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The Impact and Integration of Artificial Intelligence in Human Resource Management: A Middle Eastern Perspective

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ABSTRACT

This big study looks into how Artificial Intelligence (AI) and Human Resource Management (HRM) connect in the Middle East. In the area where technology is changing very quickly, the study wants to find out how AI integration is changing HR practices in this place. The main part of the study is carefully created surveys for HR people and experts in AI/CS. These aim to find out how AI is used now, what more can be done with it, and ethical questions around its use in HRM. The main results show that AI is drastically making human resources jobs like hiring new workers, managing their paychecks, and checking their performance easier. This lets people working in HR avoid boring tasks and concentrate on big roles. The study also looks into the problems and limits that come with using AI. These include thinking about what's right, keeping your data secret, and needing a human link in HR jobs. This study is very important because it looks at how AI makes HR better. It also shows the careful mix needed between using new technology and keeping people in mind. It gives a future outlook on how AI can change HRM in the Middle Eastern business scene. It offers helpful information for both people who work there and those studying it.

KEYWORDS: Artificial Intelligence (AI), Human Resource Management (HRM), Middle East, Technological Integration, Survey Analysis, Ethical Considerations, Data Privacy, Strategic HR Practices

1. Introduction

Now a pivotal area of business interest in the Middle East, AI is only one example of how rapidly technology has evolved over recent decades throughout this region. In the business space dominated by digital, AI has become an important engine for business model innovation, process transformation, and competitive edge (Ranbotham et al. 2020). In this region, over the past five years, AI adoption has increased by 70 % (Ghost, Daugher, Wilson, and Burden, 2019). According to International Data Corporation, global AI spending is expected to soar from a level of 83.3 billion dollars in 2021 to over 204 billion dollars by 2025 with an increase rate of 24.5 % between this year and five years hence, impacting the Middle East greatly. According to the World Economic Forum, globally by 2022 the adoption of AI will displace 75 million jobs but create another 133 million (WEF, 2018). In the Middle East, Human Resource Management is being drawn ever closer to AI (Artificial Intelligence), which promises to smooth operations and increase organizational efficiency. People see AI in HRM as a way to get ahead of the curve and predict where things are going, so organizations can be more prepared for future challenges. This integration could help organizations in the Middle East position their workforce to meet future changes and challenges.

2. Materials and Methods

The Implementation of human resources in AI can bring numerous benefits to an organization from an economic perspective by continuously improving efficiency in all aspects of HRM and it's becoming one of the latest trends for HR in the future. The newest AI technologies bring cost-effective management methods that can be improved according to the latest trends. Humans will soon be replaced by robots to work independently. Every job is going to be a different job which will require different types of skills to perform different types of tasks, however, more skills will be in demand and they will be developed by the human resource management function. =Different type of E-HRM exists, which are operational E-HRM, relation E-HRM, and transformational E-HRM[2]. Many SMEs businesses find challenges in recruiting the right people for the job, which increases difficulty in recruiting and retaining employees due to a lack of financial resources. SMEs need to focus on their needs to be able to set clear goals and expectations for employees and provide them with appropriate feedback [1].

2.1 Survey preparation

For the design of the experiments of this report, we decided to carry out two different surveys, each one of these directed to a specific area so we were able to collect valuable data to continue with the research and support our hypothesis. The first survey we conducted was a survey directed to people who have experience in the human resources area, the objective of this survey was to get relevant information about how familiar people in this area are with working with an automated human resource model, in case they weren't, we presented briefly what are the current advances that have been made with this technology in the area and asked about how confident would they be in case they were going to adopt this model.

The second survey we conducted was a survey directed to Artificial Intelligence experts and people who have relevant experience in computer science. In the survey, we aimed to get information about what are the challenges when creating an automated human resource model and what are also the ethical considerations that should be made when implementing one of these models in companies and enterprises.

2.1.1 Rationale for choosing the questions

The rationale behind choosing the questions for the surveys revolves around gathering insights, opinions, and relevant information on aspects specifically related to human resource models, the implementation behind and the impact this kind of technology can have in the field.

For the questions in the first survey, we aimed to identify possible barriers that human resource professionals may

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encounter when trying to implement human resource models. With the survey we also wanted to get information of what are the most time-consuming tasks a person working in the area of human resources faces in an everyday routine; this was to analyze with the data from other papers and surveys we made if the automated resource could be useful and get in charge of doing the tasks.

