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Artificial Intelligence: Will it replace HR professional or will it be a Helping Hand?

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Abstract: Human Resource is an important part of any organization. Unlike other resources like machine and money, human have feelings and emotions hence becomes a difficult resource to deal with. Investment on this resource becomes a return on profitability of any organization. This paper focuses on the advancement in technology in HR functions, the emergence of Artificial Intelligence and the impact on HR professional's job. It also captures the opinion of HR professionals on will Artificial Intelligence be a helping hand to them or will it be taking away their jobs. It will also focus on the advantages and disadvantages of using AI in HR functions along with which HR functions are most affected by AI. Results confirm that AI will not replace HR professionals but will a helping hand in most of the HR activities.

Keywords: Artificial Intelligence, HR

INTRODUCTION

Artificial Intelligence is the “design and study of computer programs that behave intelligently”. (Nicholas S Dunnuck, 2002, “The Effect of Emerging Artificial Intelligence Techniques on the Ethical Role of Computer Scientists”). Artificial Intelligence can be defined as the art of creating machines that perform functions that require intelligence when performed by people” (Kurzweil, 1990) (Shewta Jain, 2017, “Is artificial intelligence –the next big thing in hr?”).

The 21st century has brought about a huge change in way any organization functions. The sudden emergence in the modern information technologies and the use of expert machines has brought about a big change in the life of humans. Computers and machines have made our everyday tasks very easy and quick. On the other hand it will also be wrong to say that processes can now run on their own and without any human intervention. Some kind of human intervention is still needed and is very important. So the question of will technology overpower humans in the coming future arises.

Many manufacturing industries are very dependent on machines and robots for their day-to-day functioning. Cars, Trucks, buses, trains and planes are all made with the help of robots. Without them these industries may not function at all. With the advent of Artificial Intelligence the future of these industries seem bright. But will the advancement in technology really replace humans? Will there be no jobs left in the future except for pressing the buttons of a robot or an AI machine?

This paper will focus on what is Artificial Intelligence and will it be a helping hand for an HR professional or will it replace them. Can we really remove 'humans' from 'Human Resources'?

The research in the field of Artificial Intelligence was started way back in 1955 by John McCarthy. It means a machine possessing human intelligence. The term 'artificial intelligence' thus means 'investigating intelligent problem-solving behaviour and creating intelligent computer systems'. There are basically two types of artificial intelligence:

1. Weak Artificial Intelligence: In this the computer only simulates the cognitive processes.
2. Strong Artificial Intelligence: In this the machine or the computer actually learns the intelligence and is able to understand on the basis of previous behaviours and experiences.

Many researches done on this subject says that both the blue collar and white-collar jobs will be affected by AI. The processes which are repetitive in nature will soon be replaced by intelligent algorithms. This transition will not be a rapid one but a gradual one. The transition has already commenced and will differ from company to company.

Artificial Intelligence has already started impacting a HR in some ways. Many new expert systems are being developed by different companies for example IBM Watson which is a question-answering system which has made everyday questions easily available. Systems have been designed to help HR in scoring a candidate in an interview process lowering the workload of an HR professional. The last call is always with the HR but these expert systems help in making recommendations and give suggestions for better decision making. These expert systems are highly reliable and accurate and give high quality results. One can rely on these systems completely for any complex solutions. HR professionals also use intelligence systems to train and support their employees in managing their benefits. It is also use to predict employee job performance and employee needs. In the field of learning and development, AI systems are used to do learning need analysis and also to learn the learning behaviour of the employee.

Predicting the future of HR with AI is too early as the development in this area is still going on. The technology deployment is at a very nascent stage also the acceptability of this will take a lot of time as people are used to the way they have been working. As the new generation comes up at the workplace the technology will also come to the organization. We all must be ready to welcome the change in the coming future.

