How Artificial Intelligence can affect the process of recruitment and improve the quality of new hired employees.

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Abstract

It is crucial in today's global industries to collect precise data and evaluate it for the benefit of the company's development and day-to-day operations. Thanks to AI, businesses are able to be more done in less time and with greater efficiency. It's no secret that HR, Finance, Marketing, and Production are just some of the areas where AI is making inroads. The use of AI systems can provide valuable insight into an organization's operations and improve upon its current levels of performance. As the demands of running a business have grown, the sternest of managers have come to appreciate the value of AI in the workplace. This study mostly serves as a descriptive study. For this study, the researcher relied on secondary data, which included information gained from previously published works, such as scholarly journals, survey reports, HR blogs, and websites. The primary goal of the research was to analyze the impact of AI on HR. According to the study's findings, AI plays an increasingly important role in human resources, with robotics firms increasingly able to handle tasks like hiring and onboarding new employees, as well as data collection, analysis, and management.

Keywords: - Artificial Intelligence, recruitment, discrimination. Financial costs

Introduction

One of the most significant factors affecting a sector's development is technological advancement. Robots have been taking over previously human jobs in the manufacturing sector since the nineteenth century. The year 1970 marked the beginning of the third revolution, which saw the widespread use of internet and personal computers in the workplace and the gradual replacement of human labor with that of machines. Artificial Intelligence and Machine language and are two examples of digital technologies that are increasingly penetrating everyday operations. "Artificial intelligence is described as an ideal, intelligent machine that is a flexible agent that senses its surroundings and takes activities to maximize its chance of success at some goal". Artificial intelligence, also known as machine intelligence, is a form of intelligence that is displayed by machines, in contrast to natural intelligence, which is expressed by humans. In 1956, researchers first used the term "artificial intelligence." Artificial intelligence is useful in many areas of a company's operations, especially those that involve relieving the stress and anxiety that come with excessive job loads. A quick response time is essential in the corporate world due to the frequency with which things change.

Organizations can gain insight into their current performance and operational procedures with the help of AI systems. As the demands of running a business have grown, the sternest of managers have come to appreciate the value of AI in the workplace. These days, it's not uncommon for companies to use AI in areas like human resources, where it can be used to handle tasks previously performed by humans (such as screening applicants, recruiting new employees, ensuring that HR activities are properly aligned, and monitoring employees' performance, to name a few).

There has been a significant technological advancement in company management thanks to artificial intelligence, and it will have a major effect on how people in HR and other related fields perform their jobs in the future. Human resource management looks different after the introduction of artificial intelligence (AI) tools. Employing big data or data analytics concerning HR procedures in real time, you may, for instance, create personalized plans for staff training and development that draw on existing processes. The term "artificial intelligence" is commonly used to describe any technological solution to a problem that normally needs human intelligence. In other words, a machine that has been programmed to perform human tasks. According to an assessment by the major provider of cloud-based apps for vertical markets, we are already seeing a case of innovative use of AI in areas that can offer additional significant benefits to the workflow as technologies evolve at an ever-faster rate. A number of businesses and non-profits have previously proven that AI can help with enhancing care while cutting expenses according to Mesko B[1]

Literature Review

Artificial Intelligence can be double-edged sword as this is the case for all kind of technology. The main fear here is that if AI is applied it might replace the people in the work field. Therefore, we should utilize it in a way that serves humankind rather than harming them. If we look closely at this issue, we can see that AI can have a positive impact in improving the business function as it can contribute in facilitating many aspects of the work according **Duchessi, P., O'Keefe, R., & O'Leary, D** .[2]

Artificial Intelligence can play very important role in improving the HR functions. Unlike the other kind of technologies which requires a constant supervision and cannot function without receiving a direct command to get the work done. AI can perform complex and difficult tasks that can includes shortlisting an ideal candidate for the vacant position, making decision in relation to similar or familiar situations, answering the usual queries related to HR, working on the assessment of the employees as well as issuing reports related HR to input, outputs, required data, performance, plans and accomplishment. All this can assist in operating the HR functions efficiently and effectiveness according to **Murgai, D. A.** [3]

As world grows so rapidly the business need to find ways to run its operation efficiently. Many organizations now are moving toward HR Automation. What is HR Automation? HR Automation is software that can work on running various kinds of administration tasks by reducing error and workload without effecting the quality of the work and outputs. Many HR functions can be automated like: shortlisting candidates based on the required qualification and experiences, work on new employee onboarding documents (such as: preparing job offer, contract, confidentiality agreements, conflict of interest, code of ethics, insurance, ticket booking…etc.), maintaining employee records up-to-date. In addition, It can work on advanced tasks level such: preparing employee benefits and remuneration, end of service, manage leaves application and employee assessments. By applying automation, HR will have enough time to look into developing their strategies, plans and services rather than working on daily tasks that requires too much time and effort. Moreover, HR can work their employee professional development that will have a great and positive impact in improving the HR functions according to **Reddy**. [4]

Kapoor [5] confirmed that business intelligence and its applications in HR management have been the subject of study. This study piece presents the findings of a researcher who conducted an investigation into the most prominent business intelligence

provider in order to examine the data analytics and business intelligence that are included in HRM modules.

