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Impact of Artificial Intelligence (AI) on Selected Human Resource Management (HRM) Functions in Pharmaceutical Industry in India

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Abstract

The study aims to assess artificial intelligence's effects on select HRM functions and to validate the proposed conceptual framework through empirical analysis showing the connection between HRM function as well as artificial intelligence. Questionnaire consisting of closed-ended questionnaires were distributed in order to achieve these goals. The reliability, validity, and correlation analysis were used to assess the factors that make up the suggested model. The hypothesis was further tested and the suggested model was validated using regression analysis. Findings show that all variables account for 89% of HRM explanation, with a R square (R2) of 0.890. The ANOVA values for the regression model, indicate validation at a 95% confidence level. The beta (β) values of all factors are 0.902 and 0.545 in the coefficient summary, which is a reasonable representation of their influence on HRM. These strong AI-based HR apps are a valuable tool for any type of business, even though they lack cognitive capacities of humans. This study will help most businesses to successfully integrate AI-related techniques into hiring, according to our research, as AI will permeate every aspect of HR in the near future and should be seen as a good thing since it makes life better.

Keywords: *Artificial Intelligence (AI), Human Resource Management (HRM), Recruitment (RM), Training & Development (TD), Onboarding (OB), Compensation Management (CM), Performance Management (PM), Employee Retention (ER).*

1. INTRODUCTION

Businesses are now re-evaluating the core principles of who and what they are as a result of digital transformation (Saarikko et al., 2020). Human resources (HR) have evolved recently, propelled by data and technology that workers consistently contribute to strengthen their strategic role. Artificial Intelligence is one of these technological innovations. Artificial intelligence (AI) has experienced ups and downs since its inception (Kaur et al., 2022). Artificial Intelligence enhances problem-solving skills by converting data-related inputs, such as text, graphics, and numbers, into electronic formats. Its data, computational capabilities, genetic algorithms, and strength have all been praised as

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remarkable for AI. As the connecting element between the Internet of Things (IoT), robotics, and mobile cognitive technologies artificial intelligence plays a pivotal role. Organizations can use AI to gain a competitive edge by making better use of their current human capital (Baker, 2010) The artificial intelligence (AI) community has grown in prominence in recent decades. Technology has progressed to the point where systems based on AI are now available that are programmed to make decisions and can execute AI decision-making applications that resemble human intelligence. Artificial intelligence (AI) is currently recognized for offering answers to a wide range of problems that businesses encounter. Since its adoption has accelerated in recent years, The positioning of artificial intelligence as a cornerstone of work across all industries. Research publications in the artificial intelligence (AI) domain have increased rapidly in recent times. The number of AI-related conferences has increased, especially over the last ten years (Kaur et al., 2021). According to forecasts, by 2025, machine and algorithm deployment proficiencies will have improved from prior years.

Technology has played a major role in HR's transition from a support role to a business partner in strategy. Rethinking people management in a sense AI adoption is a must for businesses looking to achieve workforce equity and is a critical strategy to deal with uneven HR function conditions. This empirical study aims to explore AI's uses in management of human resources (HRM).

2. LITERATURE REVIEW

2.1 Artificial Intelligence

AI is a term with several definitions. Various researchers have put forth their own definitions. Studies have concentrated on different facets of technology, based on the period and degree of development attained. Two writers stick out in the evolution of artificial intelligence (AI), despite the concept's unclear beginnings. The English mathematician, computer scientist ‘Alan Mathison Turing’, is considered as father of modern computing, and the father of artificial intelligence with Joseph Raymond McCarthy. Both of them constituted the foundation by offering the concept of algorithms to the field of computer science and subsequently developed the Turing test, which assesses a machine's potential for intelligence relative to the human operating it. But at a Dartmouth conference, J. McCarthy first used the term "synthetic intelligence" (Paesano 2021). Artificial Intelligence (AI) was supposed to grow quickly in the 1950s and 60s to create computers and robots that could think like humans, but that didn't happen up to this point (Pillai and Sivathanu 2020).

A new age technology known as ‘artificial intelligence’ (AI) revolutionized the cutting edge of the virtual world. Artificial Intelligence is a broad field in Information Technology that includes many concepts (Mohammad, S. M. 2020) AI, or artificial intelligence is the phrase employed to characterize the simulation of intellect in humans, in machines that can be programmed to behave and think like people. The expression can also be applied to any machine that demonstrates cognitive abilities similar to those of humans, like education and problem-solving (Jake Frankenfield 2021) two basic ideas are usually included in the field of artificial intelligence. First, it involves understanding how human thought processes operate by reading their brains. Secondly, it contributes to the creation of those processes by studying devices.

