

Revolutionizing Organizations by Technological Innovations in HR

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Abstract

Ever rising performance is the key for having sustainable existence of any organization in current era of competition. Organizations can achieve this objective by continuously encouraging for betterment of their human capital. Diversity, equity, inclusion and belongingness are basic components the organizations should address to display their uniqueness. Today, continuous advancement in technology of all kinds and in all functions of management is observed prominently. HR departments should not remain aloof. Accordingly, HR officials have begun focusing on the talent strategies to ensure positive results. The constructive HR transformation leads to value addition in terms of acquisition and retainment of talent and expertise. Transformation in HR is essential as it enhances potentials of employees and assures satisfaction of stakeholders. The technology in HR redefines basic HR functions like recruitment, talent management, compliance redressal, compensation, performance management, employee engagement, etc. Emerging technologies like Artificial Intelligence (AI), Machine Learning (ML) and Robotics are useful for, business intelligence, people analytics, and automation in the HR functions. Thus, in addition to performing basic functions, technology drives value from talent. The objective of this study is to understand AI and other technologies and to investigate the areas of their application in HR practices. Further attempts are made to identify views of organizational representatives with respect to technology and innovations in HR. A survey among HR professionals and employees was conducted to validate the study. They represented few small-scale organizations working in Sangli District of Maharashtra State working in food processing, textile, manufacturing and service sector units (like, banking, communication, education and health). The results of this study highlight on the need of implementing suitable

technology to ensure effective use of all resources in general and human resource in particular so that organizations can put themselves ahead of their competitors.

Keywords: Technology, Innovation, Inclusion, Artificial Intelligence, Automation, HR.

1. INTRODUCTION

It is the proven fact that use of technology results into better performance and rapid development. Artificial Intelligence (AI) is expected to accelerate the application of technology in more creative manner.

The aim of this study is to understand AI and other technologies and to investigate the areas of their application in HR practices. Further attempts are made to identify views of organizational representatives with respect to technology and an innovation in HR. It is essential to understand fundamental terminology before investing the use of technology in routine activities. These include;

a) Artificial intelligence (AI) is derived from computer science that emphasizes on development of brilliant mechanisms which work and interact like human being.

b) Machine learning (ML) is considered as the base of AI which concentrates on elucidation of data through computer program. Instead of one-to-one coding ML

determines trends and communicates to AI. ML informs about the process to follow while AI defines the result in precise manner.

c) Digitalization of HR Department

Modern technology automated many tasks in HRM. As talent acquisition became a critical function, human resource officials started using modern technology to recruit the best talents. The use of analytics to understand the market availability of eligible people helped to find suitable candidates. Resume scanners are being used to get over the laborious process of going through them and eliminating those not eligible. Many HR managers use social media platforms to reach out to qualified and skilled people in remote locations.

HR software is being popularly used to manage employee details. There are many packages for payroll that help in recording attendance, leave, and hours of working. The software helps in automatically calculating the salaries of employees, taking into account all aspects. It also helps in paying taxes promptly. Companies use HRIS very extensively for

managing staff and helping in their development. These packages assist human resource officials in the end-to-end management of employees. HR analytics courses delve into detail about the use of data and computer technology for making better decisions.

d) HR Innovation

HR innovation is an attempt of developing and implementing advance technologies and approaches to human resources management. It can be used in many forms which include different formats like application of automation software to smoothen HR processes, acquiring AI-based technology, which help for employee engagement and their well-being.

e) Ways of using Technology in HRM

HR managers can use technology to make their work simple and develop ability for better judgments. Besides employee management, technology like automation supports in reducing delayed decisions and ensure organized data entry. Employees, now not need to fill out paper forms as information have been entered by HR staff. Some examples of technology application in

human resource management are as mentioned below.

1) Employee Management

Employers can utilize entire potential of their employees through Employee management system. It assists in achieving organizational objectives with effective use of employee knowledge. It's an inclusive process comprising of every aspect of human resources like, talent acquisition, employee retainment, payroll management, and skill enhancement.

2) Employee Engagement

Performance of employee is derived from intensity of employee engagement. It is essential component of performance management. The technology applications provide a spectrum of plans for keeping employees engaged in their work.

3) Performance Management

Digital 360 degrees feedback and other similar technics help for introducing the automated processes for observing and tracking performance of employees. The continuous performance management system results into better productivity and flawless talent retainment.

Technology supported appraisal system can track strengths and weaknesses of employees so that need and type of training can be decided easily. This is also helpful for employees in designing career path displaying their skills more effectively.

