

INFLUENCE OF ARTIFICIAL INTELLIGENCE IN POWERING HRM

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ABSTRACT --Artificial Intelligence is gaining impetus day after day. artificial intelligence is not only being used in IT but has also found application in areas like Human resource management. This being the case, organisations have started seriously contemplating on deploying artificial intelligence solutions with respect to all the human resource functions. By using specialised software, HR professionals will be able to not find time to concentrate on important strategic issues. The objectives of this study are as to understand the of influence of artificial intelligence in powering HRM and to know the benefits expected from the use of AI in HRM. The results of the study have shown that HR professionals covered by the study have a long way to go before they can say that they are truly enjoying the full benefits of using AI in powering HRM.

Keywords--Artificial Intelligence, Human Resource management, HR analytics, HR metrics

I. INTRODUCTION

Artificial intelligence helps in augmenting decision-making in a more effective manner and in having meaningful interactions with employees so that the effectiveness of the organisation could be enhanced. Human resource management, when powered by artificial intelligence could help in acting as the innovate driver of business growth leading to profitability. This being the case, both management and Human resource professionals are showing keen interest in leveraging Artificial Intelligence to Human Resource Management since these days Human resource professionals are being looked down upon when they act based purely on their intuition. Apart from this, HR is no longer considered to be a process-oriented function and is increasingly seen to move towards using decision science and artificial intelligence in enhancing the effectiveness of the organisation. Thus, today world over HR professional are challenged to advocate the use of technology and become more responsible for the process of ensuring the digitally transformation of the HR function which could be easily achieved by powering human resource management with AI resulting in automation across various human resource management functions.

II. NEED FOR THE STUDY

Artificial Intelligence is gaining impetus day after day. Artificial intelligence makes it possible to automate processes as it possesses the ability to rapidly and meaningfully analyse big data and thereby instantaneously predict alternate available options. Hence artificial intelligence is not only being used in IT but has also found application in areas like Human resource management.

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This being the case, organisations have started seriously contemplating on deploying artificial intelligence solutions with respect to all the human resource functions. By using specialised software, HR professionals will be able to not find time to concentrate on important strategic issues as all the routine functions could be more effectively handled with the help of artificial intelligence along with saving in time, costs and also have a better level of integration between analytics and unbiased decision-making.

III. REVIEW OF LITERATURE

With artificial intelligence exhibiting many advantages, many organisations have begun or are seriously contemplating incorporating the same into their day to day business activities including the human resource function.

Artificial intelligence has been viewed differently by different authors. For example, Marr (2018) believes it is a technology which could be used to solve cognitive problems. On the other hand, Copeland (2018) views it as a system with the help in performing any type of task like an intelligent human being.

Kapoor (2010) study has shown that advantages of integrating business intelligence and data analytics features into the area of human resource management. A study conducted by Jain (2018) has resulted in highlighting the impact of artificial intelligence in human resource management especially with respect to human resource processes such as recruitment and selection, performance appraisal management, cloud-based HR systems, etc.

Dirican (2015) has conducted a study explains the influence of using robotics, artificial intelligence managing the human resource functions. The study has also highlighted the negative aspects of doing so on the overall performance of the organisation. Buzko, et al. (2016) have brought to light the various constraints of deploying artificial intelligence with respect to the human resource area management functions. They believe that AI will not be able to clearly highlight the effectiveness of training and other HR related costs and the only advantage being prompt analysis of data

Jarrahi, (2018) feels that artificial intelligence helps an organisation in many ways including extending support in decision-making, managing the risks associated with uncertainty, etc.

IV. OBJECTIVES OF THE STUDY

The objectives of this study are as follows:

- i. To understand the of influence of artificial intelligence in powering HRM
- ii. To know the benefits expected from the use of AI in HRM

V. METHODOLOGY

The research design is descriptive in nature and the tool used to collect data from HR professionals of IT firms in Chennai has been a structured non-disguised questionnaire. The sample size was limited to 150 respondents and the sampling technique adopted was convenience sampling. The reliability of the research tool was tested and the same was found to be 0.821.

VI. DATA ANALYSIS

Table 1: Knowledge level of HR Professionals with respect to AI

Level	Frequency	Percent
Low	63	42%
Moderate	51	34%
High	36	24%
Total	150	100%

The above table which depicts the knowledge level of human resource professionals with respect to artificial intelligence proves that they have a long way to go with respect to learning and using of artificial intelligence. 24% have indicated high level of knowledge, 34% have indicated moderate level of knowledge and 42% have indicated low level of knowledge. This low level of knowledge can be attributed to the fact that artificial intelligence being technical in nature is rather difficult to be understood by human resource professionals who have always not been too technology oriented in their approach in handling work related issues.

