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A Study on Impact of AI and Automation on HR in it Sector

Mr. S. Arul Krishnan,
Assistant Professor,
Department of Management Studies,
Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology, Chennai,
sarulkrishnan@veltech.edu.in.

P. Ganesh,
II MBA,
Department of Management Studies,
Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology,
Chennai
vtp3450@veltech.edu.in.

Abstract

This study aims to investigate the implications of artificial intelligence and automation on human resourcespractices within IT companies. By employing a mixed-methods approach, combining quantitative survey data and qualitative interviews, the research explores how these disruptive technologies are influencing various HR functions, such as recruitment, training, performance management, and employee engagement. The quantitative analysis examines the extent to which AI and automation have been adopted in HR processes across a representative sample of IT firms. Additionally, it assesses the perceived impact on efficiency, cost-effectiveness, and decision-making capabilities within HR departments. The qualitative component delves deeper into the experiences and perspectives of HR professionals, uncovering the challenges, opportunities, and strategies employed to navigate this technological transformation. The findings of this study highlight the significant potential of AI and automation to streamline administrative tasks, enhance data-driven decision-making, and personalize employee experiences.

Keywords: Artificial Intelligence, Automation, Human Resource, IT Sector, Mixed-methods Approach.

I.INTRODUCTION:

The IT industry is a dynamic and technology-driven sector that is leading this disruptive transformation in sectors across the globe due to the rapid growth of artificial intelligence and automation technologies. Human resources is one of the many organizational functions feeling the effects of these ground-breaking innovations that are continuing to transform business models and processes. AI and automation in HR processes has the ability to completely change how businesses recruit, train, and manage employees. It also offers the promise of higher productivity, data-driven insights, and customized employee experiences.

Debates surrounding job displacement, the need for reskilling and upskilling, and the potential erosion of human interaction in the workplace have become increasingly prevalent. Consequently, HR professionals are tasked with navigating this complex landscape, balancing the potential benefits of technological innovation with the imperative of maintaining a human-centric approach to people management.

This study aims to investigate the AI and automation on HR practices within the IT sector. By employing a mixed-methods approach, combining quantitative survey data and qualitative interviews, the research explores how these disruptive technologies are influencing various HR functions, including recruitment, training, performance management, and employee engagement. The quantitative analysis examines the extent to which AI and automation have been adopted in HR processes across a representative sample of IT firms, while also assessing the perceived impact on efficiency, cost-effectiveness, and decision-making capabilities within HR departments.

Scope of the Study:

The goal of the study is to investigate how Automation and AI are changing HR roles in the IT sector. Risks of job displacement, the necessity for reskilling, and the possibility of automating HR procedures like payroll, performance management, and hiring will all be covered. It will also evaluate AI's contribution to data-driven decision-making, the improvement of the employee experience via chatbots and virtual assistants.

Objectives of the Study:

Primary Objective:

- To study the impact of AI and Automation on HR in IT sector

Secondary Objectives:

- To analyse the current landscape of AI and automation adoption in the HR functions of the IT sector.
- To explore the effects of AI and automation on employee recruitmentwithin IT sector.
- To examine the role of AI and automation in performance evaluation in IT firms.
- To suggest the possible measures to improve AI and Automation adoption in IT sector.

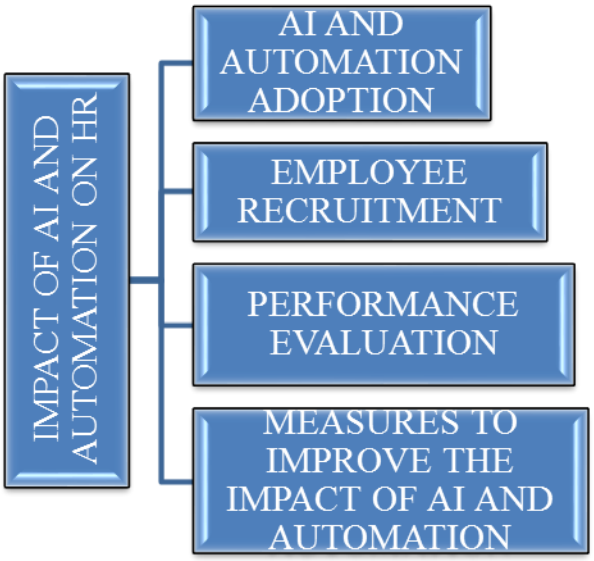
Limitations of the Study:

- The study is conducted in limited period.
- Restricted company data access
- Technologies that are developing quickly
- Limited applicability and generalizability
- Absence of historical information
- Conclusion and outcomes can be less accurate due to the nature of the industry

Research Methodology:

A research methodology describes the methods and approaches employed in order to locate and evaluate data pertaining to a certain study subject.

Research Model:



Types of Data:

The types of data used in research can be mainly classified into two:

1. Primary data
2. Secondary data

Primary Data:

This is the data that the researcher is gathering for the first time. The questionnaire that was used to gather this data is included in the study for this project along with other pertinent employee data.