4) Training and Development

Technology platforms provide avenues for training in digital mode and even can be customized as per individual requirements. It empowers HR personnel to monitor progress and evaluate training outcomes more scientifically on real time basis. Virtual meetings, online interactive sessions and webinars can be arranged for development of employees.

5) Recruitment

Acquisition of employees is the most significant function assigned to HR department. This can be done seamlessly by using various technological platforms. These platforms smoothen the entire recruitment process which include online advertisements; screening, written tests and even interviews to ensure adoption of most suitable employee

6) Documentation

Appropriate transparency needs to be maintained within organization for improving productivity. Various kinds of individual and organizational information, government circulars flexible policies can be communicated using technology assisted gadgets.

7) Integrated Management System

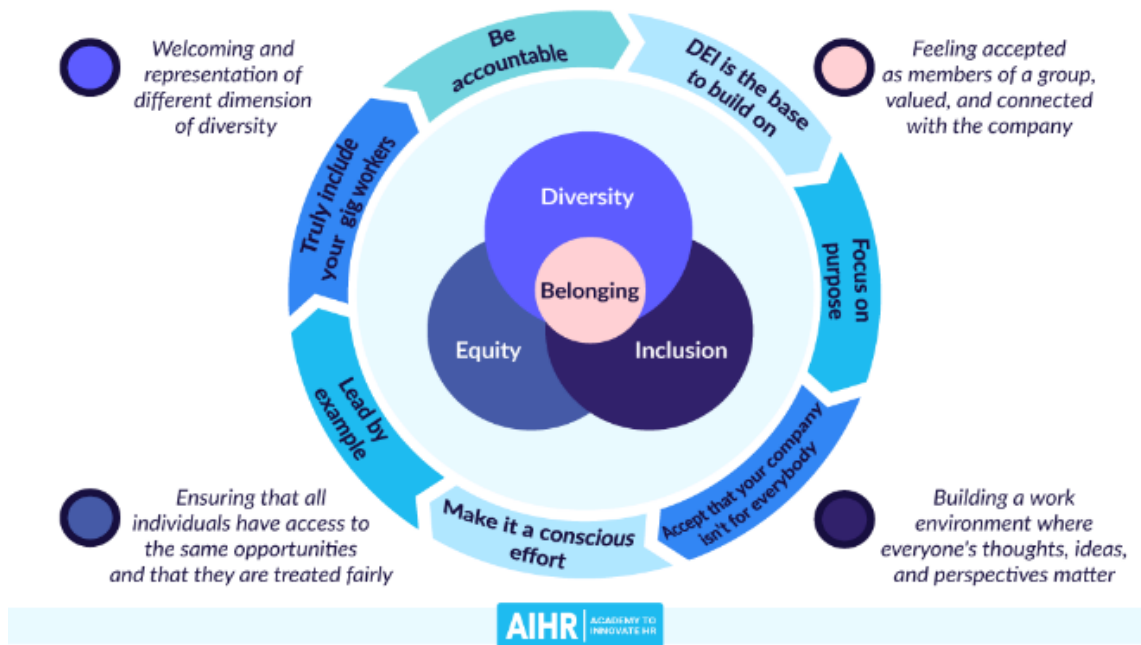
Conventionally HR department maintains collaboration with other department for performance appraisal, payroll management and HR planning. But today there is dynamic need to share information and resources with other department regarding legal issues, complaint redressal and customer relationship management. The integrated management systems make sharing easier ensuring that all departments have the information as per their requirement to achieve their objectives successfully

f) DEIB Approach.

Diversity, equity, inclusion, and belonging (DEIB) are four concepts that work together to boost team dynamics, productivity, and innovation. It fosters a culture of respect, understanding, and collaboration. It helps to attract and retain diverse talent, enhances

creativity and innovation, and improves decision-making.

Diversity, Equity, Inclusion and Belonging (DEIB) at Organizations



(Ref.- www.aihr.com)

2. REVIEW OF LITERATURE

According to Tecuci (2012), Artificial Intelligence (AI) is a rapidly evolving technology, facilitated by the Internet that will affect daily life of everybody. The name; Artificial Intelligence was coined in 1956 (Stuart & Norvig, 2016). AI is considered conventionally as fabrication of brilliance like human being which can learn, question, recognize and analyses natural language. This nature of AI has brought

numerous opportunities and threats in socio economic spectrum.

Scott W. O'Connor (2020): says that artificial intelligence will positively shape the field of human resources management in the coming years. HR professionals should be more aware of the challenges that they might face. Prasanna Matsa and Kusuma Gullamjji (2019): were of the view that, the integration of HR practices with AI based applications definitely has a stronger impact in improving the

organizational performance. They felt that AI is everywhere in HR, like in recruitment, training, performance analysis, retention and so on, but many of the organizations are still far behind in synchronizing AI with their HR activities.

