p = .723).
7. There were no significant differences in the level of Artificial Intelligence challenges in Human Resource Management recruitment among Higher Education Institutions in Antique when classified by educational attainment (Master's degree mean rank = 37.17, Bachelor's degree mean rank = 37.63, U = 549.50, p = .933), years in service (5 years and below mean rank = 36.59, 5 years and above mean rank = 39.09, U = 591.50, p = .628), type of HEI (Public mean rank = 38.26, Private mean rank = 35.80, U = 547.50, p = .647), position (HR Managers/Directors mean rank = 34.50, HR Specialists mean rank = 46.28, HR Staff mean rank = 34.73, H = 3.99, p = .136), and employment status (Permanent mean rank = 31.80, Contractual mean rank = 38.60, Job-order mean rank = 41.02, H = 2.51, p = .285).

8. There were significant relationships among the utilization of Artificial Intelligence, opportunities, and challenges in Human Resource Management recruitment among Higher Education Institutions in Antique, as shown in Table 15. AI utilization and AI opportunities had a strong and statistically significant correlation (rho = .596, p = .000), indicating that higher levels of utilization were associated with greater recognition of opportunities. In contrast, AI utilization and AI challenges showed a weak and not significant relationship (rho = .207, p = .077), meaning that the extent of AI use did not directly correspond to the challenges encountered. Meanwhile, AI opportunities and AI challenges had a moderate and statistically significant correlation (rho = .410, p = .000).

Conclusions

Based on the findings and conclusions, the following actionable recommendations are proposed for key stakeholders to strengthen the utilization of Artificial Intelligence in Human Resource Management recruitment and to address opportunities and challenges among Higher Education Institutions in the province of Antique:

1. The Human Resource personnel in Higher Education Institutions in the province Antique are predominantly bachelor's degree holders, occupying frontline HR staff roles, engaged under job-order employment arrangements, and primarily affiliated with public institutions.
2. The application of advanced digital tools and algorithmic systems in HRM recruitment consistently enhanced processes, improved efficiency, elevated candidate quality, and promoted fairness in hiring only in some HEIs.
3. Some Higher Education Institutions (HEIs) in the province of Antique benefit from efficiency, fairness, improved candidate matching, and enhanced candidate experience, and they strengthen recruitment outcomes through the utilization of Artificial Intelligence (AI).
4. All Higher Education Institutions (HEIs) in the province of Antique encountered AI-driven barriers in HRM during the recruitment process, including ethical concerns, algorithmic bias, data privacy issues, and organizational readiness.
5. Regardless of whether HR personnel hold bachelor's or master's degrees, have shorter or longer tenure, or are employed in public or private Higher Education Institutions, they report similar levels of AI utilization in recruitment, indicating a consistent and uniform adoption pattern across these classifications.
6. Opportunities in Artificial Intelligence for Human Resource Management recruitment are consistently acknowledged across classifications, regardless of academic background, length of service, or organizational type, indicating a uniform recognition of AI's potential benefits in enhancing recruitment processes.
7. Challenges in Artificial Intelligence recruitment are found to be consistent across classifications, showing that regardless of academic background, professional role, employment status, tenure, or institutional type, respondents encounter similar barriers in its application, reflecting a uniform experience of difficulties in integrating AI into Human Resource Management processes.
8. AI integration in recruitment creates a dual reality, as institutions gain efficiency and broader opportunities while simultaneously facing ethical, technical, and organizational challenges that must be managed, showing that its benefits are inseparable from the difficulties it brings.

Recommendations

1. Commission on Higher Education (CHED) Officials may strengthen capacity-building initiatives by designing training programs and policy support that enhance HR personnel's competencies in AI-driven recruitment systems.
2. Higher Education Institution Administrators may expand the adoption of advanced AI tools such as predictive analytics and video interview analysis to improve efficiency, fairness, and candidate quality in recruitment.
3. Human Resource Management Officers may implement and share best practices in AI recruitment across institutions, ensuring consistent strategies that elevate candidate matching and strengthen recruitment outcomes.
4. Applicants may be provided with transparent and ethical recruitment guidelines that address algorithmic bias, data privacy, and fairness,

thereby fostering trust in AI-enabled hiring processes.

5. Non-Teaching Staff may benefit from standardized AI adoption strategies across HEIs, ensuring equal access to AI-enhanced recruitment processes regardless of employment status or institutional type.
6. Researchers may maximize opportunities by conducting studies that highlight AI's role in improving recruitment speed, onboarding, and candidate pool diversity, thereby informing institutional HRM strategies.
7. Future Researchers may address barriers by investigating infrastructure readiness, technical training needs, and cost-effective solutions, producing evidence-based recommendations for sustainable AI integration.
8. Higher Education Institution Administrators may promote balanced AI integration by leveraging efficiency and opportunities while proactively managing ethical, technical, and organizational challenges to ensure sustainable recruitment practices.

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