Jain [6] said that the findings about AI's impact on HRM were the paper's main contribution. According to the study's cited findings, a growing number of businesses are using cutting-edge tools and methods to streamline their human resources operations.

Dirican [7] According to the findings of a study titled "The Impact of Robotics, Artificial Intelligence on Business and Economics," the application of robotics and AI in the business sector may have a detrimental effect on a variety of processes and procedures including taxes, training, coaching, banking system, customer relationship management, strategic planning, sale, performance management, production etc.

Buzko [8] in article entitled, "Artificial Intelligence technologies in human resource development". The authors of this study reflected on the challenges posed by AI technologies in the field of human resources, noting that the technology was unable to determine whether or not training expenses were worthwhile. In their work, the researchers cited how AI tools help human process large amounts of data quickly.

R & D, [9] "Recruitment using AI: A Conceptual Study" is the title of this scholarly study. The authors describe the use of AI in the hiring process, highlighting the crucial part that AI now plays in the industry. Artificial intelligence is useful for many HR tasks, including interview scheduling, employee interactions, auto-generated messaging, candidate screening, and more.

Jarrahi, [10] In his study titled "Artificial Intelligence and the Future of Work: Human-AI Symbiosis in Organizational Decision Making," he argues that AI will soon be an integral part of everyday work. The study articles discussed how AI can benefit humans. Decisions, coping with uncertainties, and notably ambiguity in decision-making, have all benefited from the use of AI in recent years. Humans continue to play a crucial role in many fields, and technologies still need people to rely on them for making critical, often unconscious, judgement calls.

Merlin.P & Jayam.R, [11] Using the research titled "Artificial Intelligence in Human Resource Management," the researcher provides valuable insight into the function of AI in the HR field. The author draws the conclusion that HR professionals can benefit from using AI in the workplace since it helps them better understand their own processes and anticipate emerging issues and trends.

Many modern HR departments are embracing digital innovations like cloud, big data analysis, and AI in an effort to streamline their processes and better serve their clients. **Amla and Malhotra,** [12] Most businesses today use digital or AI-powered HR tools like robotic process automation, machine learning and chatbots, to aid in HRM tasks like advertising for new employees, screening applicants, onboarding new hires, conducting interviews, and more. The functions of artificial intelligence in HRM are as follows:

1. Recruitment

According to the study's authors **Amla & Malhotra,** [12] AI is being used by only 40% of businesses and industries. Digital technologies are being used by companies like GE, Facebook and SAT to screen applicants, conduct interviews, and identify potential new hires. Using AI, the hiring manager may quickly review the resume and provide feedback to the

candidate. An automated answering service or chat box can be a lifesaver when it comes to fielding questions and addressing concerns during the hiring process.

2. Screening and Interview Process

Automating interviews with the use of AI is possible through the use of word or voice pattern tests. Digital interviews are now possible with Ay software, and AI is being used to enhance the candidate experience. It's common practise to use apps like Clara and Amy to arrange dates and times for appointments and interviews.

3. Reduce Administrative burden

Human resources departments often have to juggle multiple responsibilities in an environment where automation and AI are being used to cut back on administrative work. Artificial intelligence (AI) can solve issues and boost HR performance in businesses.

4. Selecting:

Based on their findings, the authors of the aforementioned study **Rajesh, Kandaswamy, & Rakesh, [13]** conclude that with the use of artificial intelligence, HR managers will be able to quickly and easily locate qualified applicants who possess the necessary set of competencies.

5. Reduce Discriminations

Artificial intelligence is now being utilised to lessen partiality, and this trend is expected to contribute to more workplace transparency in the future. The company will be able to choose the resume in this way. Artificial intelligence programs can examine job postings **Rathi, 2018**. [14]

When it comes to human beings there is a soft spot in everyone's heart for who to keep on the job regardless if the individual is fit enough for it or no. some take it to a whole new level meaning taking comments to an emotional level and bringing past or personal experiences into play. Well the idea is. Regardless of the fact of how sincere, a person is or how dedicated he/she is to the work they will at some point of their time be nothing but Bias. Because we as humans' beings have the tendency to be a bit stereotypical and when the job is not done properly who is to be blamed? You guessed it right the Human Recourse manager. However, what if we remove the human out of the picture and introduce an AI. Will it be bias? No will the computer has any stereotypical issues? I do not think so. Because they are designed to work in that manner artificial intelligence do not care where the individual is coming from all it cares for is how fit is it to get the job done.

When AI is fully implemented, racism, prejudice, body shaming, and institutionalized cruelty will be a thing of the past. Artificial intelligence will level the playing field by taking extremely exact measurements on a daily basis (We can only anticipate new and significant developments in the sector, developments that will repeatedly revolutionize HR operations). One of Essay Have's IT experts, Peter Hope, has said, "While we can't forecast what will happen in the far, far future, we can undoubtedly take a peek into the near future."