2.2 Recruitment

The lengthy screening process made it difficult for HR managers to keep employees engaged during the hiring process, which in turn hindered communication between the organization and candidates. However, these days, AI is classifying the applications that are received and notifying the applicants about their status within a day. Moreover,

companies are utilizing natural language interpretation, or NLP (Natural Language Processing), to converse the information by candidates and translate voice to text. Candidates can now elaborate on their relevant experience using AI, something that is not achievable within the program itself (Nunez, 2021). AI also provides feedback to the rejected candidates that help them in working on their weak areas. AI can assist managers of HR with testing and interviews. AI converts video to data points in order to recognize word choice, intonation (rise/fall of voice while speaking), and facial expressions during interviews.

Face recognition technology can be used to verify a candidate's identity during an exam and stop other people from taking it. Utilizing big data analytics techniques can improve hiring efficiency by streamlining the application process, screening resumes, and ultimately connecting with more qualified applicants (Forman et al., 2018). Optical character recognition (OCR), is typically used to convert data that is machine-readable from printed, scanned, and image files. OCR is used in hiring of employee as it extracts data from applications that can be read by a machine (Schenk, 2020).

In every company, the most crucial thing is to predict who will make the best hire in the future. The hiring team uses AI-enabled systems to assist in the analysis of resume received, comparing them with those of current workers performing the same duties, and selects the best applicant based on the outcome. Thus, there won't be any human bias because there won't be any human intervention. The hiring process become easier if it gets integrated with AI systems.

Due to the integration/application expenses, most of organizations are still behind in applying AI to their personnel procedures. AI processes has been really coordinated in today’s cutting-edge time. The most of time of different recruiters are spend on in checking each received resume and choose the best one. However, the adoption of AI in employment/hiring has fundamentally altered the procedure for selecting candidates with the required level of expertise. The profits and results of a company moves toward positive upgradation from automation and integration of AI's with HR and HCM. For this reason, artificial intelligence (AI) in human resources is poised to be the greatest exciting growth in the years to come. AI is fully permeating the workplace and that it has recently evolved into hiring managers. Currently, AI is closely associated with the hiring processes in comparison to other HR procedures ‘The right talent could be hired by the companies’.

Subjective factors like nepotism and favoritism are less likely to be present in the recruiting and selection of potential candidates by integrating artificial intelligence to human resource management (Tewari and Pant 2020) throughout the procedure. An employer's viewpoint could be impacted by factors like race, gender, ethnicity, or even language but by combining automation and artificial intelligence with algorithm assessment platforms, biases are removed. This platform has the advantage that bias can be altered to reduce or eliminate it if it is found during an audit. As per this discussion an alternate hypothesis of the study was made which is as follows: -

H1: Artificial Intelligence (AI) has a positive influence on Recruitment (RM)

2.3 Training and Development

With so many technological advancements happening almost every month, it’s essential for every staff member to keep evaluating and developing their expertise in the field. AI is capable of efficiently organizing, setting up, and coordinating educational/learning initiatives for all worker/groups associated with work. Digital classrooms and online courses are the most common platforms in that sense. However, this isn't the only AI project; it also plans lessons and chooses the best time for new publications, allowing it to influence each employee's personal choices. Learning and development will assist in adapting to changes, monitoring the application of skills, maintaining learner engagement, cultivating soft skills, producing leaders, imparting conflict resolution abilities, and up-

skilling and re-skilling. AI tools have enabled the identification of skill gaps and helps in devising and organizing employee programs for training that are customized to their individual needs.

AI can assist in developing specialized training programs for new hires according to their interests and skill sets (J. Miles 2022) this will be very beneficial to large organizations in understanding the basic skills and interests of their employees, which in turn will help them match those interests and skills to their educational pathways and the abilities required for undertakings. Additionally, this technology is useful for assessing metrics related to training for staff members and identify the areas which require updating. As now a days comparatively different domains/aspects of instruction is required to train employees specifically and individually. Along with the correct AI instruments and application, workers could acquire knowledge more efficiently and quickly, resulting in improved both individually and professionally development and a rise in output. AI-driven educational initiatives enable employers to meet the needs of their workforce by ensuring that all employees receive the information they require at the appropriate time.

AI-powered technologies can also produce learning and development videos to automate the learning process (F. Meglio 2022). It is not necessary to re-shoot or re-hire voice actors because these instructional videos can be viewed again and are even available in multiple languages. As videos are among the best ways to transmit information, learners are more likely to choose them over texts. With artificial intelligence (AI) technology, a dry textual document or learning through text resource can be quickly transformed into an informative-cum-interesting video. Thus, from the discussion another hypothesis is made, like: -

H2: Artificial Intelligence (AI) has a positive influence on Training & Development (T & D)

2.4 Onboarding

Early on in the onboarding process, when new hires are still forming their impression of the company, is crucial. A part of this process also involves intelligent chatbots. AI-driven chatbots can assist with data collection, offer recruits the information they require, arrange data, give them all the necessary forms complete, request the necessary documents, and provide any necessary online help. Additionally, these chatbots can assist in creating fresh histories for these recent recruits and integrating as well as putting them in the company's system. Because AI's self-executing onboarding procedure lets recruits adopt the system at their own speed, it offers flexibility in terms of time and location (S. Clark, 2020). This speeds up the integration process and decreases administrative work as well. In order to better assist them and give them a better onboarding experience, these chatbots can also solicit feedback from the new hires. Thus, from the above explanation a new and third alternate hypothesis was made as like: -