In the questions of the second survey, the survey aimed to gather information about the cost of implementation of an automated model, the reason for this was to understand the financial aspect involved in the creation and implementation of companies. The survey also included questions regarding the impact and possible obstacles an artificial intelligence human resource model could have in the workforce of a company.

3. Hypothesized Results

3.1 Survey for Human Resource field

HR plays a huge role in company management, it's more than just doing payrolls, interviewing, and recruiting people, their role is to invest in the right person who could give back to the company by helping this person to develop their skills and their career path by assessing to find the gaps that need to be improved. For an assurance company for example an assurance company, a person was placed in the production department, and the HR has discovered that his skills are based more on problem solving and are more suitable in the Claim department. That's where the HR plays a role, their role is to determine, which position this person is more suitable based on their skills and character and help in developing his skills and career path. HR usually uses HR software such as ATS, which is used to scan CVS to help HR find the right candidates that could be a good fit for the company based on their skills, portfolio, experience, etc.… and other software related to performance evaluation such as Trakstar in order the evaluation of employees. Artificial Intelligence can tell you the procedures that can help you in developing employees' skills but can't take over completely the role of HR because this field requires a lot of human interaction, for example, if you interview someone to see if they're the right person for this position, an HR professional can detect that based on the first impression but AI can't analyze the character of a person from the very first time. One of the HR tasks is to help companies in the implementation of action plans, which involves communicating the plan to all stakeholders in the company including employees, managers, and executives, providing resources, and giving the support needed to help employees achieve their goals by monitoring their progress and making the adjustment needed This one of the most HR complex and AI can't do some kind of strategic task because it won't be able to analyze case of different companies. After all, each company has its case and its organizational structure and it will be very difficult for AI to detect that since it depends on data that already exists and HR professionals are the only ones who could find new solutions for new challenges. For a case study of a factory that has more than 800 workers with no HR professional and the only person that does the payroll for the salaries, those who run this factory have been facing some conflicts with their workers regarding their salary payments and these types of conflicts have affected the productivity of the factory, would AI be able to solve such case? it's not possible because, However, it is possible for Ai to handle other tasks that are very simple and time-consuming such as doing payroll for the company, scheduling interviews or important meetings, scan the CVS of the candidates in a faster way. According to an interview with an HR consultant, he mentioned that AI can take over his job, only if he fails to read people's character and does not know how to work on developing their skills and their career path to help them become successful and believes the only challenge, he would with AI would be knowing how to probably use it and would need training. The HR field is more based on human interaction and problem-solving skills, which is why it's impossible for AI to completely take over their job. We surveyed and collected data from different people with experience in the human resource field. The information that was collected from the survey reported that some of the main challenges people in the field see regarding automated resources is that working with employee-relevant data and information is something that should be carried out cautiously because there are specific rules that cover these information needs to be secured. It also mentioned that while Artificial Intelligence can be involved in tasks such as routine functions, employees in the field would still need to be required to carry out the tasks that need emotional intelligence and human judgment, since these are qualities that automated models are not prepared for yet. After interviewing an HR manager from Samsung (Egypt), he mentioned that the concept of AI is not that well known in the Arab gulf, but believes that the implementation of AI in the field would be very beneficial in the HR field for tasks such as talent acquisition, general assessments, targets and KPIs to be able to analyze various amount of data and identify different patterns so employees of the company can always be informed and be able to predict so they can be able to make the right decisions for the company and with HR technology it could improve the production of the company by 60% and very open on being trained on such model for him and his employees. He saw the integration of AI into the company as a positive thing that could faster processes, enhance efficiency, and improve employee experience. However, with all its benefits, the company would still face difficulty in trying to get used to this new change in this field, especially with the HR transformation in the next 10 years. he mentioned one of the challenges that he would face is that the model would be very difficult to model and limitations of small data sets and he would be very concerned about the production quality when testing before being sold the product.

3.2 Survey for AI and CS experts

For the survey directed to Artificial Intelligence and Computer Science experts, we encountered that some of the challenges they reported were that data privacy and security were an issue when implementing these automated models, since HR works with important employee information, it is important to

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keep it in compliance with regulations. Some of the reported most time-consuming tasks that HR has are answering employee inquiries and scheduling interviews. The impact that can be expected of these automated models includes a reduction in administrative costs and overall organizational performance relating to the most time-consuming activities. The AI engineer expert has worked on different ranges of AI models and machine learning algorithms throughout his career and has talked about how the journey has been very rewarding because he has experienced how quickly AI technologies are changing and affecting different industries.