LITERATURE REVIEW

The literature on artificial intelligence has taken a leap after 2005. There was a lot of research done in the 20th century too but the rapid growth in this field is seen after 2005. The recent development in the field of machine learning, robotics and artificial intelligence has made an HR professional's job easy. These technologies can assist them in recruitment hence resulting in streamlining the process (John Chelliah,

2017, “Will artificial intelligence usurp white collar jobs?”). There are also many misconceptions about AI and its usefulness in HR systems and processes (Kazuo Yano, “How Artificial Intelligence Will Change HR”). The general misconception being that AI cannot be understood by people with a technical background. However this is not the case.

Organizations are effectively using e-HRM for operational work and hence freeing HR professionals for doing strategic planning (Shatha M. Obeidat, 2016, “The link between e-HRM use and HRM effectiveness: an empirical study”). With employees becoming more tech savvy, use of e-HRM has become easy. But use of e-HRM is limited to operational work only. AI may help HR in taking transformational decisions for HR professionals. Technology knocked the doors of HR long before and according to the research done by A. Karasek, 2015 in his paper “Information Technologies in Human Resources Management - Selected Examples”, talent acquisition uses technology the most out of all the talent management applications used in an organization. Performance management and Learning and Development follow the trend as well.

With the growth of AI and robotics in every industry, there is not only a massive change in the kind of skills required in these industries but also a high impact is seen in the entry level jobs as well. AI will have a high impact on the mid-level and high-skill jobs as written by Peter Cheese in his article “The shape of things to come”. AI is also changing the way organizations attract, engage and retain their employees, it analyses the perfect candidate needed from large data available and engages employees in the most unique way possible and never thought of. On the other hand AI will not replace talent professionals, it will only change the way what they have to do to succeed as stated in the article by Alligis Group “AI and the world of Work”. Will recruiter be a thing of past in the coming future? Are HR professionals really ready for this massive change in the HR functions? It would be interesting to know and get answers for all these questions.

Companies such as Microsoft, IBM and Amazon have already made an entry the world of AI by launching toolkits which are used to develop AI applications. Some of the AI systems currently being used in the HR industry are Ideal and Mya for CV shortlisting, Advisor expert system for L&D and Performance Management and many new chat bots are used for administrative work in the company. Use of neural networks and fuzzy logic in HRIS applications to construct new model for managerial talent and also to construct a decision support system for HR recruitment and selection (Tiruveedula Gopi Krishna, Mohamed Abdeldaiem Abdelhadi, M.Madusudana Subramanyam, 2013, “Expert Systems in Real world Business”). Beside all this HR professionals have major roles to play in decision making in an organization for which human judgement and preferences is required and is necessary also. Machine will help humans in taking those decisions. (Hamidah Jantan, Abdul Razak Hamdan and Zulaiha Ali Othman ,2010, “Intelligent Techniques for Decision Support System in Human Resource Management, Decision Support Systems Advances in, Ger Devlin (Ed.)”)

AI also can play a major role in Human Resource Development where finding out the effectiveness of training cost becomes very crucial to an organization. Cognitive systems such as IBM Watson Analytics help in finding out these costs. In the modern conditions of business, it becomes more relevant to use AI in HR for decision making purpose. (I Buzko, Y Dyachenko, M Petrova, N Nenkov, D Tuleninova, K Koeva, “Artificial Intelligence technologies in human resource development”, computer modelling & new technologies 2016 20(2) 26-29).

OBJECTIVE OF THE STUDY

To find out and research if Artificial Intelligence will take over an HR professionals' job or will it be a helping hand for them.

RESEARCH METHODOLOGY

Sample Size: A total of 88 responses were received with a response rate of 83%. Respondents were HR professionals and employees from different sectors.

VARIABLES UNDER STUDY

Independent Variables

1. Awareness about AI systems
2. Use of AI systems
3. Tech Savvies
4. Functions of HR

Dependent Variable

- Sector wise opinions about use of AI in HR

RESEARCH INSTRUMENT

Chi-square test was used to analyse the data of the survey. This test is used to determine the relationship between dependent and independent variable.