H3: Artificial Intelligence (AI) has a positive influence on Onboarding (OB)

2.5 Compensation Management

AI-powered systems can manage leave requests, maintain employee records, and calculate salaries and taxes automatically for staff members. This can reduce the likelihood of errors occurring during the payroll process and save HR specialist’s significant amount of time. Artificial intelligence (AI) can assist in identifying potential errors in the processing of payroll, such as inaccuracies in taxes or duplicate payments calculations, by analyzing data and spotting patterns. This can enhance overall accuracy and lower the possibility of payroll-related errors. Lastly, AI can assist in ensuring that payroll regulations are followed. AI-powered solutions are able to observe the payroll processing to ensure that laws pertaining to The Minimum Wage and Overtime are being followed. By doing this, the organization's risk of non-compliance and possible legal problems can be decreased (B Leaders et al., 2022).

This is an important HRM component. It is the process of evaluating, overseeing, and figuring out the benefits and incentives that every employee receives (Hi Bob 2022) A company's ability to retain employees is greatly influenced by the pay and benefits it offers. Organizations are finding it more challenging to maintain benefits and compensation in light of the cut-fierce rivalry in the modern business world.

Neural networks with AI can function as a helpful method to guarantee equity in the assessment of employee remuneration. Utilizing this technology, one can build a clever support system to create an equitable system for evaluating compensation with the aid of big data. AI can help firms save time and stay connected with the evolving needs of their workforce and the market. Future trends in employee compensation can be predicted by gathering pertinent and historical data using big data analytics. AI can be used to monitor labor market shifts, ensure that workers are paid fairly, and create a system that modifies worker compensation in response to output (R. Kh, 2022) and employees are therefore, motivated to work more carefully and intelligently. AI can assist HR managers in designing the perfect compensation plan for their staff members and in offering a just/rational compensation plan based on qualifications, experience, skill sets, and other factors, ensuring that companies get closer to eliminating pay disparities. After discussing this aspect of HRM in relation to AI, below alternate hypothesis is obtained which is: -

H4: Artificial Intelligence (AI) has a positive influence on Compensation Management (CM)

2.6 Performance Management

It goes without saying that employee performance evaluations are critical for organizations, but they can occasionally be challenging, particularly during emergencies such as the COVID-19 pandemic. Thus, some authors have proposed that performance reviews need to be conducted. In addition, academics offered innovative suggestions for conducting evaluations of performance, even in COVID-19 scenarios (Aguinis, H & Burgi-Tian, J. 2021) because PMS powered by AI is data-driven, it gathers information from various sources and can help, among other things, automate performance reviews and remove or at least lessen biases in them. AI adoption and use are leading to a decline in traditional employee performance reviews. Most staff members thought that most managers exhibited prejudice when making evaluations, and they also believed that there was a very high error rate.

H5: Artificial Intelligence (AI) has a positive influence on Performance Management (PM)

2.7 Employee Retention

Many industries today have extremely low retention rates, which can have a detrimental effect on the productivity of the company. A staff member's departure has a detrimental effect on the remaining team members' motivation and productivity in a competitive setting. In addition to decreasing organizational growth and impacting revenue, employee attrition raises recruiting and training expenses. The HRM is then tasked with hiring more employees to cover the manpower shortage.

HR managers can use AI machine learning-based solutions to predict staff attrition rates, identify high-risk employees, and create incentive programs for staff members. To identify patterns in historical data, analysis of the data is done GHD (2022). This prediction takes into account every potential explanation for staff retention. AI can be used to track employee engagement, ask employees how they are doing, gather their feedback, and respond to it as soon as possible to make sure the worker is content and motivated to come to work. Employee attrition can be prevented by implementing AI chatbots to streamline the onboarding process, responding promptly to employee feedback, making sure staff members have the skills needed for their roles, and offering competitive compensation packages through AI-enabled solutions.

H6: Artificial Intelligence (AI) has a positive influence on Employee Retention (ER)

H7: Recruitment (RM) has a positive influence on HRM

H8: Training & Development (T & D) has a positive influence on HRM.

H9: Onboarding (OB) has a positive influence on HRM.

H10: Compensation Management (CM) has a positive influence on HRM.

H11: Performance Management (PM) has a positive influence on HRM.

H12: Employee Retention (ER) has a positive influence on HRM.