6. Increase Efficiency

The use of AI will help cut down on unnecessary office personnel. In order to boost productivity in the workplace, many robotic tasks have been completed. Robots can be programmed to perform a variety of administrative tasks, such as gathering data for payroll systems and HR, processing, identifying required information from existing data, copying data, filing reports, collecting data etc.

Question rises how we select the best candidates from million and millions of them well there is only one solution usage of artificial intelligence. With its accurate analysis and Zero error programing the fittest and the best candidate can be chosen. The usage of AIT cannot only get our companies to a better level but can be extended throughout the world. This area of growth can be expected to be enhanced in the future. The idea is once the completion of artificial intelligence is done. Trail and errors will be reduced drastically. This will result in market boom leading a new face as well as phase to the supply and demand of the economy keeping both time and money invested in the right direction.

But it just does not end here sooner or later artificial intelligence will connect different organization with each other and the idea which will yet to be implemented will be put forward.

One of the key things are it will keep the employees motivated since there all of the stress work can be handed over to the AI and the once paper filled desks will be paperless and the only paper the desks will have is green paper or their pay cheque.

(PwC found that 72% of HR leaders believe AI to be very beneficial to the business world in the coming years. Lots of people appear to agree, and they're taking advantage of all the benefits it offers right now, too.)

7. Enrich workplace learning

Digital technology and computers can now play the supporting function in manufacturing. Computers and other forms of contemporary technology have allowed businesses to analyze data and deliver instantaneous feedback to employees during training, allowing for course corrections based on actual performance **Riebli,** [15]. Businesses have turned to Microsoft 365 to boost productivity and efficiency in the workplace while cutting down on wasted time. Numerous artificial intelligence applications are already in use, including Duolingo (in the Learning Domain), Wade&Windy (in the Career Advancement Area), Obie & Niles (in the Knowledge Sharing Area), and Engazify (in the Feedback Area) **Amla & Malhotra, 2017. [12]**

2.1 Challenges of Artificial Intelligence in HR

In his 2017 article, "The Role of AI in Human Resources," Raviprolu takes a close look at AI's potential impact in the HR field while also noting the challenges that prevent its widespread use. To begin, AI needs a massive volume of high-quality data. There is a high level of complexity in these data sets that makes it difficult to gain a thorough understanding of the mental state of potential candidates. According to **Yano** [16] , without data, AI is only a theory. According to **Campolo** et al.[17], organizations may opt for cheaper, less representative sets of data to train AI systems as a result of increased protections for such data. In addition, **Bafaro et al.** [18] emphasizes that provided the data is accurate, an ML algorithm may need to analyze multiple years of succession data in order to fully comprehend success drivers. While **Wishkirchen et al.** [19] is in favor of using AI in the hiring process, they do admit that even the most advanced AI technology can be flawed. The General Data Protection Regulation (GDPR) presents another another data hurdle; with an approximate 80% of staffing agencies not complying with the requirements, GDPR will have significant effects on the business as a whole Chaker. However, IBM ,[20] has stated that the advantages of AI much exceed the hazards that have been discussed. Raviprolu. [21] echoes this sentiment, arguing that AI has not yet developed sufficiently to produce convincing dialogue. Similarly, Tandon et al. [22] draw the conclusion that the impact of AI will not lead to complete automation of the system.

Okolie et al. [23] took E-Recruitment, the most recent technology development in the HR sector, into account. The study acknowledges the disadvantages of E-Recruitment, such as the impersonal nature of the process on both ends and the bias against people without internet access in its early phases. When Schwartz et al. [24] ranked the variables that mattered most in HCM, Talent Acquisition ranked third (at 81%) and "Robotics, Cognitive Computing, and AI" ranked last (at 40%). Due to the relatively recent advent of AI in the HR sector, a gap has opened up between the two processes, and only now is the business world attempting to close the gap according to **Francis et al**, [25]

Methodology

A total of 382 people participated in the survey, and their responses were coded and analysed to reveal patterns in keeping with the study's aims. This section summarises the most important findings from the analysis, which was performed using IBM SPSS Statistics. The purpose of the research was to determine how much of a contribution Artificial Intelligence makes to the streamlining of the hiring procedure. All of the study's factors were graded on a five-point Likert scale. The first part of this section discusses the importance of representative samples and how to clean data, whereas the second part shows a demographic breakdown. In the fourth section, both exploratory and confirmatory factor analyses will be provided; for the former, Principal Axis Factoring (PAF) will be used, and for the latter, convergent and discriminant validity will be examined by **Astrachan et al.,** [26] Descriptive statistics, primarily the mean and standard deviation, were used to expose the descriptive statistics of the declared variables and their corresponding elements in the fifth section. Section six details the multiple linear regression modelling that was used to determine whether or not the hypotheses were statistically significant.