The following includes steps in developing an AI and machine learning models:

1. *Model development and training: Different types of algorithm models require putting together data sets, data pre-processing data, building features, and tuning model parameters to get the performances from such models like Tensor Flow and PyTorch, which has been used over the years to design and train models for a wide range of tasks.*
2. *Model Deployment: To produce a model, the engineer has talked about converting models into a more efficient format, integrating them with the existing system, and making sure they work in real-time application.*
3. *Agile: To make sure that the model works, it's always important to make sure that the model works and to use the right metrics. During this phase, the process for production is improved and sometimes there might be a need to go back to the drawing board and choose a different algorithm and approach*
4. *Ethics: Ethics are the most important part of the process, it's always important to think about ethics when using AI. Since these models are powerful, it's necessary to recognize and get rid of biases make sure that everything is clear, and understand the bigger effects of using AI in different situations.*
5. *Staying up to date: Every day there's a new trend in the AI field, it's important to keep up to date with the trends technology, and techniques to have your knowledge up to date by attending conferences, workshops, seminars, and working with peers regularly.*
6. *Collaboration: It's always important to make sure AI solutions meet the needs of the real world, which can be easily integrated into larger workflows, and make sure that they meet the needs of the real world.*

The cost of developing an automated model for medium enterprises may vary on several factors such as the complexity of the problem, the quality and quantity of the data infrastructure in place, and the desired model performance. This could include:

1. *Data preparation: This could take a lot of time for medium enterprises, this can take a few weeks to a few months, especially if the sources are disparate or the data quality is bad.*
2. *Model Deployment and Validation: Depending on the complexity of the task and tools employed this can range from a few days for simpler problems to several months for more complex, custom models.*
3. *Deployment and Integration: Deploying the production system and integrating it with existing enterprise solutions can range from weeks to months*
4. *Cost Consideration: Costs can include software and infrastructure expenses, salaries of data scientists and engineers, cloud computing costs, and data acquisition. For medium enterprises, it can range from ten thousand to several hundred dollars.*

Human resources tasks range from hiring to managing employee relations, human resources encompass a wide range of duties.AI has the potential to significantly improve areas such as talent acquisition, where algorithms can shift through large numbers of resumes to identify ideal candidates based on predefined criteria. Similar to this, AI can improve employee retention by identifying patterns and foreseeing potential resignations. Another area where AI can create personalized learning paths for workers in training and development, according to their roles and performance data. Ethics should be taken into consideration when creating an AI HR model, bias in AI, particularly in HR, can have serious consequences. A model that has been trained using biased data may reinforce or amplify those biases, which may result in unequal or discriminatory hiring and evaluation procedures. Another issue is transparency; stakeholders should be aware of how the AI makes decisions. The issue of data privacy is that other employees' personal information must be handled with the utmost care to protect their rights and privacy. From hiring to managing employee relations, human resources encompass a wide range of duties. AI has the potential to significantly improve areas such as talent acquisition, where algorithms can sift through large numbers of resumes to identify ideal candidates based on predefined criteria. Similar to this, AI can improve employee retention by identifying patterns and foreseeing potential resignations. Another area where AI can create personalized learning paths for workers is in training and development, according to their roles and performance data. es, moral considerations come first. Bias in AI, particularly in HR, can have serious consequences. A model that has been trained using biased data may reinforce or amplify those biases, which may result in unequal or discriminatory hiring and evaluation procedures. Another issue is transparency; stakeholders should be aware of how the AI makes decisions. The issue of data privacy is another. Employees' personal information must be handled with the utmost care to protect their rights and privacy. Numerous security issues arise when implementing AI solutions in HR. The threat of data breaches is the most serious of these. HR datasets include a wealth of sensitive data, from salary configurations to individual employee details. This confidential information could be compromised by a security breach, which could result in irreparable damage to both the reputation of the company and its employees. Additionally, AI model integrity

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itself may be in danger. When malicious actors are aware of how the model works, they may try to skew the model's predictions by providing erroneous data, a tactic known as an adversarial attack. Not all risks are external. Insiders who are familiar with the workings of the system may purposefully or unintentionally abuse the AI model or the data it works with. Furthermore, since AI systems frequently use APIs to communicate with other applications, any insecure endpoint could become a point of vulnerability, giving attackers access through a backdoor. Developing an AI model for HR is not a simple endeavor. Ensuring data quality is one of the biggest problems. The information must be reliable, accurate, and free from bias. Achieving this level of consistency is difficult because HR data frequently originates from numerous sources and can span years. The complexity of human behavior itself adds a level of difficulty. For instance, correctly predicting employee performance or job satisfaction requires more than just looking at historical data; it also calls for an understanding of numerous variables that affect people's emotions and behavior. The task's interdisciplinary nature is another factor.