Table 2: Level of usage of AI among HR Professionals

Level	Frequency	Percent
Low	81	54%
Moderate	54	36%
High	15	10%
Total	150	100%

Next with respect to the question of level of usage of artificial intelligence in human resource related activities it can again be seen that only 10% have indicated high level of usage, 36% have indicated moderate level of usage and the remaining 54% have indicated a rather low level of usage of artificial intelligence in powering the human resource management functions.

Table 3: Benefits of AI powering HRM

Benefits of AI powering HRM	Frequency	Percent
Reduce human bias	111	74%
Improve interpersonal relations	90	60%
Improve insight in candidate assessment	81	54%
Improve predictive analytics	75	50%
Accept HR as a valuable intangible asset	68	45%
View HR as a strategic partner	50	33%
Allow more time for people management	30	20%
Improve decision-making which drives results	12	8%

Note : Respondents have indicate more than one benefit

An analysis of responses with respect to benefits accruing on account of using AI in powering HRM it can be seen that 74% of the HR professionals believe it would reduce human bias, 60% believe it would improve interpersonal relations, 54% believe that it could provide improvement in insights in candidate assessments, 50% expect that it would help improve predictive analytics, 45% believe that it would help in HR being viewed as a valuable intangible asset, 33% say that it would make other accept HR as a strategic partner at work, 20% expect that it would help them by providing more time for people management and 8% believe that it would help improve decision-making which ultimately drives results.

Table 4: t test for significant difference between gender and level of agreement with respect to benefits accruing from application of AI to HRM

Benefits of AI powering HRM	Gender				t value	P Value
	Male		Female			
	Mean	SD	Mean	SD		
Reduce human bias	38.22	6.98	37.67	6.26	2.195	<0.001**
Improve interpersonal relations	35.33	7.30	34.34	6.24	1.483	<0.001**
Improve insight in candidate assessment	26.78	5.16	25.88	5.17	2.178	0.003**
Improve predictive analytics	45.71	5.85	44.11	5.42	2.466	0.004**
Accept HR as a valuable intangible asset	46.07	5.66	45.40	5.89	0.594	0.003**
View HR as a strategic partner	45.71	5.85	43.11	5.42	2.466	0.004**
Allow more time for people management	47.31	9.71	46.33	8.74	2.195	0.002**
Improve decision-making which drives results	46.39	6.79	44.29	7.45	1.894	<0.001**

Note: ** Significant at 1%

The probability value which is seen to be lesser than 0.01, proves that there is a significant difference between gender of the HR professionals and their level of agreement with respect to the benefits accruing from the use of AI in HRM. Further analysis however shows that male HR professionals have a higher level of agreement with respect to the benefits accruing from the use of AI in HRM as compared to female HR professionals.

Table 5: t test for significant difference between managerial position and level of agreement with respect to benefits accruing from application of AI to HRM

Benefits of AI powering HRM	Managerial Position				t value	P Value
	Middle Management		Senior Management			
	Mean	SD	Mean	SD		

Reduce human bias	37.85	7.02	40.46	5.88	3.935	<.001**
Improve interpersonal relations	34.79	7.26	37.44	5.93	3.900	<.001**
Improve insight in candidate assessment	31.66	6.11	33.18	5.20	2.963	0.003**
Improve predictive analytics	45.71	5.85	47.11	5.42	2.466	0.002**
Accept HR as a valuable intangible asset	46.07	5.66	46.40	5.89	0.594	0.003**
View HR as a strategic partner	47.35	9.86	49.39	8.37	2.185	0.009**
Allow more time for people management	47.34	9.73	49.36	8.79	2.155	0.004**
Improve decision-making which drives results	45.04	6.85	49.19	8.26	3.969	<.001**

Note: ** Significant at 1%

The probability value which is seen to be lesser than 0.01, proves that there is a significant difference between managerial position of the HR professionals and their level of agreement with respect to the benefits accruing from the use of AI in HRM. Further analysis however shows that HR professionals who are designated as senior managers have a higher level of agreement with respect to the benefits accruing from the use of AI in HRM as compared HR professionals who occupy middle management positions.