Results and discussions

4.1 Data Preparation and Cleaning

In this research, we used a dual strategy to clean the data. The initial step was an examination of the data that was missing, and the second step was a study of the data that contained outliers. The missing data was analysed using SPSS's Missing Value function, and the outcomes are shown below.
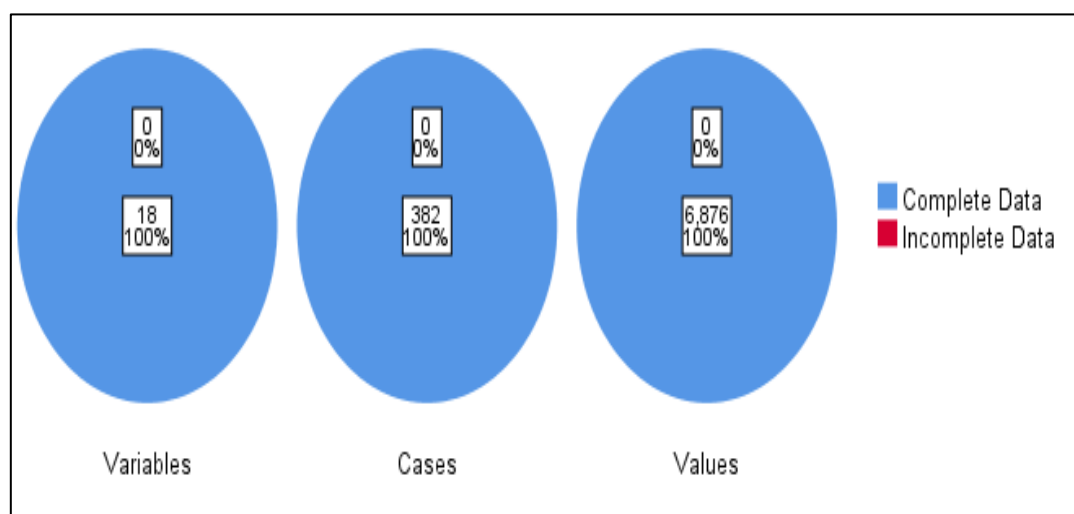
Figure 1: *Missing Value Analysis*

Based on the findings, none of the 382 instances or 18 variables had any missing data, and no observations were excluded due to data sparsity. In accordance with Hair, Page, and no observations were discarded because of outliers; rather, Z-score normalisation was used to deal with them before they were incorporated into subsequent tests. There were no eliminations of observations due to data gaps or outliers, hence the final sample size employed in this investigation was 382 for both purposes. Since this investigation relied on latent constructs, therefore, the N:q ratio of cases to free parameters was taken into account to ensure a sufficient sample size. The maximum allowed number of observations per item is 10, as stated **by Stine and Foster [27]** and **Wolf et al.** [28] Since there were 15 variables in this analysis, a sample size of 150 was considered necessary. However, because 382 was a larger number than 150, it implies that the sample size for this study was above the minimum necessary for reliable results. A sufficient number of participants were included in this study to draw meaningful conclusions according to **Howitt and Cramer**, [29]

4.2 Demographic Analysis

As argued by **Levin and Rubin** [30] research participants' sociodemographic characteristics frequently have a significant role in describing their perceptions, which may be described by a number of the variables used in this study. Because of this, it was crucial that the study's demographics be examined and their potential impact on the results assessed. As a quick recap, this study used three demographic factors: sex, highest education level attained, and years of professional experience.

Table 1: *Demographic Analysis*

		Frequency	**Percent**	**Cumulative**
Gender	Female	177	46.3	46.3
	Male	205	53.7	100.0
Qualification	High School	27	7.1	7.1
	Diploma	84	22.0	29.1
	Bachelor's Degree	153	40.1	69.1
	Masters' Degree	95	24.9	94.0
	PhD	23	6.0	100.0
Experience	Less than five years	65	17.0	17.0
	5 to 10 years	93	24.3	41.4
	11 to 15 years	130	34.0	75.4
	16 to 20 years	77	20.2	95.5
	More than 20 years	17	4.5	100.0
	Total	382	100.0	

According to the data shown above, men made up 53.7% of the sample while women represented 46.3%. There was not much of a discrepancy between the two, which suggests that there was not much of a variation in the gender distribution of participants, either. That the gender distribution was not overly biased is confirmed, as is the fact that the sample is statistically valid. The participants' educational level was the second characteristic taken into account. Based on the data collected, we can see that 153 (40.1%) of participants had a Bachelor's degree, while 95 (24.90%) held a Master's degree, 84 (22.0%) held a diploma, 7.10% held a High School certificate, 6% held a Doctorate degree. There was a very even

distribution of educational attainment among the participants, with over 70% holding bachelor's degrees or more. These findings are generally in line with the features in the sample age distribution that this research basically investigated, as well as the finding that the majority of survey participants had completed adequate educations demonstrates that they had a good awareness of the topics discussed and understood the questions well, reducing validity concerns. Thirdly, respondents' years of expertise was measured, and the results showed that 34.0% of people involved had 11-15 years' worth of work experience, followed by 24.3% with 5-10 years' worth of work experience, and finally 20.2% with 16-20 years' of work experience. Regarding the tail-ends, there were more participants with less than 5 years of experience (17.0%), than those with more than 20 years of experience (4.5%). This outcome is a positive outcome as this shows that the majority of the respondents had attained at least 5 years of experience that is more than 80%. This also confirms the participants had a fair knowledge that *would* further buttress the validity and dependability of their input.