To create a truly effective AI HR solution, one must combine the insights of HR specialists, the technological expertise of IT specialists, and the AI modeling expertise of data scientists. Even though the blend of disciplines is powerful, it can be difficult to navigate. Integrating AI into HR has the potential to have far-reaching effects on the workforce. On the one hand, the automation of repetitive tasks may make some job functions obsolete, causing role changes or even layoffs, and this may lead to job functions becoming redundant. On the plus side, AI can significantly increase HR operations' level of efficiency. It is possible to streamline procedures that used to take days, such as candidate screening and feedback analysis, resulting in quicker and more data-informed decisions. But apprehension comes along with this efficiency. Employees might worry that their data will be misused or fear that they will only be evaluated by a cold algorithm. To maintain confidence and morale, it is crucial to address these concerns and make sure communications are transparent and open. The costs involved in creating an automated model for medium-sized businesses can total anywhere between $50,000 and $500,000. The initial costs are frequently related to gathering and pre-processing data. Getting good, representative data, cleaning it up, and putting it in a format that can be used can take a lot of time and money. The next phase is model development, which can involve using pre-made solutions or creating custom models to meet particular business requirements. Deployment, which is frequently overlooked, can add significantly to the cost, particularly if the model needs to seamlessly integrate with current enterprise systems or requires cloud-based infrastructures. Additional costs include recurring upkeep, updates, and potential retraining. An AI HR model's performance and efficacy should be evaluated using both quantitative and qualitative metrics. Metrics like accuracy, precision, and recall can be used to quantitatively assess the model's technical skill. On the qualitative side, responses from HR staff and employees can provide information about the model's applicability in the real world and any unexpected implications. To make sure the model stays useful and effective, ongoing observation and iterative improvement based on feedback and shifting organizational needs are essential. Many countries have different kinds of employment laws and regulations, and it's important for AI in HR experts to follow these laws. AI models, for instance, cannot discriminate against people based on their race, gender, age, or any other protected characteristic. Data protection laws, such as the GDPR in Europe, also govern the storage and processing of personally identifiable employee information. When integrating AI into HR processes, legal and compliance considerations are crucial because breaking these rules can have serious consequences, including financial and reputational penalties.

4. Results

This study, which examines the effect of Artificial Intelligence (AI) on Human Resources (HR) efficiency and Return on Investment (ROI), attempts to find out whether there is a positive relationship between the introduction of AI tools into an HR department and perceived improvements in operational effectiveness or financial performance. At the heart of this research, are answers given to certain questions in a survey that determine whether HR is currently utilizing AI tools (Q7), how satisfied they are with these tools (Q9), and their assessment of whether such tools enhance efficiency and ROI for the industry at large (Q16).

Then Pearson or Spearman coefficients were used, depending on the data distribution, to examine the connections between these elements via correlation analysis. The results of the analysis uncover revealing links between utilization of one or more AI tools in HR and perceived changes in departmental efficiency, as well as returns on investment.

One of the most salient conclusions from this research is that the degree of AI tool use in HR (Q7) was very highly correlated with a perceived increase in efficiency and return on investment in HR (Q16) with a correlation coefficient of 0.7745665. This significant correlation underscores a substantial relationship: With more implementations of AI tools in HR, this naturally leads to a higher perceived improvement in the efficiency and ROI of HR. A direct answer This connection answers the question affirmatively, meaning that from the respondents' point of view, there is a great deal of positive impact on both HR performance and profits due to AI.

Still, further hints come from additional correlations. Q7 and Q9. The use of these AI tools shows a moderate positive correlation with satisfaction levels over using these AI tools. This simple correlation does exist, but other factors may influence the level of satisfaction. In addition, the relationship between satisfaction with AI tools (Q9) and increased HR efficiency and ROI (Q16) is fairly positive. This means that if AI tools are more satisfying to use, they have somewhat of a causal relationship with increasing perceived efficiency and ROI,

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though this connection is not as strong (or direct) as the effect of actually using an AI tool right away.