3. RESEARCH OBJECTIVES

- To assess Artificial Intelligence's effects on select HRM functions
- To propose a conceptual framework showing the connection between HRM function as well as Artificial Intelligence
- To test the validity of proposed hypotheses and conceptual framework through empirical/Data analysis

4. CONCEPTUAL FRAMEWORK

The proposed model of the study includes and represents the relationship between influencing/independent and dependent factors: Artificial Intelligence (AI), Recruitment (RM), Training & Development (T & D), Onboarding (OB), Compensation Management (CM), Performance Management (PM), Employee Retention (ER), Human Resource Management (HRM) (Figure 1 shown below). We measured every factor for the purposes of this study based on the parameters that were taken into account. While it makes sense to assume that all the variables are related, this study also looks at how they are related.

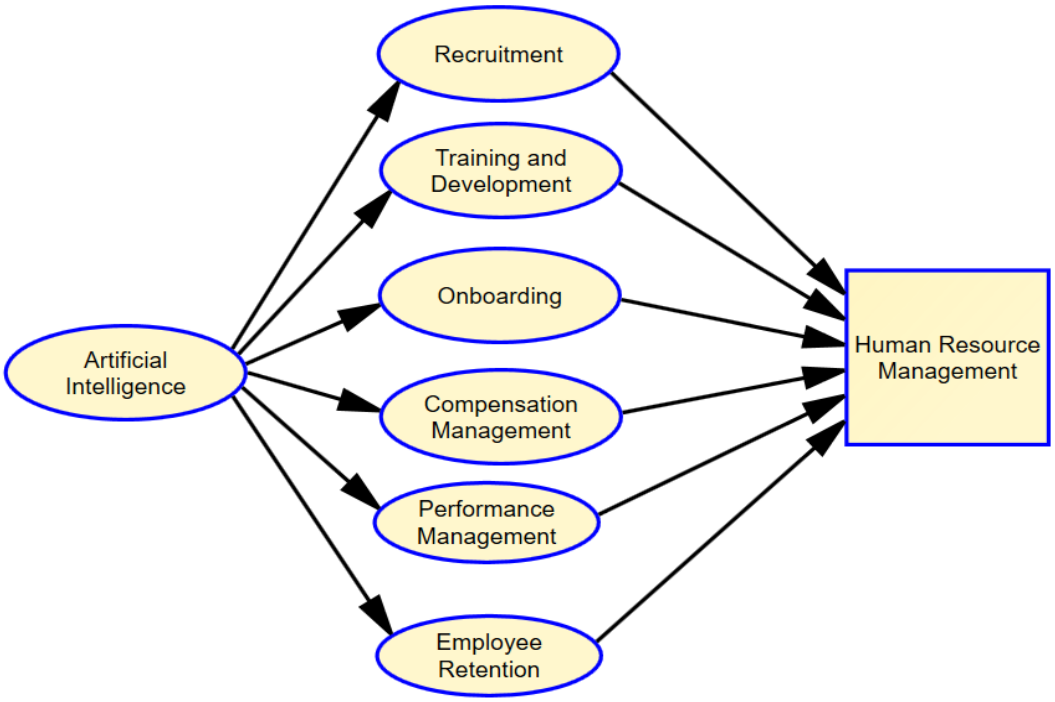

Figure 1: Proposed model showing the relationship between influencing and dependent factors

5. RESEARCH METHODOLOGY

In a pilot project, data collection was evaluated using the perspectives of individuals from various age groups. The research model was tested using an online survey. The poll was completed by 500 seasoned/target employees. HR industry contributors were considered experienced users. 415 valid answers were received to the survey. We conducted our analyses using IBM SPSS Statistics v.20. In order to determine the validity of the construct statements, factor analysis was utilized, along with regression analysis, testing of hypotheses, and Cronbach's alpha to determine the reliability of the proposed model. Descriptive statistics were employed for the demographic profile.

6. RESULTS AND ANALYSIS

6.1 Demographic Profile

To evaluate the demographic characteristics of the respondent, descriptive demographic statistics expressed as percentage, proportion, and frequency of occurrence were employed. Between April 2022 and May 2023, information was gathered through a systematic questionnaire. A combination of random and selective sampling methods was used to distribute 500 questionnaires to respondents. Of them, 415 were found to be completed and error-free. A close inspection reveals that an 83% response rate is regarded as high quality. Table 1 presents the individuals' socio-demographic information. Of the 415 respondents, there were significantly more men (355, 85.5%) than women (60, 14.5%); the majority of the men (116, 28%) were in the 30- to-39-year old age range, and 180 (43.4%) had professional education and were making over 30,000 rupees (155, 37.3%).