4.3 Exploratory Factor Analysis

There were 15 items used to gauge the impact of using AI in the hiring process. The resulting constructs were established by EFA, a statistical method for extracting latent variables by determining the component structure underlying a collection of observable variables **Misopoulos et al. and Taber,** [31] It was, however, necessary to first test Bartlett's Test of Sphericity and construct the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy in order to confirm the use of EFA. See Table 3 for a summary of the findings.

Table 3: *KMO and Bartlett's Test*

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.856
Bartlett's Test of Sphericity	Approx. Chi-Square	7471.288
	df	105
	Sig.	.000

It was determined that the study sample was sufficient for factor analysis because the KMO statistic was larger than 0.50, as recommended by **Comrey** [32] from the findings shown above, KMO = 0.856, which is over the required minimum. To the contrary, regarding the Bartlett's Test of Sphericity, $\chi2(105) = 7471.288$; $p<0.05$. Seeing as how the hypothesis test passed with flying colours, we can safely assume that our assumptions were not broken. The EFA factor analysis was performed when the central assumption was shown to be correct. According to Keller [33] Hair et al. [34], Sarstedt, and Mooi [35] we employed principal component analysis (PCA) as the extraction method and orthogonal rotation, specifically the varimax rotation, to normalise the data. Two methods were used to determine the quality of the extracted factors. The first method relied on the Guttman-Kaiser Criterion, which specifies that if a factor is to be considered genuine, its associated eigenvalue must be larger than 1 (Hair et al., [36]; Sarstedt and Mooi, [35] Table 4 below shows the results of calculating the total variance explained.

Table 4: *Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Var	Cum %	Total	% of Var	Cum %	Total	% of Var	Cum %
1	5.869	39.129	39.129	5.869	39.129	39.129	4.702	31.345	31.345
2	4.609	30.726	69.855	4.609	30.726	69.855	3.824	25.490	56.835
3	1.428	9.519	79.374	1.428	9.519	79.374	1.855	12.368	69.203
4	1.119	7.458	86.832	1.119	7.458	86.832	1.850	12.337	81.539
5	1.029	6.860	93.692	1.029	6.860	93.692	1.823	12.153	93.692
6	.122	.812	94.505						
7	.111	.738	95.243						
8	.107	.712	95.955						
9	.099	.662	96.616						
10	.093	.621	97.237						
11	.089	.597	97.834						
12	.087	.582	98.416						
13	.083	.552	98.968						
14	.079	.526	99.494						
15	.076	.506	100.000						

Extraction Method: Principal Component Analysis.

The first factor's eigenvalue was 5.869, and it accounted for 31.345% of the total variance. The eigenvalue for Factor 2 was 4.609, with the accompanying variance explained at 25.490%, while the eigenvalue for Factor 3 was 1.428, with the associated variables are measured at 12.368%. Fourth factor had an eigenvalue of 1.119 and an associated variance explained of 12.227%; fifth factor, 1.029; and finally, factor six, 12.153%. All five factors together accounted for 93.692% of the total variation. Since the variables are measured in this study was 70.90%>50%, confirming the validity of the components extracted above utilising EFA, the standard minimum cumulative variance that must be accounted for must not be less than 50% Schmitt, and; Preacher, et al., [37] We have compiled a tabular representation of the rotated factor matric.

Table 5: *Rotated Factor Matrix*

	Component				
	1	2	3	4	5
Reduces discriminations	.060	.309	.177	**.908**	.011
Eliminates bias	.063	.300	.173	**.812**	-.008
Eliminates human intervention	.351	.070	.043	-.009	**.911**
Increases efficiency	.346	.095	.041	.013	**.824**
Reduce administrative burden	.106	.278	**.911**	.173	.039
Reduces financial costs	.121	.267	**.847**	.172	.044
Measures communication traits	.009	**.935**	.171	.168	.049
Measures teamwork	-.008	**.935**	.159	.173	.048
Measures communication with others	.006	**.828**	.153	.177	.056
Measures problem solving	-.005	**.770**	.174	.195	.050
Assists with decision making	**.942**	-.002	.065	.023	.169
Improves recruitment process	**.933**	.024	.058	.040	.196
Improves screening and interview process	**.839**	-.006	.061	.029	.170
Improves selection process	**.816**	-.001	.057	.041	.167
Enriches workplace learning	**.750**	-.001	.074	.044	.160

Rotation Method: Varimax with Kaiser Normalization.

Extraction Method: Principal Component Analysis.

a. Six cycles of rotation led to convergence.
The factor loadings are used to determine the category of each item, and Hair et al. (2020) state that a factor loading of 0.50 is required. Based on the data presented above, there is no need to remove any items from consideration.