Anupam Jauhari (2017): revealed in her paper titled ‘how AI and machine learning can affect HR practices today’ that AI is becoming increasingly relevant and reshaping the businesses activities including recruitment., AI will screen candidates and send the confirmation or rejection email to the candidates.

As per observations of Dr. Surbhi Jain (2018), AI is a practical exhibition by machines in close association with intelligence of humans. HR should train the employees about the new technologies in order for better future.

Prashant Srivastava (2018) has pointed out need of AI as AI plays an important role in human resources management. It mainly helps in manpower planning and productivity management. Many times, it is very difficult to analyze the performance of an employee manually but by using AI it can be done automatically.

3. ABOUT THE STUDY

3.1. Research Gap

Majority of research studies have focused on the role of IT in transforming HR processes. But now it is need of the hour to analyses the application of AI and other digital technologies in HR and related activities. As compared to IT application, AI has particular focus which can streamline the process. Primarily IT application has been restricted to the recruitment and selection processes. But other HR practices related to job satisfactions, organizational performance and productivity also need to be addressed.

3.2. Objectives

This study is based on following objectives:

1. To investigate effect of technological innovations on human resource management
2. To understand role of technological innovation for human resource management
3. To identify the challenges while implementing technological innovations for HRM
4. To recognise the views of organisations about technology and innovations in HRM

3.3. Limitations

The number of respondents was very low; (only twenty). More number of responses may validate results differently. Similarly, study was conducted within restricted geographical area. The demographic variations may display deviation. Certain factors like work culture, legal restrictions, government policies were not considered directly. These factors may derive divergent results.

4. RESEARCH METHODOLOGY

The combination of both qualitative as well as quantitative research methods is used for this study. The primary data for the research have been collected through the structured questionnaire and by conducting a survey among the respondents. Similarly, the data has been gathered from secondary sources of data which includes the pre published research papers, articles and blogs.

The questionnaire was designed to suit the Likert scale. These questions were drafted to gauge the usage of Artificial Intelligence technologies in HR Practices in organizations and their impact on the Human Resource Management

4.1. Research Hypotheses

H0: Technological innovations do not affect HRM significantly.

H1: Technological innovations affect HRM significantly

4.2. Data Collection

A survey among HR professionals and employees was conducted to validate the study. They represented few small-scale organizations working in Sangli District of Maharashtra State working in food processing, textile, manufacturing and service sector units (like, banking, communication, education and health). The primary data was collected through the structured questionnaire. The questionnaire was circulated to 30 respondents. Out of them only 20 responses found reliable which were considered for data analysis.

Reliability and internal consistency of the questionnaire was examined through Cronbach alpha value. Further the data was analyzed using multiple linear regression method for evaluating the effect of Artificial Intelligence on HRM and identifying whether this effect was significant. Cronbach alpha was utilized to measure of the reliability. The Cronbach alpha value was 0.754 which is greater than

the standard value of 0.7. It indicates that the questionnaire is reliable.

4.3. Data Analysis

4.3.1. Organization-wise Analysis

Table 1

Organization-wise Analysis

Sr. No.	Organization	Freq.	Percent
1	Food Processing	4	20
2	Manufacturing	5	25
3	Textile	6	30
4	Service	5	25

(Source: Field Survey)

Maximum respondent organizations were from textile sector (30%), followed by manufacturing and service sectors; 25% each. Remaining 20% organizations were engaged in food processing activities.

4.3.2. Age-wise Analysis

Table 2

Age-wise Analysis

Sr. No.	Age (Years)	Freq.	Percent
1	Below 25	3	15
2	25 to 35	8	40
3	36 to 45	5	25
4	Above 45	4	20

(Source: Field Survey)

The 40% respondents were from the young age group (25 to 35 years). Only 20% respondents were represented by senior employees with the age more than 45 years. The one fourth of the sample was from mature employees with age between 36 and 45 years. The 15% respondents were not much experienced.

4.3.3. Experience-wise Analysis

Table 3

Experience-wise Analysis

Sr. No.	Experience (Years)	Freq.	Percent
1	Less than 5	2	10
2	5 to 15	7	35
3	16 to 25	6	30
4	More than 25	5	25

(Source: Field Survey)

One fourth of respondents held sizable experience more than 25years. Majority of respondents (35%) had experience more than 5 and less than 15 years. Just 10% employees had experience up to 5 years. Remaining 30% respondents had worked for 16 to 25 years.