Table 1. Distribution of Respondent Profile

		N	%
Gender	Male	355	85.5
	Female	60	14.5
Age (Years)	20-29	57	13.7
	30-39	116	28.0
	40-49	82	19.8
	50-59	100	24.1
	60 years and above	60	14.5
Highest education level	Bachelor Degree	48	11.6
	Master Degree	111	26.7
	Professional Education	180	43.4
	Other	76	18.3
Income	10,000- 20,000	91	21.9
	20,001- 30,000	143	34.5
	30,001- 40,000	155	37.3
	More than 40,000	26	6.30

Source: Primary Data Analysis

6.2 Factor Analysis (EFA)

The PCA method was used to perform the Exploratory Factor Analysis (EFA) for structures that comply. Hair et al. (1998) state that loading factors of 0.50 or higher is regarded as extremely significant, factor loading of 0.40 is deemed more noteworthy, and factor loading of more than 0.30 is deemed to fulfill the required minimum. A 0.50 factor loading has been set as the cutoff point for the current investigation. The factor analysis results are displayed in table 2. KMO significance of factor analysis for the data is typically indicated by values between 0.5 and 1.0. The sphere city A Bartlett test reveals the correlation in between the variable's items. The degree of relevance displays the test's outcome. Very small values (less than 0.05) indicate that the variables most likely have significant relationships with one another. A number greater than roughly 0.10 may suggest that the information is unsuitable in the context of factor analysis. These two tests' outcomes suggest the factor analysis is appropriate regarding the information gathered. Ultimately, a pair of items with loadings below 0.5 was eliminated, thereby validating the remaining items for the ultimate analysis.

Table 2. Results of Exploratory Factor Analysis

Statement	Factor loadings	KMO Measure of Sample Adequacy (>0.5)	Bartlett's Test of Sphericity		Items confirmed	Items dropped	Cum %
			Chi Square	Sig. (<.10)			
Artificial Intelligence (AI)-1	0.895	0.750	749.893	0.000	5	0	55.954
Artificial Intelligence (AI)-2	0.732						
Artificial Intelligence (AI)-3	0.674						
Artificial Intelligence (AI)-4	0.556						
Artificial Intelligence (AI)-5	0.835						
Recruitment (RM)-1	0.749	0.720	304.196	0.000	4	1	42.956
Recruitment (RM)-2	0.797						
Recruitment (RM)-3	0.061						
Recruitment (RM)-4	0.706						
Recruitment (RM)-5	0.670						
Training & Development (T&D)-1	0.164	0.855	1763.950	0.000	4	1	70.438
Training & Development (T&D)-2	0.923						
Training & Development (T&D)-3	0.942						
Training & Development (T&D)-4	0.950						
Training & Development (T&D)-5	0.924						
Onboarding (OB)-1	0.841	0.737	390.563	0.000	4	0	56.710
Onboarding (OB)-2	0.786						
Onboarding (OB)-3	0.575						
Onboarding (OB)-4	0.783						
Compensation Management	0.947		4894.626	0.000	5	0	89.680

(CM)-1		0.714					
Compensation Management (CM)-2	0.943						
Compensation Management (CM)-3	0.947						
Compensation Management (CM)-4	0.954						
Compensation Management (CM)-5	0.943						
Performance Management (PM)-1	0.881	0.824	1285.343	0.000	5	0	69.230
Performance Management (PM)-2	0.903						
Performance Management (PM)-3	0.879						
Performance Management (PM)-4	0.789						
Performance Management (PM)-5	0.688						
Employee Retention (ER)-1	0.654	0.676	948.253	0.000	4	0	67.777
Employee Retention (ER)-2	0.858						
Employee Retention (ER)-3	0.934						
Employee Retention (ER)-4	0.821						
Human Resource Management (HRM)-1	0.827	0.880	988.487	0.000	5	0	67.144
Human Resource Management (HRM)-2	0.861						
Human Resource Management (HRM)-3	0.776						
Human Resource Management (HRM)-4	0.837						
Human Resource Management (HRM)-5	0.793						

Source: - Primary Data Analysis

6.3 Reliability Analysis

The intrinsic coherence of the questionnaire possesses established by calculating its reliability using Chronbach Alpha α (or coefficient alpha). According to Nunally and Bernstein (1994), the minimum alpha value that should be used for new scales is 0.60. If not, A 0.70 alpha value is typically recognized as the standard for a known scale that is internally consistent. Cronbach's alpha was found to be within an acceptable range, meaning that a value greater than 0.7 was chosen as the study's cutoff value. Table 3 shows that the questionnaire's overall Cronbach's alpha value is 0.980, which is quite high and suggests that the research instrument is sufficiently reliable.

Table 3: Results of Reliability test

Variable	Cronbach alpha
Artificial Intelligence (AI)	0.794
Recruitment (RM)	0.711
Training & Development (T & D)	0.952
Onboarding (OB)	0.728
Compensation Management (CM)	0.971
Performance Management (PM)	0.888
Employee Retention (ER)	0.840
Human Resource Management (HRM)	0.877
Overall Reliability of the Questionnaire	0.980

Source: Primary Data Analysis

6.4 Correlatıon Analysis

All of the variables appear to have a significant correlation, according to the correlation analysis's findings of independent variables. Significant correlation exists between each of the variables under consideration and the total variables. Based on all the factors considered, The independent and dependent variables have a substantial link with one another (Table 4). Recruitment (RM) and AI had the least significant relationship (0.691), while the Performance Management (PM) and Compensation Management (CM) variables had the highest level of correlation (0.944).