Secondary Data:

Secondary data are those that have already been gathered. The company may have access to the Data. The information is gathered from the business, books, journals, the internet, etc.

Review Of Literature:

According to Jogiyanto, AI can be defined as a machine or intelligent device (usually a computer) that can perform a task which, when a human performs the task, requires intelligence to do so. The definition of AI, according to Kusuma Dewi, is artificial intelligence which is a part of computer science that makes machines (computers) able to do jobs like and as well as those done by humans. According to Suparman,

AI is defined as a sub-field of computer knowledge specifically intended to create software and hardware that can fully mimic some of the functions of the human brain (Nahavandi et al., 2022).

Automation (in Greek means self-study), robotization or industrial automation or numerical control is the use of control systems such as computers to control industrial machines and process controls to replace human operators. Industrialization itself is a stage in the implementation of mechanization, where humans carry out the concept of permanent mechanization of industrial machines as operators by placing machines as assistants following physical work demands, which is a massive decrease in human needs as sensors as well as concerns work mentality (Paśko et al., 2022).

Definition of Automation, "Automationis a technology that combines the application of mechanics, electronics and computer-based systems through processes or procedures that are usually arranged according to an instruction program and combined with automatic control (feedback) to ensure whether all instructions have been carried out correctly, thereby increasing productivity, efficiency and flexibility(Wang et al., 2022).

According to John McCarthy, artificial intelligence (AI) is a science and technique in creating intelligent machines, brilliant computer programs or applications. AI is a step to develop computers, robots, or applications or programs that work intelligently, just like humans (Cioffi et al., 2020).

Analysis & Data Interpretation:

In this chapter, the results of the statistical analysis of the questionnaire data are presented. Statistical procedures were performed using IBM SPSS Statistics

Table 1: Correlation Matrix

Correlations			
		AGE	AIANDAUTOMATIONADOPTION
AGE	Pearson Correlation	1	.218**
	Sig. (2-tailed)		.000
	N	299	299
AIANDAUTOMATIONADOPTION	Pearson Correlation	.218**	1
	Sig. (2-tailed)	.000	
	N	299	299

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

Hypothesis

Null hypothesis H0: There is no relationship between age and AI and Automation adoption

Alternate hypothesis H1: There is a relationship between age and AI and Automation adoption

Inference:

Here p-value is less than 0.05, we accept alternate hypothesis which means there is a relationship between age and AI and Automation adoption. As there is a relationship, we should check for the type of correlation. As the signs are positive here, we conclude that there is positive correlation between age and AI and Automation adoption

Table 2: Anova

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
AIANDAUTOMATIONADOPTION	Between Groups	202.408	2	101.204	16.531	.000
	Within Groups	1812.167	296	6.122		
	Total	2014.575	298			
EMPLOYEERECRUITMENT	Between Groups	49.588	2	24.794	3.103	.046
	Within Groups	2365.142	296	7.990		
	Total	2414.729	298			
PERFORMANCEEVALUATION	Between Groups	145.104	2	72.552	10.778	.000
	Within Groups	1992.582	296	6.732		
	Total	2137.686	298			
MEASURESTOIMPROVETHEIMPACT OFAIANDAUTOMATION	Between Groups	9.570	2	4.785	.595	.552
	Within Groups	2380.677	296	8.043		
	Total	2390.247	298			

Hypothesis

Null hypothesis H0: There is no significant difference between Age Group with respect to the factors.

Alternate hypothesis H1: There is significant difference between Age Group with respect to the factors.

Inference:

As the P value of AI and Automation adoption, Employee recruitment, Performance evaluation are less than 0.05 and Measures to improve the impact of AI and Automation is greater than 0.05.

So we accept Alternative hypothesis forAI and Automation adoption, Employee recruitment, Performance evaluation. There is no significant between age with respect to Impact of AI and Automation on HR in IT sector.

So, we accept Null hypothesis forMeasures to improve the impact of AI and Automation. There issignificant between age with respect to Impact of AI and Automation on HR in IT sector.

Discussion:

According to the study, HR procedures like hiring, onboarding, training, and performance management are changing in the IT industry due to AI and automation. These technologies increase productivity, but they also bring up moral questions about discrimination and employment displacement. Fairness audits should be conducted on recruitment algorithms, and human judgment should be balanced into employee assessment systems. HR workers need to upskill in data analytics, tech skills, and strategic capabilities as mundane activities become more automated. It is imperative that IT firms use proactive reskilling plans, continuous learning efforts, and effective governance frameworks to effectively traverse this technology transformation while maintaining the human parts of HR.

II. CONCLUSION:

HR operations in the IT industry are undergoing a dramatic transformation due to the widespread use of AI and automation. Even if these technologies make hiring and performance management procedures more efficient, they also give rise to ethical questions about bias in decision-making and the displacement of jobs. As AI develops, HR professionals will need to work closely with technology specialists to appropriately adopt these technologies and learn new skills like data analytics.

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