HYPOTHESIS

H0: AI will be able to replace humans in Human resource functions

H1: AI will not be able to replace humans in Human resource functions

The survey consisted of two questionnaires, one for HR professionals and one for employees of different sectors. The survey was prepared by consulting HR professionals in different industry. After this a pilot survey was done to make sure that the questions asked were relevant and to obtain suggestions from people.

ADMINISTRATION

For the purpose of this study, data was sourced from primary sources such as questionnaire and interviews with the HR managers and employees from different industries. The questionnaire was designed on the basis of some independent variables such as role of AI in HR functions, changing roles and skills of HR professionals, degree of impact of AI on HR jobs, how tech savvy are HR professionals, how aware are employees of the organization about the use of AI and also dependent variable is the sector the respondent belongs to.

PROPOSED ANALYSIS

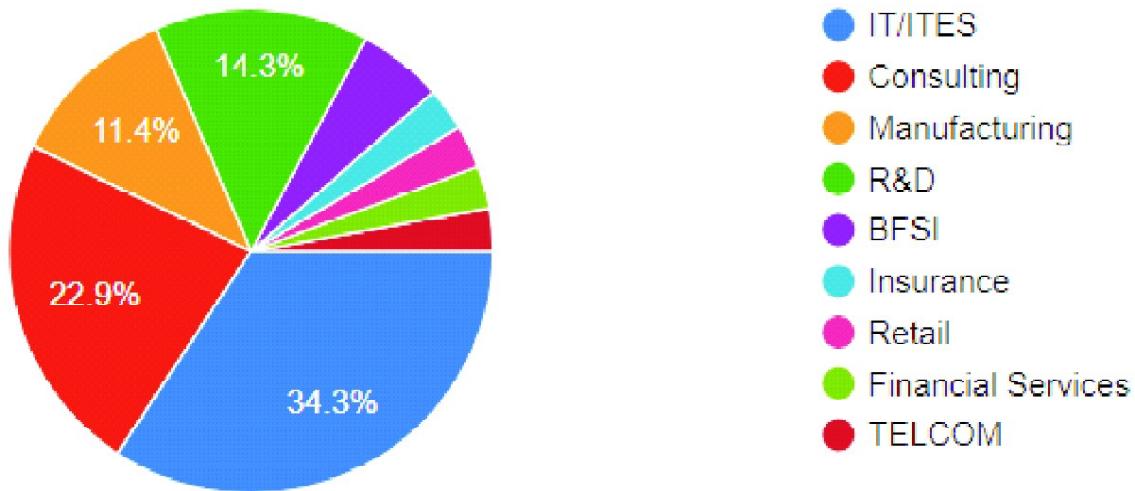
The questions asked to HR professionals mainly revolved around in which functions do they think that AI will replace HR professionals and do they think HR professionals will get replaced by AI in the coming future. Employees were mainly asked if they are aware of any AI systems being used in their company and what do they think of HR professionals being replaced by AI in the future.

The respondents were mainly HR professionals currently working in an organization and also employees of different levels from different industries. The survey captured the opinion of these participants based on the sector they belonged to. Different sectors gave different results which are discussed below. The variables were grouped in two categories namely dependent variable which is the sector and independent variable which is different for employees and HR professional.

HR managers, HR executives and HR heads of sectors such as IT/ITES, Manufacturing, Retail, Consulting, R&D, Telecom and Financial Services, located in different parts of India participated in the survey. Also, employees currently working in different sectors (same as above mentioned) were surveyed for the purpose of this study; a total of 52 employees took part in the survey. A total of 36 HR professionals and 52 employees responded to this survey. The survey form for both the categories were different as opinion of an employee and a HR professional is different for this subject.