4.3.4. Qualification-wise Analysis

Table 4

Qualification-wise Analysis

Sr. No.	Qualification / Course	Respondents	Percentage
1	Graduate	5	25
2	Post-Graduate	3	15
3	Technical	4	20
4	Special Skill	6	30
5	Management	2	10

(Source: Field Survey)

Maximum 30% respondents had secured special skills. The 25% were graduates and 20% had obtained technical degree. The 15% of respondents had completed post-graduation, while, 10% participants had secured management degree.

4.3.5. Views about

a) Application of technology in HRM

Table 5

Technology Application Areas

Sr. No.	Application Area	Freq.	%
1	Talent Acquisition	15	75
2	Induction	13	65
3	Training	12	60
4	Pay-roll Management	16	80
5	Leadership	10	50

	Development		
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(Source: Field Survey)

Respondents were requested to talk about probable application area where innovative technology could be implemented in HRM. Majority (80%) participants viewed technology application in payroll management followed by talent acquisition (75%), conduction of induction program (65%), employees' online training (60%) and carrying out leadership development exercises (50%).

b) Challenges during application of technology in HRM

Table 6

Challenged in Technology Application

Sr. No.	Challenge	Freq.	%
1	Techno-phobia	14	70
2	Lack of Confidence	11	55
3	Data Privacy Issues	12	60
4	Initial Cost	13	65
5	Socio Economic Issues	17	85

(Source: Field Survey)

Survey participants were asked for enlisting challenges during application of innovative technologies in HRM. Their opinions are shown in Table 5 above. Majority of them (85%) had pointed out socioeconomic issues

like unemployment, skill mismatch etc. The 70% had viewed techno phobia, followed by higher initial cost (65%), privacy and security concerns (60%) and absence of confidence (55%).

Due to techno phobia the confidence gets hampered which results into negligence towards application of technology in HRM. Due cyber-attacks and other consequences confidentiality may be weakened. Technology has potential to replace human support up to certain extent which creates social unrest and economic issues.

5. HYPOTHESES TESTING

Multiple regression analysis was conducted to know the effect of technological innovations on HRM. The study has considered independent variables related to different technologies which can be applied for various HRM functions. These include artificial intelligence and software. Different HR functions like, recruitment; trading, compensation and orientation have been treated as dependent variables. The estimated R square value was 0.678. This indicates that about 68% of the effect of technological innovations on Human Resource Management has been observed.

The p value from ANOVA test comes to be 0.0008 which is less than the standard p value 0.05. This shows that independent variables (technological innovations) support in governing dependent variables (HRM functions). Thus, these results demonstrate that HRM practices are significantly affected by technological innovations

Hence, because of the outcome of analysis, the null hypothesis H₀ has been rejected and alternate hypothesis H₁ can be accepted, which states that, ‘Technological innovations affect HRM significantly.’

6. FINDINGS

1. Majority of the respondent organizations have adopted the technology-based innovations like AI in their Human Resource Management practices.
2. The respondents are optimistic about introducing technological innovations for various HR related functions.
3. Organizations are facing challenges while implementation of technology in HR. But they have planned to adopt innovative techniques in HRM.
4. Almost all respondents have predicted that induction of technological innovations in

HRM would become an essential requirement in coming days.

7. IMPLICATION OF THE STUDY

The present study is based on quantitative analysis using questionnaire method to understand and contribute to the concept identifying correlation between technology innovations in HR functions. Different advantages, and challenges in the implementation of technology in Human Resources functions have been discussed.

The study has witnessed from opinions of respondent's technology implementation is the future of business including HR functions. Almost all activities related to HR can be successfully synchronized with innovative technologies leading to effective resource utilization and sustainable existence of organizations.

8. SCOPE FOR FUTURE RESEARCH

The future research can be conducted for large size samples in different geographic areas using other variables. It can be applied for multiple sectors of economy.

CONCLUSION

An integration of HR activities with technological innovations has significant impact for improving organizational

efficiency. Though technological applications are away from human centric cognitive skills, emotions and group dynamics; they can identify, translate and detect the problems. Never the less they can provide working solutions in real time basis.

The social scientists and policy makers view the danger of job reduction and burden of unemployment on economy due to inception of technology in and for HRM. But, in fact modern technologies are not superseding humans, but more precisely success depends on how humans can transform themselves in navigating technology for prosperity and growth.

Still today many organizations are not prepared to adapt technological innovations for routine activities in general and HR activities in particular. But technological innovations should be viewed as a constructive opportunity as they have potential for assuring better prospects.

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