To summarize, the analysis in this thesis indicates that HR efficiency and ROI increase as artificial intelligence is introduced into HR. The findings suggest that companies embracing AI in their HR procedures are likely to enjoy significant improvements in operational efficiency and financial returns. This direct correlation could present the possibility for greater adoption and application of AI technologies in HR, providing a compelling reason for organizations to view AI as an integral part of improving their HR functions.

This thesis tests what factors affect their willingness to suggest the use of Artificial Intelligence (AI) in Human Resources (HR). The study depended on gaining an understanding of the different facets of AI capabilities in HR, as well as the degree of satisfaction with current AI tools and willingness to recommend such adoption in HR. Survey responses were used for key questions assessing whether people understood what could be accomplished by using AI in HR; how much they liked the existing options; and whether you would promote using such technology.

A logistic regression analysis was employed to model the probability of HR professionals recommending AI in HR. This approach allows us to focus on important predictors that influence their recommendation behavior. Several enlightening findings emerge from the analysis of the logistic regression model.

A model intercept of -9.2012 shows the low base likelihood of recommending AI in HR when both understanding and satisfaction at the current level are at their lowest. The coefficient for understanding (1.1454) suggests a positive relationship. Those who understand an AI's capabilities have a greater probability of recommending its use in HR, and statistical significance can be

In addition, the positive coefficient for satisfaction with AI tools (2.1998) indicates that an increased level of satisfaction with these tools will boost the chances of recommending the use of AI in HR, and its significance justifies this influence as well. The smaller residual deviance relative to the null deviance shows that the model including predictors provides a better fit to data than one with none at all. Furthermore, the Akaike Information Criterion (AIC) 66.853 is low enough to indicate that the model fits the data set well.

In terms of answering the research question, what factors impact HR professionals 'willingness to refer AI in HR to others in the industry? two leading factors are revealed by logistic regression analysis. The positive effect of a new understanding of AI's capabilities in HR is considerable. The more HR professionals understand just how capable AI is in human resources, the stronger their support for AI. Secondly, the level of satisfaction with AI tools in HR is decisive. The more satisfied people are, the greater their willingness to recommend AI in HR.

This study's findings show that both a well-rounded view of AI's capabilities for HR and strong praise for AI tools are necessary to encourage HR personnel in their field to endorse whatever use they see of it. Putting aside these misconceptions will require efforts to boost both understanding and acceptance of AI's potential for HR as well as positive experiences in using the technology. By this token, more widespread adoption and effective incorporation of AI into HR operations may be achieved. This would serve as a compelling reason for companies to treat AI as an essential part of improving the efficiency of their human resources departments.

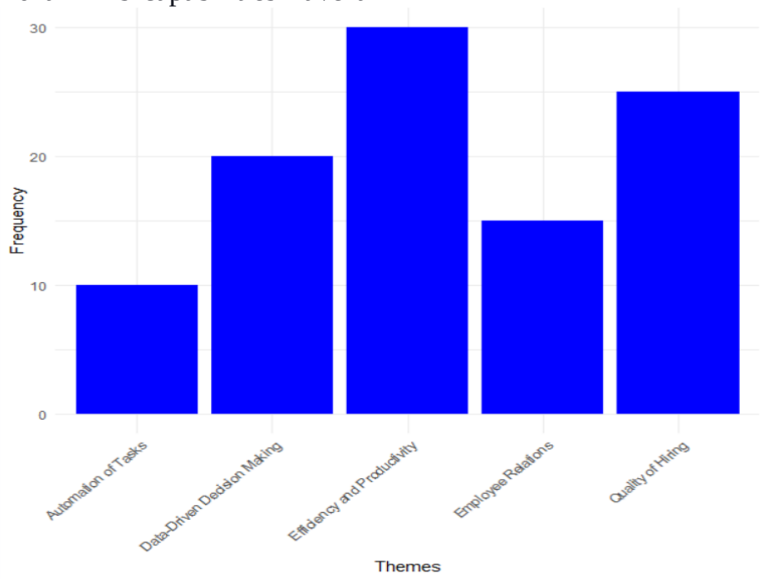

Figure 1: Thematic Analysis of Positive Aspects of AI in HR

The bar chart (**Figure 1**) shows five topics related to the benefits of AI in the area of HR. The topic with the highest frequency is "Efficiency and Productivity", which occurs over 30 times. These two rank highly with frequencies of about 20 and 25; other terms are less frequently mentioned, each at a frequency of more than 10.