Table 4: Correlation

VARIABLES		AI	RM	TD	OB	CM	PM	ER	HRM
AI	Artificial Intelligence	1							
RM	Recruitment	.691**	1						
TD	Training & Development	.902**	.818**	1					
OB	Onboarding	.820**	.789**	.896**	1				
CM	Compensation Management	.846**	.795**	.914**	.827**	1			
PM	Performance Management	.839**	.803**	.928**	.836**	.944**	1		
ER	Employee Retention	.857**	.745**	.916**	.861**	.883**	.887**	1	
HRM	Human Resource Management	.805**	.806**	.897**	.853**	.906**	.930**	.866**	1
**. Correlation is significant at the 0.01 level (2-tailed).									

Source: - Primary Data Analysis

6.5 Regression Analysis

To determine the predictor-criterion connection between the variables that are independent and dependent, stepwise regression analysis was used. The purpose of the research was to

determine how artificial intelligence is affecting certain HRM functions in the Indian pharmaceutical sector.

Tables 5 and 6 showed that the factors under consideration are significant predictors of HRM using step-wise regression analysis. Table 5 shows that these variables account for 89% of HRM explanation, with a R square of 0.890. Table 6 displays the ANOVA values for the regression model, which indicate validation at a 95% confidence level. The beta values of all factors are 0.902 and 0.545 in the coefficient summary displayed in Table 7, which is a reasonable representation of their influence on HRM.

Table 5: Model Summary

Model	Predictors	Dependent variable	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	AI	RM	0.691	0.477	0.476	0.50951
2	AI	T & D	0.902	0.813	0.812	0.40976
3	AI	OB	0.820	0.673	0.672	0.44213
4	AI	CM	0.846	0.716	0.715	0.51190
5	AI	PM	0.839	0.705	0.704	0.45517
6	AI	ER	0.857	0.735	0.735	0.42897
7	RM, T & D, OB, CM, PM, ER	HRM	0.943	0.890	0.888	0.26409

Source: Primary Data Analysis

Table 6: Analysis of Variances (ANOVA)

Model	Predictors	Dependent variable		Sum of Squares	Df	Mean Square	F	Sig.
1	AI	RM	Regression	97.941	1	97.941	377.272	0.000
			Residual	107.217	413	0.260		
			Total	205.158	414			
2	AI	TD	Regression	301.109	1	301.109	1793.364	0.000
			Residual	69.343	413	0.168		
			Total	370.453	414			
3	AI	OB	Regression	165.944	1	165.944	848.893	0.000
			Residual	80.734	413	0.195		
			Total	246.679	414			
4	AI	CM	Regression	272.786	1	272.786	1041.016	0.000
			Residual	108.222	413	0.262		
			Total	381.008	414			
5	AI	PM	Regression	204.049	1	204.049	984.875	0.000

			Residual Total	85.566 289.615	413 414	0.207		
6	AI	ER	Regression Residual Total	211.034 76.000 287.034	1 413 414	211.034 0.184	1146.802	0.000
7	RM, TD, OB, CM, PM, ER	HRM	Regression Residual Total	229.542 28.454 257.997	6 408 414	38.257 0.070	548.559	0.000

Source: Primary Data Analysis

Table 7: Regression coefficients table for dependent variables

Model		Dependent variable	Unstandardized Coefficients		Standardized Coefficients		
			B	Std. Error	Beta	t	Sig.
1	AI	RM	0.650	0.033	0.691	19.423	0.000
2	AI	TD	1.139	0.027	0.902	42.348	0.000
3	AI	OB	0.846	0.029	0.820	29.136	0.000
4	AI	CM	1.084	0.034	0.846	32.265	0.000
5	AI	PM	0.938	0.030	0.839	31.383	0.000
6	AI	ER	0.954	0.028	0.857	33.864	0.000
7	RM	HRM	0.105	0.034	0.094	3.087	0.002
8	TD	HRM	-0.045	0.050	-0.054	0.898	0.370
9	OB	HRM	.196	.040	.191	4.879	0.000
10	CM	HRM	.126	.044	.153	2.860	0.004
11	PM	HRM	.514	.054	.545	9.470	0.000
12	ER	HRM	.059	.042	.062	1.406	0.160

Source: Primary Data Analysis

6.6 Results of Hypotheses Testing

Within the theoretical basis for research, (figure 1 above) 12 Initially, hypotheses were put forth, and as table 8 indicates, ten of them have been accepted while two H8 & H12 are rejected.

