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AI in E- Recruitment – With Special Reference to Pharmaceutical Industry

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Abstract

Artificial intelligence (AI) is being used very pervasively with the ever-evolving and competitive business world and has become the 21st-century buzzword. Countless innovations in technology have pushed businesses to make their value creation processes more effective and customer friendly. The experimenter was used secondary data where the data was collected from exploration papers, publications, websites, HR blogs, check reports etc. This research would be useful for recruiters and HR managers to consider the fields of AI implementation and management to take advantage of cost-cutting technical developments. Study was made up of job seekers of artificial intelligence in e-recruitment in Pharma industry and primary data collected 200 job seekers from major cities like, Bangalore, Hyderabad, Chennai and Delhi. Study found that there is a relationship between recruitment and Natural language process. The study concluded there is statistically significant relationship between Natural language process, work force and automation variables

Keywords: Artificial intelligence, human resource management, recruitment, Talent acquisition

Introduction

Artificial intelligence (AI) is a branch of computer science that deals with the problem –solving by the aid of symbolic programming .it has greatly evolved into a science of problem- solving with huge application in business, health care, engineering. The main objective of this artificial intelligence to identify useful information processing problems and give an abstract account of

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how to solve them. Such an account is called as method and it corresponds to a theorem in mathematics Artificial intelligence as a field that deals with the design and application f algorithms for analysis of learning from and interpreting data. Artificial intelligence en compasses many branches of statistical and machine learning, pattern recognition, and clustering, similarity based methods. AI is a flourishing technology which finds application in multiple aspects of life and industry. In Recent times the pharmaceutical industry discovers novel and innovative ways to use this powerful technology to help solve some of the biggest problems facing pharma industry today. Artificial intelligence in Pharma refers to the use of automated algorithms to perform tasks which traditionally rely on human intelligence. Over the last five years, the use of artificial intelligence in the pharma and biotech industry has redefined how scientists develop new drugs, tackle disease, and more.

Artificial Intelligence is a remarkable advance in technology proliferation. Indeed, the term AI isn't confined to just a single description, but also it's defined and interpreted else by different fields. It's programmed in such a way that it can suppose and act like mortal beings (logic) do. This simple description of AI mentioned above fits any machine or device that can suppose and bear like mortal intelligence while learning and working a specific problem. In other words, AI can be described as technologies that emulate natural intelligence, yet the term AI is much broader than it's complicated to explain what's meant by it, what value AI brings, and how it can be applied.

The image of firm is referred as employer reputation that is perceived by current employees and potential workforce to work for firm as a better place to work and considered as one of attractive destination to work. The reputation of employer demonstrates the ability of firms that attract, recruit and retain talent in organization that contributes in achievement of objectives (Altounjy et al., 2020; Dlalisa & Govender, 2020; Berejena et al., 2020; Auriacombe & Sithomola, 2020; Basheka & Auriacombe, 2020; Pachura, 2019). The various business practices adopted by firms receive various criticisms that damage the reputation of organizations among customers, business partners and employees.

The functions of business such as management, financial department, operations and HR department have been altered due to electronic means and emergence of technological equipment and AI based systems. The term of electronic recruitment and electronic based HR functions emerged due to its accuracy and speed while reducing cost and incorporated various long-term benefits. The emergence and implementation of AI based functions brings various benefits to business functions such as recruitment process, hiring process while keeping the cost lower and higher quality (Breaugh, 2013).

Review of Literature

The literature has addressed the issue of adoption of AI based solution and technological advancements through well-established innovation diffusion theory and explained that AI adoption is necessary in organizational success. The theory of technology-organization-environment (TOE) has been deployed as well to deeply understand the phenomenon of

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technology adoption and its influence on performance related outcomes (Alsheibani et al., 2020; Maake & Tranos, 2019; Adle & Akdemir, 2019).

Bowen Lou, (2017) Artificial intelligence, having several features of big data along with analytics, provides ultimate usability to recruiters It aids to automate and streamline the complicated workflow involving repetitive tasks in the recruitment process, removing the time consumption at each step of the process right from matching with error-free job description using the sentiments analysis to assessment for the selection of the candidate such as psychoanalytical tests, aptitude and analytical tests.

Dirican, (2015) A researcher in his research paper, title "The Impact of Robotics, Artificial Intelligence on Business and Economics" has studied that use of Robotics and Artificial intelligence in business may have negative impact on the overall functions of an organization like production, performance management, sale, strategic planning, customer relationship management, banking system, coaching, training, taxes etc.

Evan Rawley, (2020) the success of the recruitment activity is the ratio of the potential pool of candidates applied for the position to the total number of job offers received by the candidates. The assessment of candidates would be dependent on the category of job or occupation. The software provides almost all types of evaluation methods that can be simple to administer, user-friendly, and keeping records of the assessment. It also follows with the complete reports which can be easily interpreted eliminating the personal bias of the assessor.

Fleming, (2018) in his researcher paper title, Artificial Intelligence and the Future of work: Human- AI Symbiosis in Organizational Decision Making. The researcher papers talked about the usefulness of AI for human. Artificial intelligence has been supporting in decision making, dealing with uncertainty, and especially equivocality of decision-making in an organization. Still in an industry the role of human is essential and technologies have to depend on human when subconscious decisions are essential to evaluate and facilitate the outcomes of decisions.