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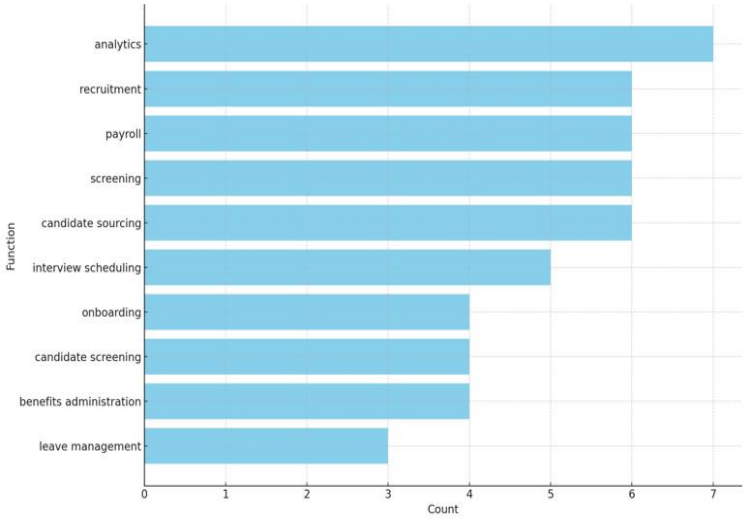

Figure 2: Top 10 Functions of AI tools in HR

The horizontal bar chart shows the ten most common functions of AI tools in HR, with leave management being far and away the most popular at close to 7. Also common are "benefits administration," with a count of 5 or slightly more, and "candidate screening." The least represented are functions such as analytics, recruitment, and payroll each of which has a count of just over 1.

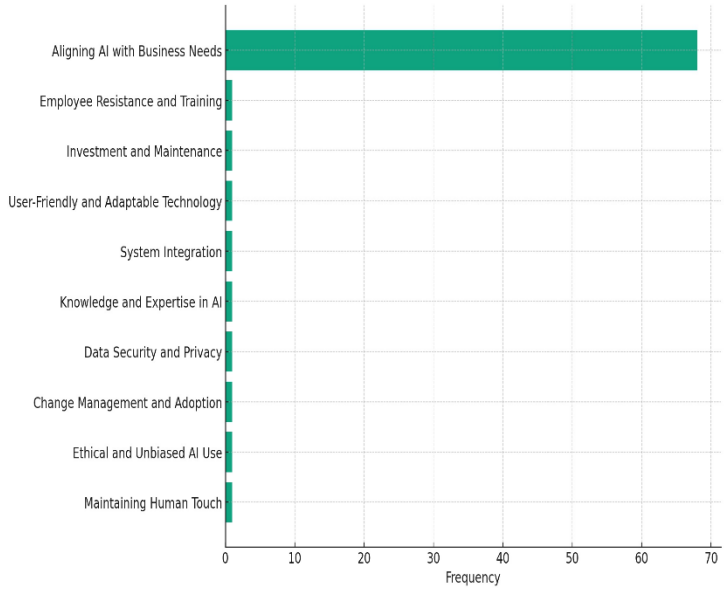

Figure 3: Challenges in Integrating AI into Business Operations

In Figure 3, all sorts of difficulties in matching Artificial Intelligence (AI) with business needs are shown. The one most frequently counted was "Aligning AI with Business Needs", whose frequency measured about 70. There are also other problems, such as "Employee Resistance and Training", and the rather less common "Investment and Maintenance", each of which had only about 10 occurrences. Those with a frequency below 10 are less common and include "Complementing the Human Touch" and "Ethical Use of Al AI Adoption Does not have to Breed Loyalty.

5. Interview Results

The following series of interviews with numerous HR experts, leaders, and IT specialists present a comprehensive picture of the use of Artificial Intelligence (AI) in Human Resources (HR). A common theme in the discussions is a hope expressed by many that AI can change the face of human resources, mixed with a sense from all parties involved that something of a human touch has to be retained.

Interviewees were largely optimistic about AI's potential for improving HR practice, especially by reducing the amount of time spent on repetitive tasks like payroll and benefits administration or initial candidate screening. HR professionals welcome this automation for they see it as the key to efficiency, with AI programs taking over time-intensive processes and leaving human resource experts free to focus on higher-level questions of strategy and people.

Highlights of the potential of AI are frequently seen in talent management. Experts point out that analyzing large datasets can make it easier to find suitable candidates at lower

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costs, and customized career development paths may be developed on this basis. Its predictive analytics are held up by partisans as an advantage for human resources, predicting future demand for workers, callbacks of skilled people, and staff turnover.