Factor 1: Improves the recruitment decision
There were five elements making up the first criterion. These things included: assists with decision making, improves recruitment process, improves screening and interview process, improves selection process and enriches workplace learning, and overall, they related to the improvement in decision making.

Factor 2: Measurement of personal traits
The second factor comprised of four items. These related to the ability of the AI to measure communication traits, teamwork, and communication with others as well as problem solving.

Factor 3: Reduction of financial cost
The third factor comprised of only two items, that is, reduction of administrative burden and reduction of financial costs, and both were taken to imply the reduction in the financial costs.

Factor 4: Elimination of bias
The fourth factor comprised of two items and these included reduction of discrimination and elimination of bias.

Factor 5: Elimination of human intervention
Also, the final consideration had just two parts to it. One of these is reducing or doing away with the need for human involvement in the process, which in turn boosts productivity.

All of the aforementioned results indicate that the items employed accurately measured the research constructs, proving that all five characteristics that were the focus of this investigation could be retrieved from the data. But reliability analysis was also done to verify the EFA results.

It is recommended that a Cronbach's alpha of at least 0.70 be used to test the reliability of research constructs (Rigdon, Sarstedt, & Ringle, McNeish, and Taber,.[38]Cronbach's alpha was used to determine the reliability coefficients for each of the five constructs that emerged from the exploratory factor analysis, and the findings are shown in following table 6.

Table 4.6: *Reliability Testing*

	Cronbach's Alpha	N of Items
Improves the recruitment decision	.846	5
Measurement of personal traits	.897	4
Reduction of financial cost	.865	2
Elimination of bias	.902	2
Elimination of human intervention	.892	2

The findings indicate that the elimination of bias has the highest level of reliability (alpha = 0.902). Other than the cost-cutting measure, all of the other constructions had alpha coefficients above 0.70, with the lowest being 0.865.

Descriptive Statistics

Items were rated on a 5-point Likert scale, therefore the mean rating was used to determine central tendency, and the standard deviation was used to establish dispersion (Keller, Hair et al., .[33] The descriptive data for all items were summarised in Table 4.7.

**Table 7:** *Summary Statistics*

		N	Mean	SD	Skew	Kurt
Elimination of bias	Reduces discriminations	382	3.74	.643	.119	-.049
	Eliminates bias	382	3.73	.637	.115	.367
Elimination of human intervention	Eliminates human intervention	382	3.25	.636	-.103	.023
	Increases efficiency	382	3.29	.656	.073	.542
Reduction of financial cost	Reduce administrative burden	382	3.91	.675	.061	.241
	Reduces financial costs	382	3.89	.657	.004	-.084
Measurement of personal traits	Measures communication traits	382	3.98	.683	-.073	.021
	Measures teamwork	382	3.99	.689	-.225	.657
	Measures communication with others	382	3.98	.708	-.190	.123
	Measures problem solving	382	3.97	.706	-.188	.659
	Assists with decision making	382	3.64	.683	.457	.192
Improves the recruitment decision	Improves recruitment process	382	3.61	.675	.298	-.347
	Improves screening and interview process	382	3.57	.667	.175	-.286
	Improves selection process	382	3.55	.673	.293	.004
	Enriches workplace learning	382	3.56	.672	.265	-.314

With no items receiving a rating below the median of 3.0, it is safe to assume that the vast majority of respondents held favourable opinions regarding each statement. The average scores for the reduction of human involvement were below 3.30, whereas the ratings for the assessment of personal attributes were above 3.90. The rest of the items fell within these two ranges.

4.6.1 Structural Equation Modelling

IBM SPSS Amos v28 was used to model the study constructs so that the study hypotheses could be tested; the matching SEM Model is shown in Figure 4.8, along with the standardised path coefficients for each study hypothesis. There were five dependent variables, that is, Elimination of bias (BIAS), Elimination of human intervention (INT), Reduction of financial cost (FIN), Measurement of personal traits (TRAIT) and the last was Improves the recruitment decision (DEC). The independent variable was the adoption of AI. From the outcome, all the hypotheses tested were statistically significant, with the highest being for the influence of AI on the Elimination of human intervention ($\beta_{int} = 0.511$, $p<0.05$), followed by the influence of AI on the measurement of personal traits ($\beta_{trait} = 0.392$, $p<0.05$), then elimination of bias ($\beta_{bias} = 0.389$, $p<0.05$), then reduction of financial cost ($\beta_{fin} = 0.284$, $p<0.05$), and lastly, was improvement of the recruitment decision ($\beta_{dec} = 0.213$, $p<0.05$). According to the study's authors Amla & Malhotra, [40] AI is being used by only 40% of