Table 8: Summary of Hypotheses Testing

Hy. No.	Independent Variables	Dependent Variables	R-Square	Beta Coefficient	t-value	Sig Value	Status of Hypotheses
H1	Artificial Intelligence (AI)	Recruitment (RM)	0.477	0.691	19.423	0.000	Accepted
H2	Artificial Intelligence (AI)	Training & Development (TD)	0.813	0.902	42.348	0.000	Accepted
H3	Artificial Intelligence (AI)	Onboarding (OB)	0.673	0.820	29.136	0.000	Accepted
H4	Artificial Intelligence (AI)	Compensation Management (CM)	0.716	0.846	32.265	0.000	Accepted
H5	Artificial Intelligence (AI)	Performance Management (PM)	0.705	0.839	31.383	0.000	Accepted
H6	Artificial Intelligence (AI)	Employee Retention (ER)	0.735	0.857	33.864	0.000	Accepted
H7	Recruitment (RM)	Human Resource Management (HRM)	0.890	0.094	3.087	0.002	Accepted
H8	Training & Development (TD)	Human Resource Management (HRM)	0.890	-0.054	0.898	0.370	Rejected
H9	Onboarding (OB)	Human Resource Management (HRM)	0.890	0.191	4.879	0.000	Accepted
H10	Compensation Management (CM)	Human Resource Management (HRM)	0.890	0.153	2.860	0.004	Accepted
H11	Performance Management (PM)	Human Resource Management (HRM)	0.890	0.545	9.470	0.000	Accepted
H12	Employee Retention (ER)	Human Resource Management (HRM)	0.890	0.062	1.406	0.160	Rejected

Source: Primary Data Analysis

7. DISCUSSION

Artificial Intelligence (AI) and Recruitment (RM) have a significant positive relationship with Human Resource Management (HRM), according to research findings (H1 and H7; R-square = 0.477 and 0.890; beta coefficient =0.691 and 0.094; t-value = 19.423 and 3.087). According to Skil AI (2020), the use of AI in hiring has fundamentally changed the procedure for choosing candidates by incorporating machine learning, chatbot functionality, and required skill sets. According to Aldulaimi et al., (2020), integrating AI into HRM will help the company by automating processes, delivering better outcomes, and recruiting the best talent. This is because, in contrast to other HR processes, AI is closely related to the hiring function. Parveen and Palaniammal (2019) assert that while AI integration is currently mostly tied to hiring procedures, it will soon permeate every facet of HRM, including chatbots and AI-based applications.

The empirical investigation of hypothesis 2 revealed a significant positive correlation (R-square = 0.813; Beta coefficient =0.902; t-value = 42.348) between Artificial Intelligence (AI), and Training & Development (T & D). But T&D does have significant effect on Human Resource Management (HRM) as statistical values shown for hypothesis 8. According to Bersin (2018), the application of AI-based algorithms that track and analyze the abilities, attitudes, and behaviours of workers at different levels has made T & D programs more successful. AI in training has become a potent tool for organizations. Training programs can be customized by using AI because different people have different learning styles. Feedback from the trainees is gathered after the training in order to make any necessary improvisations to the program. AI helps employees and employers identify areas where they may improve and give their best work by pointing out areas where they may be lacking in knowledge, abilities, performance, personality, etc.

Independent analysis concerning the connection between artificial intelligence and (AI), Onboarding (OB) and Management of Human Resources (HRM) revealed a significant positive relationship between the three constructs. This result (R-square = 0.673 and 0.890; beta coefficient = 0.820 and 0.191; t-value = 29.136 and 4.879) is consistent with Hypothesis 3 and 9. As this is where new hires form their opinion of the company, Vivek and Yawalkar (2019) discovered that the on boarding process is crucial from the early stages. In this process, Chatbots that use artificial intelligence (AI) can assist with data collection, information provision, information organization, presenting forms to be filled out, requesting documents from recruits and online help when needed. With no assistance from IT, these chatbots can also help these recent hires create new accounts and integrate them into the company's system. According to S. Clark (2020), AI's automated on boarding process offers recruits flexibility in terms of time and location by enabling them to adjust to the system at their own speed. This speeds up the integration process and decreases administrative work as well. In order to better assist the recruits and give them a better on boarding experience, these chatbots can also solicit feedback from them.

Most notably, R square = 0.716 and 0.890, beta coefficient = 0.846 and 0.153, t-value = 32.265 and 2.860, and results (hypotheses 4 and 10) show that Artificial Intelligence (AI), Compensation Management (CM) has a significant impact on HRM. To create a degree of fairness in the evaluation of employee compensation, Q. Jia et al., (2018) claim that AI neural networks can be a helpful tool. Big data can be leveraged by this technology to build an intelligent support system that will enable the creation of an equitable system for evaluating compensation. AI may help businesses save time and stay current with the needs and preferences of their workforce. Historical and pertinent data can be acquired and utilized with big data analytics to forecast future trends in employee pay. The potential of artificial intelligence (AI) is to spur workers to be more productive and industrious by keeping an eye on alterations to the labor market, ensuring that wages are rivalry-driven, and developing a mechanism to adjust pay according to performance (R. Kh, 2022). HR professionals can close pay gaps by using AI to help them design the perfect compensation plan for their workers, one that is fair and based on factors like education, experience, skill sets, and more.