Nevertheless, the interviews also reveal some major obstacles to integrating AI with HR. At the top of this list are ethical considerations: everyone wants to see AI being used properly so it doesn't produce bias, especially in recruiting and performance evaluation. Experts believe that transparency in the decision-making processes of AI is key to maintaining trust among employees and candidates. In addition, activities carried out under the auspices of HR are characteristically one-to-one and intimate. Al is simply not capable of making that kind of warm personal exchange with people; no matter how "intelligent," a machine does not understand feelings. Therefore, it must be combined with human judgment instead of replacing it.

From the very beginning of the discussions, there is an emphasis on humanizing HR. Several experts take it upon themselves to point out that AI should be seen as a machine assisting humans in their work, not one replacing them. Areas where AI's role is limited include strategic and empathetic functions of human resources, including conflict resolution, employee engagement, and culture building.

As for whether AI threatens the job security of human resource professionals, the consensus among interviewees seems to be that it represents a chance to develop and expand those roles, rather than a threat. Because AI can handle administrative chores, HR specialists are freed up to pursue higher-value tasks. In this way, they climb the ladder of strategic importance within organizations.

As far as cost considerations are concerned, AI is well known for its ability to dramatically reduce operating costs by improving the efficiency of processes. In other words, the savings achieved from AI's automation and optimization of HR processes can be reallocated to areas that require a human touch, like employee development or organizational culture projects.

Advice to HR professionals contemplating incorporating AI into their operations: do it with a strategic mindset. You have to constantly study and keep up with the AI developments. Because they understand the strengths and weaknesses of AI, HR professionals can then apply these tools in ways that mesh well with a business-driven mission. Cited as prerequisites are the ability of ethical reflection and adaptability to support AI's integration into HR so that it can add value, and be consistent with organizational values and culture.

To sum up, although AI represents an exciting new frontier for HR, as shown in the interviews no doubt achieving actual integration will require a fine balance of technical innovation and human-centered preservation. The future of HR in the age of AI will certainly not be a replacement but rather a collaboration between technology and human knowledge to achieve more flexible, dynamic, and proactive forms of personnel.

6. Discussion

The application of Artificial Intelligence (AI) to Human Resource Management (HRM) has catapulted HRM in Middle Eastern countries, which are undergoing economic diversification and dramatic transformations in industrial structure. This study is an attempt to examine the effect of AI on efficiency and Return on Investment (ROI) in HRM, with emphasis placed on the Middle East. Through survey responses on current use, satisfaction, and anticipated benefits from artificial intelligence applications in HR will be measured.

In terms of methodology, the study uses Pearson or Spearman correlation coefficients to analyze responses to key survey questions. It was found that there is a strong positive relationship between the adoption of artificial intelligence (AI) tools in HR and perceptions of increased operating efficiency and return on investment (ROI). AI usage (Q7) and the perceived increase in HR efficiency and ROI (Q16): High correlation coefficient of 0.7745665. These findings prove that the use of AI tools in HR departments can bring a huge improvement not only to departmental performance but also to financial results.

In addition, the study digs into how ready HR professionals are to suggest AI in HR to peers. Logistic regression models show that the ability to understand AI and satisfaction with available AI tools are major predictors of recommendation behavior. The results imply that HR professionals who appreciate the full possibilities of AI and feel satisfied with it in its current applications are more inclined to approve its integration into HR practices.

In this Middle Eastern setting, where business operations and human resources activities are critically dependent upon cultural subtleties, the issue of ethically using AI becomes an overriding matter. This is a challenge for the development of AI which could, albeit unintentionally, reproduce biases. It needs constant vigilance. The research reinforces the importance of a human-oriented approach to the application of AI technologies so that instead of where AI replaces humans, it is simply an adjunct supporting HR professionals.

The ability of AI to replace routine work, such as payroll or initial candidate screening, has been cited as a major advantage. It promises reduced costs and more optimized processes Thus such efficiencies would allow resources to be concentrated in the key area of strategic human resources work.

However, the integration of AI in HR does have its difficulties. AI cannot completely capture the human aspects of HR, which are vital to running a complex organization and promoting organizational culture. AI is the best at systematizing mundane tasks and projecting data-driven decisions. But it cannot be used to replace the human touch, particularly when it comes to areas involving empathy, judgment, and cultural sensitivity.