businesses and industries. Digital technologies are being used by companies like GE, Facebook and SAT to screen applicants, conduct interviews, and identify potential new hires. Using AI, the hiring manager may quickly review the resume and provide feedback to the candidate. An automated answering service or chat box can be a lifesaver when it comes to fielding questions and addressing concerns during the hiring process. Automating interviews with the use of AI is possible through the use of word or voice pattern tests. Digital interviews are now possible with Ay software, and AI is being used to enhance the candidate experience. It's common practise to use apps like Clara and Amy to arrange dates and times for appointments and interviews. Human resources departments often have to juggle multiple responsibilities in an environment where automation and AI are being used to cut back on administrative work. Artificial intelligence (AI) can solve issues and boost HR performance in businesses. Businesses have turned to Microsoft 365 to boost productivity and efficiency in the workplace while cutting down on wasted time. Numerous artificial intelligence applications are already in use, including Duolingo (in the Learning Domain), Nicastro, (in the Career Advancement Area), Obie & Niles (in the Knowledge Sharing Area), and Engazify (in the Feedback Area) (Amla & Malhotra, [39]
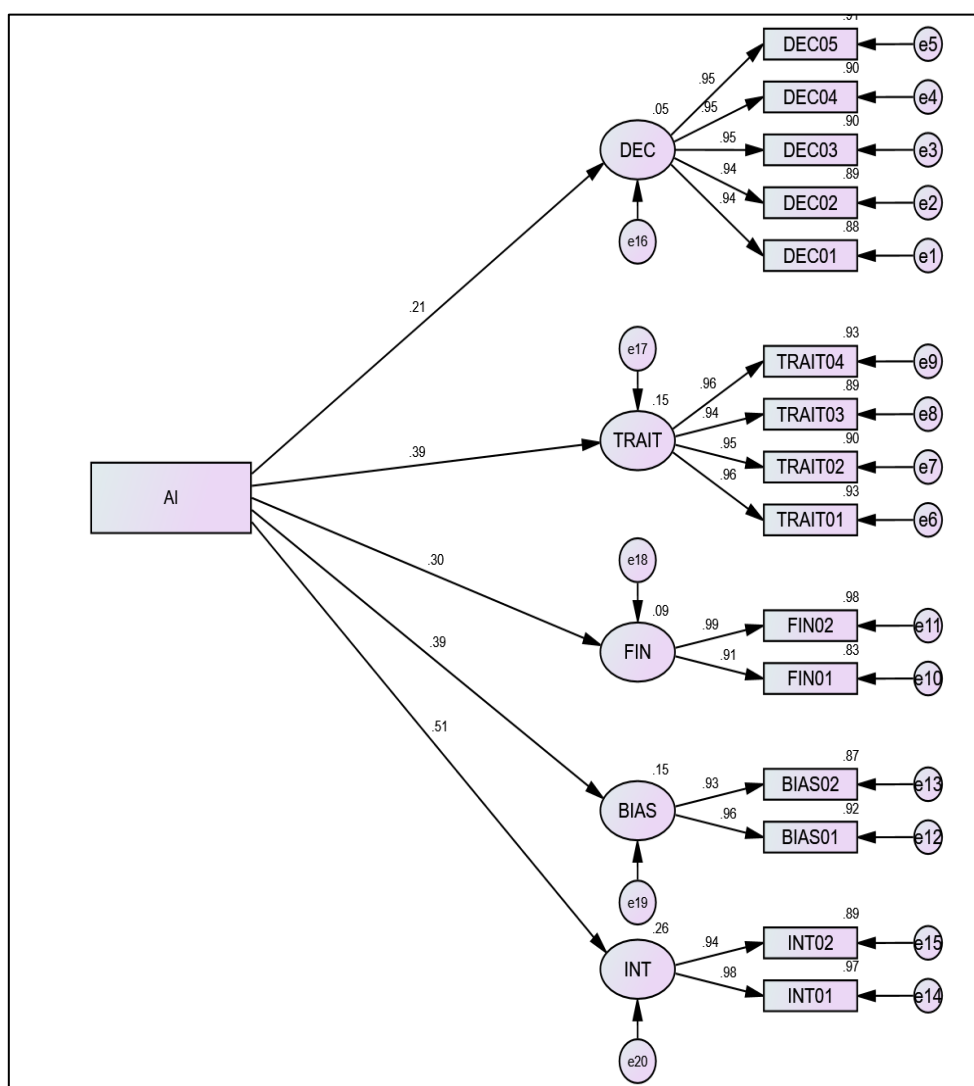
Figure 4.8: *SEM Analysis – Testing Hypotheses*

Table 4.13 presents the corresponding route coefficients.