RESULTS AND DISCUSSION

There were respondents from a wide range of sectors mainly IT/ITES, R&D, Manufacturing, Consulting, E-commerce and Retail. The distribution is shown in the below pie chart:



Going on further, let us see what people said about HR professionals being replaced with the AI systems. Chi-square test was conducted on the survey data and both employee and HR professional's perspective for the same was captured separately. Below is the result for the same:

HR respondents Perspective of will AI replace HR professionals' job:

Crosstab

		<i>AI_replace_HR</i>			
			<i>May be</i>	<i>No</i>	<i>Yes</i>
Sector	Count	87	0	0	0
	Expected Count	66.4	6.9	13.0	.8
BFSI	Count	0	1	0	0
	Expected Count	.8	.1	.1	.0
Consulting	Count	0	1	4	0
	Expected Count	3.8	.4	.7	.0
Financial Services	Count	0	0	1	0
	Expected Count	.8	.1	.1	.0
Insurance	Count	0	0	0	1
	Expected Count	.8	.1	.1	.0
IT/ITES	Count	0	2	8	0
	Expected Count	7.6	.8	1.5	.1
Manufacturing	Count	0	1	1	0
	Expected Count	1.5	.2	.3	.0
R&D	Count	0	3	2	0
	Expected Count	3.8	.4	.7	.0
Retail	Count	0	0	1	0
	Expected Count	.8	.1	.1	.0
TELCOM	Count	0	1	0	0
	Expected Count	.8	.1	.1	.0
Total	Count	87	9	17	1
	Expected Count	87.0	9.0	17.0	1.0

Chi-Square Tests

	<i>Value</i>	<i>df</i>	<i>Asymp. Sig. (2-sided)</i>
Pearson Chi-Square	262.573 ^a	27	.000
Likelihood Ratio	142.391	27	.000
N of Valid Cases	114		

Chi-square test proves that our alternative hypothesis which is that AI will not be able to replace HR professionals in HR functions is correct as the significance level is less than 0.05%. Here we can see that HR professionals surveyed are of the view that AI technology will be an enabler in their job rather than a replacer.

Now let us see what the employees think about the same.

EMPLOYEE PERSPECTIVE OF WILL AI REPLACE HR PROFESSIONALS'

Crosstab

		<i>AI_takeove_HR_job</i>			
			<i>Maybe</i>	<i>No</i>	<i>Yes</i>
Sector	Count	100	0	2	0
	Expected Count	66.7	14.0	12.7	8.7
Consulting	Count	0	1	1	2
	Expected Count	2.6	.5	.5	.3
Doctor	Count	0	1	0	0
	Expected Count	.7	.1	.1	.1
E commerce retail	Count	0	0	1	0
	Expected Count	.7	.1	.1	.1
Finance	Count	0	1	1	0
	Expected Count	1.3	.3	.2	.2
FMCG	Count	0	0	0	1
	Expected Count	.7	.1	.1	.1
IT/ITES	Count	0	16	11	6
	Expected Count	21.6	4.5	4.1	2.8
Manufacturing	Count	0	1	1	1
	Expected Count	2.0	.4	.4	.3
Self-Employed	Count	0	0	0	1
	Expected Count	.7	.1	.1	.1
R&D	Count	0	1	0	2
	Expected Count	2.0	.4	.4	.3
real estate	Count	0	0	1	0
	Expected Count	.7	.1	.1	.1
Real Estate	Count	0	0	1	0
	Expected Count	.7	.1	.1	.1
Total	Count	100	21	19	13
	Expected Count	100.0	21.0	19.0	13.0