The study is actionable guidance for HR managers in the Middle East interested in leveraging AI. Keeping up to date with

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AI developments is an important lifelong learning. To design strategies accordingly, professionals must be clear on both the advantages and limitations of AI. Meanwhile, ethical discernment and adaptability are needed to make sure that AI's introduction into HR fits with company principles and adds value to the human side of HR.

All in all, the study shows that the effect of AI on HR efficiency and ROI is huge and positive. The possibility of AI being successfully integrated into HRM in the Middle Eastern region, and indeed in every corner around the world, depends on a structured set-up whereby artificial intelligence and human ingenuity work together to mold more creative, effective, and people-hearted HR processes.

7. Conclusions & Future Outlook

As organizations strive for higher efficiency and lower costs, the integration of Artificial Intelligence (AI) in Human Resource Management presents another promising road. Mouna Yamak and Miguel Orozco, who led the Incognito Blueprints Research Bootcamp team, decided to explore how AI is changing human resources management from the Middle East, where traditional modes of business meet with cutting-edge technologies.

Survey analysis and expert interviews have arrived at the following conclusive insights: There is a strong positive correlation between using AI-based tools and improved efficiency in HR departments, as well as increased ROI. KDP: Two factors were identified that determine HR practitioners 'willingness to recommend AI tools to colleagues more profound understanding of and satisfaction with these tools. These findings hint at a broadening perspective, with industry professionals accepting and even encouraging the role of AI in HR.

Looking ahead, it is hoped that AI will continue to develop as a strategic partner in HRM. The focus might shift towards developing AI technologies that not only are effective but also match the organization's values and culture. With its capability to undertake routine, administrative types of work, AI can liberate human resources personnel from execution, allowing them to focus on more forward-looking issues like talent development and corporate culture to increase the strategic value of HR within organizations.

Nonetheless, when it comes to using AI in HR, some challenges have to be met. These are all areas that require constant attention and development, such as ethical use, bias mitigation, and human-centered practices. Moreover, in response to the rapid technological changes, HR professionals also need continuous learning and adaptation.

In the territory of modern Middle Eastern business, where rapid economic growth goes hand in hand with more and more emphasis on technological progress, AI-based HRM can become a focal point for big corporate victories. Therefore, organizations need to take a balanced approach to the AI integration. While you push down operational costs, don't lose sight of those essential human aspects of HR that drive employee engagement and satisfaction.

References

M. S. Cardon and C. E. Stevens, “Managing human resources in small organizations: What do we know?,” *Human Resource Management Review*, vol. 14, no. 3, pp. 295–323, 2004. doi:10.1016/j.hrmr.2004.06.001

N. A. Roman, “A comprehensive review of E-HRM in service smes in Jordan,” *International Business Research*, vol. 10, no. 5, p. 116, 2017. doi:10.5539/ibr.v10n5p116

Y. Sotnikova, G. Nazarova, N. Nazarov, and H. Bilokonenko, “Digital Technologies in HR management,” *Management Theory and Studies for Rural Business and Infrastructure Development*, vol. 42, no. 4, pp. 527–535, 2021. doi:10.15544/mts.2020.54

G. Bhardwaj, S. V. Singh, and V. Kumar, “An empirical study of artificial intelligence and its impact on human resource functions,” *2020 International Conference on Computation, Automation and Knowledge Management (ICCAKM)*, 2020. doi:10.1109/iccakm46823.2020.9051544

Y. Sotnikova, G. Nazarova, N. Nazarov, and H. Bilokonenko, “Digital Technologies in HR management,” *Management Theory and Studies for Rural Business and Infrastructure Development*, vol. 42, no. 4, pp. 527–535, 2021. doi:10.15544/mts.2020.54

“Global AI survey: Ai proves its worth, but few scale impact,” McKinsey & Company, https://www.mckinsey.com/featured-insights/artificial-intelligence/global-ai-survey-ai-proves-its-worth-but-few-scale-impact (accessed Sep. 25, 2023).

S. Chowdhury *et al.*, “Unlocking the value of artificial intelligence in human resource management through AI Capability Framework,” *Human Resource Management Review*, vol. 33, no. 1, p. 100899, 2023. doi:10.1016/j.hrmr.2022.100899

A. M. Votto, R. Valecha, P. Najafirad, and H. R. Rao, “Artificial Intelligence in tactical human resource management: A systematic literature review,” *International Journal of Information Management Data Insights*, vol. 1, no. 2, p. 100047, 2021. doi:10.1016/j.jjimei.2021.100047