Table 4.13: *SEM Path Coefficients*

			Estimate	Standardised	S.E.	C.R.	P	Label
DEC	<---	AI	.213	.215	.050	4.229	***	
TRAIT	<---	AI	.400	.392	.049	8.155	***	
FIN	<---	AI	.284	.297	.052	5.483	***	
BIAS	<---	AI	.373	.389	.047	7.861	***	
INT	<---	AI	.496	.511	.044	11.345	***	
DEC01	<---	DEC	1.000	.935				
DEC02	<---	DEC	.994	.942	.027	36.866	***	
DEC03	<---	DEC	.989	.947	.026	37.766	***	
DEC04	<---	DEC	.998	.948	.026	37.988	***	
DEC05	<---	DEC	1.002	.953	.026	38.808	***	
TRAIT01	<---	TRAIT	1.000	.963				
TRAIT02	<---	TRAIT	.996	.951	.022	44.633	***	
TRAIT03	<---	TRAIT	1.016	.945	.024	42.959	***	
TRAIT04	<---	TRAIT	1.032	.963	.021	48.040	***	
FIN01	<---	FIN	1.000	.911				
FIN02	<---	FIN	1.056	.988	.087	12.103	***	
BIAS01	<---	BIAS	1.000	.960				
BIAS02	<---	BIAS	.962	.931	.062	15.589	***	
INT01	<---	INT	1.000	.983				
INT02	<---	INT	.991	.944	.039	25.235	***	

SEM Model Fitness

Goodness-of-fit tests are recommended for evaluating SEM models by researchers such as Tarka [41] Jöreskog, Olsson and Wallentin [42] and Asparouhov and Muthén [43] Three indicators of goodness-of-fit were evaluated for this purpose. As a starting point, we looked at the CMIN/df, which, per Kline [44] and Hair, Howard, and Nitzl [45] needs to be under 3.0. Next, we looked at the CFI, or Comparative Fit Index, which Brandmaier et al. [46] and Hair, Howard, and Nitzl [47] say needs to be higher than 0.90. Finally, we looked at the Root Mean Square Error of Approximation (RMSEA), which Hair, Howard, and Nitzl [48] and Wang and Wang [49] say must be lower than 0.08. Below, we give the outcomes of the evaluation of these goodness-of-fit metrics.

Table 4.14: *Goodness-of-Fit Measures*

Measure	Estimate	Threshold	Interpretation
CMIN	284.002	--	--
DF	100	--	--
CMIN/DF	2.840	Between 1 and 3	Excellent
CFI	0.963	>0.95	Excellent
SRMR	0.062	<0.08	Excellent
RMSEA	0.054	<0.06	Excellent
PClose	0.097	>0.05	Excellent

CMIN/DF was 2.840, which is below the threshold value of 3.0, hence the maximum threshold was not exceeded. CFI = 0.963, which is over the threshold of acceptability set at 0.90, hence this criterion was also not disregarded. Finally, the RMSEA was 0.054, which is below the 0.80 threshold set by the results, indicating that the rule was not broken. The results

from the SEM model can be trusted because, overall, the goodness-of-fit metrics were all within the expected ranges. **(Jain, 2018)** The findings about AI's impact on HRM were the paper's main contribution. According to the study's cited findings, a growing number of businesses are using cutting-edge tools and methods to streamline their human resources operations. **(Dirican, 2015)** According to the findings of a study titled "The Impact of Robotics, Artificial Intelligence on Business and Economics," the application of robotics and AI in the business sector may have a detrimental effect on a variety of processes and procedures including taxes, training, coaching, banking system, customer relationship management, strategic planning, sale, performance management, production etc. **(Buzko, et al., 2016)** In article entitled, "Artificial Intelligence technologies in human resource development". The authors of this study reflected on the challenges posed by AI technologies in the field of human resources, noting that the technology was unable to determine whether or not training expenses were worthwhile. In their work, the researchers cited how AI tools help humans process large amounts of data quickly. **(R & D, 2018)** "Recruitment using AI: A Conceptual Study" is the title of this scholarly study. The authors describe the use of AI in the hiring process, highlighting the crucial part that AI now plays in the industry. Artificial intelligence is useful for many HR tasks, including interview scheduling, employee interactions, auto-generated messaging, candidate screening, and more.

(Jarrahi, 2018) In his study titled "Artificial Intelligence and the Future of Work: Human-AI Symbiosis in Organizational Decision Making," he argues that AI will soon be an integral part of everyday work. The study articles discussed how AI can benefit humans. Decisions, coping with uncertainties, and notably ambiguity in decision making, have all benefited from the use of AI in recent years. Humans continue to play a crucial role in many fields, and technologies still need people to rely on them for making critical, often unconscious, judgement calls.

Conclusion

Obviously, the applications of AI in HR are far wider ranging than those listed here. While this is only a primer on AI's possible applications in human resources, it is clear that the technology has the ability to streamline many of the tedious, routine steps involved in interacting with candidates. When AI is integrated with a company's other systems, such as their applicant tracking system, calendar, and email, it can analyze the candidate's activity to predict when they are most receptive to hearing about job opportunities. In addition, AI can evaluate a candidate's credentials in relation to that of the current staff and make recommendations for those it thinks have the necessary expertise. By determining which incentive schemes are most likely to be effective in enhancing employee satisfaction, artificial intelligence is also aiding in the increase of staff output. AI's data-aggregation capabilities mean it can be used to evaluate which employee programmes are most likely to provide positive results, as well as to select the most deserving individuals for bonuses and training investments.

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