Table 6: ANOVA for significant difference between age and level of agreement with respect to benefits accruing from application of AI to HRM

Benefits of AI powering HRM	Age group in years				F Value	P Value
	Below 35	35-40	41-45	Above 45		
Reduce human bias	39.75 (6.76)	38.93 (5.81)	36.22 (5.72)	34.53 (5.65)	2.531	<0.001**
Improve interpersonal relations	37.79 (6.96)	36.40 (6.79)	35.49 (7.13)	34.02 (5.59)	1.900	<0.001**
Improve insight in candidate assessment	32.88 (4.73)	28.10 (5.57)	26.45 (5.54)	24.82 (5.11)	2.670	0.003**
Improve predictive analytics	45.29 (5.92)	46.32 (5.46)	45.52 (5.84)	43.97 (4.61)	5.716	0.004**
Accept HR as a valuable intangible asset	49.00 (5.04)	48.71 (5.77)	47.10 (5.63)	46.73 (5.35)	1.453	0.003**
View HR as a strategic partner	47.17 (9.60)	48.31 (9.34)	48.69 (9.39)	49.10 (9.00)	1.012	0.004**
Allow more time for people management	48.85 (4.87)	47.21 (5.00)	46.27 (5.85)	45.76 (5.33)	2.002	0.002**

Improve decision-making which drives results	44.72 (3.90)	39.73 (4.36)	43.67 (4.86)	48.48 (5.30)	2.649	<0.001**
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Note: 1. SD value is given within bracket

2. ** Significant at 1%

The probability value which is seen to be lesser than 0.01, proves that there is a significant difference between managerial position of the HR professionals and their level of agreement with respect to the benefits accruing from the use of AI in HRM. Further analysis however shows that HR professionals who are designated as senior managers have a higher level of agreement with respect to the benefits accruing from the use of AI in HRM as compared HR professionals who occupy middle management positions.

Table 7: ANOVA for significant difference between age and level of agreement with respect to benefits accruing from application of AI to HRM

Benefits of AI powering HRM	Educational Qualification					F Value	P Value
	UG	PG Diploma in HR	MBA	MSW	Others		
Reduce human bias	38.14 (4.90)	37.58 (7.45)	39.40 (6.62)	41.29 (6.14)	37.95 (7.05)	3.967	0.054
Improve interpersonal relations	36.03 (5.06)	34.31 (7.85)	36.48 (6.75)	37.54 (5.82)	34.79 (7.41)	3.113	0.058
Improve insight in candidate assessment	26.52 (3.57)	26.01 (5.38)	27.43 (5.37)	29.41 (5.30)	27.56 (4.98)	5.192	0.067
Improve predictive analytics	45.05 (5.41)	46.00 (6.04)	45.75 (4.33)	48.96 (4.53)	46.04 (4.57)	1.453	0.097
Accept HR as a valuable intangible asset	45.75 (5.33)	43.96 (5.53)	47.04 (5.57)	495.33 (4.91)	46.02 (4.69)	1.858	0.082
View HR as a strategic partner	48.60 (5.97)	46.07 (10.44)	48.51 (9.68)	51.08 (7.95)	47.71 (10.02)	1.333	0.067
Allow more time for people management	46.18 (5.93)	45.29 (5.46)	47.29 (5.67)	47.38 (9.70)	49.25 (8.65)	1.499	0.087
Improve decision-making which drives results	46.44 (4.32)	143.96 (22.53)	150.04 (21.57)	155.33 (18.91)	146.02 (21.69)	3.858	0.061

Note: 1. SD value is given within bracket

The probability value which is seen to be greater than 0.05, proves that there is no significant difference between educational qualification of HR professionals and their level of agreement with respect to the benefits accruing from the use of AI in HRM.

Table 8: Aspect of AI powering HR

Aspect of AI	Frequency	Percent
HR analytics	117	78%
HR metrics	33	22%
Total	150	100%

With respect to AI powering HR it can be seen that potential is higher in case of AI improving HR analytics which is agreed upon by 78% of the HR professional as compared to HR metrics which is agreed upon only by 22%. The reason for such a big margin between the two could be attributed to the fact that analytics is accepted as a strength of AI because it can be easily applied across almost all the functions of HRM.

VII. FINDINGS AND CONCLUSION

The results of the study have shown that HR professionals covered by the study have a long way to go before they can say that they are truly enjoying the full benefits of using AI in powering HRM. The study has made it obvious that analytics more than metrics would improve on account of AI being used across all HR functions and operations. Another important aspect highlighted is that most HR professionals do not have sound knowledge of technology due to the academic background from which they hail.

In today's world, AI is usually considered along with big data so as to provide the right type of analytics, metrics and predict how businesses could use AI with the intention of maximising the efficiency and effectiveness across every HR function. It is also felt that with respect to the functions of HR, AI could be used as a disruption in a variety of applications. With respect to HR functions, AI can be a useful disruptor in a wide variety of applications. In short it should be accepted that technology has the potential to completely transform and reinvent HR responsibilities which are quite critical in nature such as HR operations, talent acquisition, and talent development. It is thus needless to say that AI has the potential to transform almost all aspects of HR such that HR professionals become better equipped to face a highly dynamic and ever-evolving workplace where at least now they could be considered as a strategic partner in the overall decision-making process on account of truly understanding the business of the organisation.

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