Chi-Square Tests

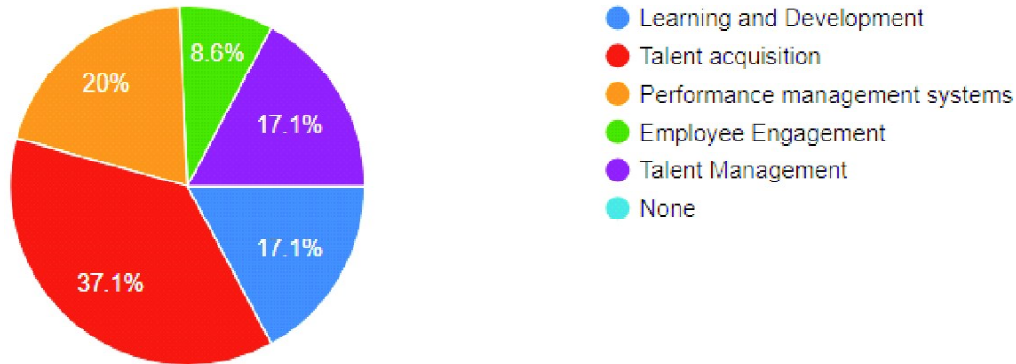
	<i>Value</i>	<i>df</i>	<i>Asymp. Sig. (2-sided)</i>
Pearson Chi-Square	201.613 ^a	33	.000
Likelihood Ratio	202.852	33	.000
N of Valid Cases	153		

According to the Chi-square test employees think that “maybe” HR professionals can be replaced by AI systems. This shows that somewhere employees do want that their workplace gets more automated and there is less human intervention when it comes to personal administration work.

With less than 0.05% significance in this too our alternative hypothesis is true.

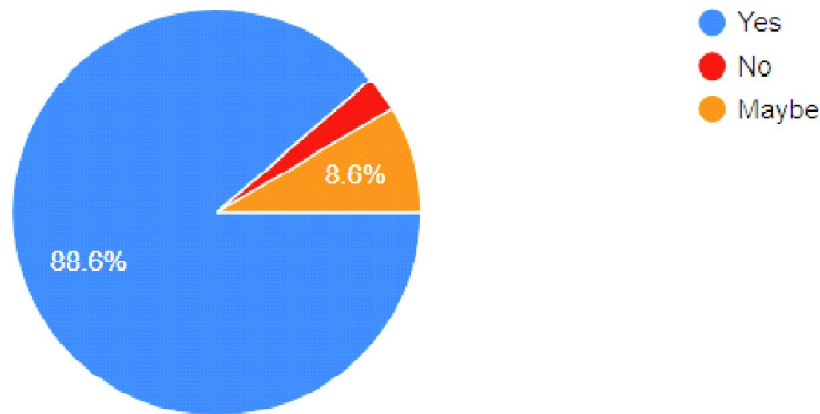
FINDINGS

Now let us also see how aware are HR professionals about AI being used in different HR functions these days. In which function do they think that AI will be of big help:



With 37.1% people saying that AI will be most helpful in Talent Acquisition and 20% people say that performance management can also be automated through AI.

With these results HR professionals will certainly need different skills in the future and when this question was asked in the survey around 90% people said that yes HR's will need different skills in the future.