A significant positive correlation (R-square = 0.705 and 0.890; Beta coefficient = 0.839 and 0.545; t-value = 31.383 and 9.470) was found in the empirical investigation of hypothesis 5 and 11. The conclusion drawn from this study is consistent with the arguments made by Venkatesh et al. (2012) and Obeidat (2016), who found that Performance Management (PM) is the best discipline for interpreting AI and Management of Human Resources (HRM) and that AI has a major impact on PM, thereby facilitating AI's implementation in HRM. These The findings indicate that the HR professionals' opinions regarding the advantages and applicability of AI in HRM have a significant impact on their decision to use it when it becomes accessible. This study confirms the findings of multiple researchers (Yang et al., 2015; Martins et al., 2016; Sun et al., 2018; Puklavec et al., 2018). It indicates that attitude of the upper management toward Innovation in IT, their knowledge

of its advantages, and their propensity to invest uses of AI are important indicators of improving organizational performance, according to HR practitioners. Exploring the potential use of IT innovation is a strategic move because managers of more adaptable organizations be optimistic about the contribution that IT innovations have made.

The independent study shows that the three constructs of Artificial Intelligence (AI), Employee Retention (ER) and Human Resource Management (HRM) have a positive correlation (R-square = 0.735 and 0.890; beta coefficient= 0.857 and 0.062; t-value= 33.864 and 1.406). This result corroborates Hypothesis 6 and 12. While the positive correlation for hypothsis 12 is not significant. Numerous Companies were using AI to improve HRM in crucial areas where AI had changed HRM, according to Rykun (2019). This job involves labor- lengthy and laborious hiring processes, like examining a significant quantity of resumes, choosing the best candidates, and determining whether employees need training. The aforementioned approach facilitates increased candidate outreach by connecting with passive candidates who may become interested in the position even though they are not actively seeking employment (Black and van Esch, 2021). The stages of the employment process: locating, choosing, and keeping talent may be enhanced by artificial intelligence, according to Allal-Chérif et al., (2021).

8. CONCLUSION

Undoubtedly, integrating AI-powered human resources initiatives for candidates has a more significant influence on raising the effectiveness of the company. These strong AI-driven human resources apps could be able to predict, diagnose, understand, and more, they are a valuable tool for any type of business, even though they lack the emotional and cognitive capacities of humans. The true worry, however, that the global workforce is facing is how AI is starting to show signs of reducing jobs globally across a range of industries. It's actually more about how humans can adapt to and utilize these advancements in the development of wealth and prosperity than it is about sophisticated technologies replacing people.

Truly speaking, a certain AI-based functions will affect a certain percentage of employees, thus HR directors and enterprises need to take into account their needs as well as potential long-term effects. In the long run, most Businesses successfully incorporate hiring practices related to AI, according to our research, but AI will permeate every aspect of HR in the near future. This includes recruiting, instruction, onboarding, evaluation of performance, retention, and more. However, because of integration-related costs, most Businesses are still lagging behind when it comes to HR - AI integration initiatives. In summary, utilizing AI should be viewed as a good thing since it makes life better and, when utilized properly, creates a better future.

9. FUTURE PROSPECTS

Applications of AI solutions for the HRM role have been steadily expanding. It is advised that more thorough research be done on the model of change implementation for the adoption of AI in HRM. A framework should be developed from coordinated studies on applications of AI related to HRM, which offered ideas to establish the course of future research. The effects of AI and related HRM technologies on key elements of worker participation, retention, development, pay, incentives, and acknowledgment need further study. Studies pertaining to these aspects have been extremely rare. Another area that needs more research is the problems associated with integrating AI in HRM. These include research on the limits of information mining because of tiny HR data sets, discussions on morality and equity, and potential negative employee responses to judgments made using data-based AI algorithms related to individuals. Additional research is required in the areas of democratizing data, transparency, and giving employees access to data and insights. To

handle both the current and upcoming developments in AI, HR practitioners will need to enhance their skill set. Using AI-enabled analytical tools is a skill that HR professionals must acquire.

10. LIMITATIONS

The primary constraint of this study was the limited participation rate of professionals in the survey or questionnaire. The research takes a lot of time to gather and examine the respondents' data. But this study has a deadline, which makes data analysis more limited. Respondent error represents the second potential limitation. Errors may occur when participants enter data into the surveys. To counter this, the questionnaires' questions were clear and left minimal potential for misinterpretation. Perhaps the staff members additionally misread the questionnaire.

While there is no doubt that AI has the potential to revolutionize HR, this does not imply that humans will soon be replaced. Accuracy is one of AI's shortcomings. Therefore, humans are still required to at least validate AI decisions. Fourth, the cost of implementing AI is still high. Therefore, it is unrealistic to expect AI to be used by many organizations, particularly those with weak financial standing. Ultimately, training human resources to use these advanced technologies presents a significant challenge for organizations.

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