Cassiman and Veugelers (2006) by providing evidence that AI improves knowledge flows within alliances, we help unpack one mechanism for how innovative firms use AI to gain competitive advantage. In sum, the papersheds new light on how modern organizational and technological advancements are jointly reshaping the innovation production function, with implications for scholars and practitioners alike.

Furman and Seamans(2019) This paper contributes to the literature on AI and strategy, by explicating how AI and strategic alliances jointly influence the innovation process. Our key insight—that by facilitating productive knowledge flows within an alliance, an AI resource makes R&D alliances more efficient—also contributes to contract theory. Scholars have long considered how characteristics of transactions and capabilities influence the relative efficiency of discrete structural alternatives

The researcher hasn't come across a single study that empirically examines the relation- ship and influence between AI adoption and employer reputation. Based on previous studies the current study claims that AI adoption in firms influence the employer recruitment. The present

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study claims to be one of pioneer study that intends to empirically examine the e recruitment in Pharma Industry

Objectives of the study

- To know the impact of AI capabilities on Recruitment Pharmaceutical Industry
- To analyze how artificial intelligence is used currently in Pharmaceutical Industry

Research Methodology

The population for the study was made up of job seekers of artificial intelligence in e-recruitment in Pharma industry and convenience sampling methods were used. Primary data collected through structured questionnaire. 250 responses received out of 200 questionnaires valid for data analysis. Questionnaires was distributed all major cities like, Bangalore, Hyderabad, Chennai and Delhi. Statistics tools used for the study is anova, chi square and correlation. The rating table comprises of 5 points with the 1 for lowest rating and 5 for highest rating.

Data Analysis and Interpretation

The respondents were rating the technologies which create the satisfaction to job seekers. Basically four attributes used for analysis

- Recruitment
- Natural language process
- Workforce
- Automation

Table 1 E - Recruitment and Natural Language Process

Correlation				
			Recruitment	Natural language process
Spearman's rho	Recruitment	Correlation Coefficient	1.000	.300**
		Sig. (2-tailed)	.	.004
		N	200	200
	Natural language process	CorrelationCoefficient	.300**	1.000
		Sig. (2-tailed)	.004	.
		N	200	200
**. Correlation is significant at the 0.04 level (2-tailed).				

Source: Own Calculation

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From the table 1, it is interpreted that the significance value is 0.00 which is less than 0.05 and less than the critical value so the null hypothesis rejected and alternative hypothesis got accepted. Thus, there is a relationship between recruitment and Natural language process

Table 2 E- Recruitment and Workforce

Correlation				
			Recruitment	Workforce
Spearman's rho	Recruitment	Correlation Coefficient	1.000	.921**
		Sig. (2-tailed)	.	.002
		N	200	200
	Work force	Correlation Coefficient	.921**	1.000
		Sig. (2-tailed)	.002	.
		N	200	200
**. Correlation is significant at the 0.02 level (2-tailed).				

Source: Own Calculation

From the table 2, it is interpreted that the significance value is 0.04 which is less than 0.05 and less than the critical value 1. So the null hypothesis rejected and alternative hypothesis got accepted. Thus, there is a relationship between recruitment and workforce.

Table 3 E- Recruitment and Automation

Correlation				
			Recruitment	Automation
Spearman's rho	Recruitment	Correlation Coefficient	1.000	.181**
		Sig. (2-tailed)	.	.001
		N	200	200
	Automationn	Correlation Coefficient	.181**	1.000
		Sig. (2-tailed)	.001	.
		N	200	200

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**. Correlation is significant the 0.01 level (2-tailed).

Source: Own Calculation

From the table 3, it is interpreted that the significance value is 0.01 which is less than 0.05 and less than the critical value 1. So the null hypothesis rejected and alternative hypothesis got accepted. Thus, there is a relationship between recruitment andautomation.

Table 4 Comparison of the e recruitment, natural language process, workforce, automation

Recruitment		Sum of Squares	df	Mean Square	F	Sig.
Natural languageprocess	BetweenGroups	1.981	111	.270	3.191	.004
	WithinGroups	36.094	89	.011		
	Total	38.075	200			
Workforce	BetweenGroups	2.321	120	.941	4.321	.000
	WithinGroups	50.109	80	.902		
	Total	52.043	200			
Automation	BetweenGroups	1.391	111	.487	3.189	.003
	WithinGroups	31.182	89	.091		
	Total	32.573	200			

Source: Own Calculation

Results state that table 4, there is a relationship between dependent variable and independent variable because of the strong F value, which was greater than the significance value Natural language process, work force and automation. So the null hypothesis rejected and alternative hypothesis got accepted.

Conclusion

The important phenomenon of artificial intelligence adoption and implementation is considered in the current study to define the e recruitment in Pharmaceutical Industry in India. The study found statistically significant relationship between there is statistically significant relationship between Natural language process, work force and automation variables.

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In nutshell, all direct and mediating hypothesized relationships were found to be statistically significant and it has been suggested for pharmaceutical industry of India to adopt artificial intelligence based solutions to conduct business functions other industries also. Many pharma companies struggling to implement AI on e-recruitment process in the industry.

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