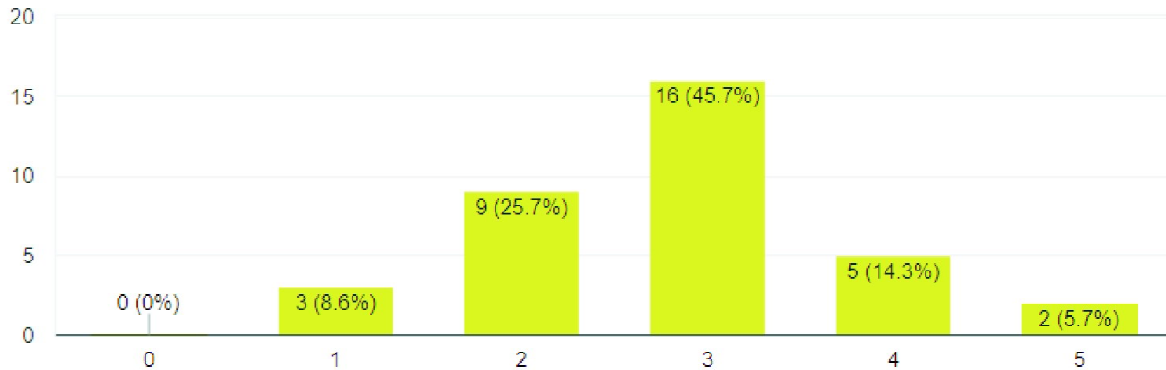


HR professionals are always said to be less tech savvy than the rest of the functions. Respondents were asked to rate HR professionals on the scale of 1 to 5 (1 being the lowest) of how tech savvy are HR professionals in the industry. Following is the result:

45.7% of the HR professionals said that HR's are 3 out of 5 that mean they are neutral tech savvies and not that advance. HR professionals generally do not have a technical background and hence this result. HR professionals will need different skills in the time to come. There can be ample number of advantages but there are disadvantages too. Let us first look at some of the **advantages** of using AI in HR functions:

1. HR professional will get more productive time to concentrate on decision making work rather than just transactional work

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2. Reduction in human errors
3. One time investment only
4. Repetitive jobs can be carried out by AI easily

Some of the **disadvantages** of using AI in HR would be:

1. Difficult for HR professionals to adopt to such technology easily
2. Absence of emotions and feelings in an AI system to judge the right way
3. Immense skill development needed for the HR professionals to work with AI systems

CONCLUSION

As a consequence of the advancement in technology day-by-day, use of HRIS and e-HRM has become a necessity for organizations. To manage the gen 'Z' there will be more advancement and AI will play a major role in human resource management. There also a significant shift in the workforce. Employees are becoming more digital day-by-day and at a very fast pace. HR also has to be on par with them in order to manage them well. There have been researches on the limit of computing intelligence, surely computers will be growing every day and will become more powerful in the future but there are many activities and tasks which they still will not be able to perform.

According to the survey, IT sector, being a workforce centric industry will be most affected by AI in HR. With some companies having more than 2-3 lakh headcount in their organization, AI is sure to help HR in its daily transactional work. Manufacturing and R&D industry are not behind. As the concept of industry 4.0 is coming into picture, these sectors are growing rapidly.

Also in the survey, we found out that most of the employees say that maybe AI will replace HR. This conclusion from the survey is in contrast to what the HR professionals are saying that it will not replace an HR's job. Employees do want automated HR functioning in their organization so that things become easy for them.

As far as the HR functions are concerned, Talent Acquisition is considered the most benefited function as of now. While L&D and Talent management are not far off from getting AI in their working, it would be interesting to see an AI capturing the performance of employees. But these systems are yet to come into the Indian market as of now.

The survey results also say that HR professionals will need different skills in the future. Employees who are handling the next gen workforce, who have great skills, also have to develop themselves according to the changing technological environment around them.

Apart from performing routine repetitive work, AI has not yet arrived in the main stream HR functions. It is surely being a very good helping hand for the HR professionals but will not be able to replace.

IMPLICATIONS

HR function has grown over the years and will be growing even more in the coming future. With the advancement in technology and the tech savvy workforce coming into a workplace, HR professionals also need to grow. This study showed that you cannot take out ‘humans’ from human resource function, as an implication AI will be very useful for the business of today and HR being an integral part of it will surely benefit from that.

Out of many different HR functions like Talent Acquisition, Compensation and Benefits, Organization Development, Learning and Development and Performance Management, AI has been used only in some functions till today. It is still a long way for AI to fully capture the HR functions. Some of the functions where AI has been implemented in some organizations are:

1. Daily report making, AI has been helpful in making quick queries to the database and retrieve reports in seconds.
2. Asking analytical questions like, “How effective is our training program?” or “How capably are our employees addressing their development goals?” and also something like “Which employees are not at all engaged?”
3. Certainly helped in CV- shortlisting
4. E-Learning and Mobile-Learning platforms have an essence of AI in it
5. Talent Engagement activities

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