

Human Resource Planning System using Artificial Intelligence

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Abstract: In today's era of technology, the Human Resource (HR) field can also be reinvented by using Artificial Intelligence. In this article we have discussed 6HR basics with traditional ways and using machine learning and AI.

Keywords: HR, AI

1. Introduction:

Artificial intelligence (AI) is a technology that enables computers to learn from data and make or recommend decisions based on that data. Artificial intelligence may be used in a variety of ways in human resource management to streamline procedures and increase productivity. As humans, we analyze the data in front of us and develop conclusions based on our reasoning abilities. We can make machines appear clever by feeding them the correct information and technology, as machines are not intelligent.

Figure 1 shows that we can reinvent HR (Human Resource) field by using Artificial Intelligence.



Fig 1: Reinventing HR using AI

The integration of artificial intelligence (AI) into human resources (HR) procedures will improve firms since these applications can evaluate, anticipate, and diagnose to assist HR professionals in making better decisions. AI has the ability to make real-time decisions based on

pre-programmed algorithms and fast computer technologies. Companies can create a better experience for their candidates and workers by incorporating the human aspect and AI into their HR departments.

The human abilities that AI can replicate include are:

- i. Problem-solving
- ii. Planning
- iii. Learning
- iv. Reasoning
- v. Knowledge representation
- vi. Perception

AI has a lot to offer HR departments. HR decision-makers believe that combining AI with HR administrative operations will benefit and improve overall employee experiences, resulting in time savings, budget increases, and more accurate data for strategic people management.

2. Purpose of Study:

The literature review is written to find basics of Human Resource in Information Technology which is summarized in section 5.

3. Review of Literature

3.1 The Concept of Information Technology:

Technology is a collection of procedures, methods, equipment, tools, machines, and skills that enable the production of goods and services. Science is applied to industry through technology, which makes use of routine, goal-oriented procedures and research. Information technology is also a collection of tools designed to construct novel information systems.

“Its drawbacks are typically brought about by improper or inadequate information system design, as well as by excessive usage of the system. Most issues and disorders are caused by improper use of the users (designers and IT engineers) of these systems. Information technology is more of an innovation in the human fields of concept, strategy, cognition, and instrument”, Jyoti Rohilla (2015).

3.2 Management of Organizational Change:

“The goal of organizational change management is to maintain or enhance an

organization's effectiveness in terms of productivity, revenue, market competitiveness, and internal alignment. Organizations may be changed as a whole or in part. The use of fundamental structures and methods to manage any organizational change attempt is known as change management. It is a method for guiding people, teams, and organizations toward a desired future state. Since employees are a company's lifeblood, this organizational approach aims to support them in accepting and embracing changes in their existing working environment”, Teresia Njoki Muchira(2015).

3.3 Modern Human Resource Management Technology:

“Electronic HRM is the term for the combination of information technology and human resource management (e-HRM). Since its inception, around the time of the Beer et al. book, attempts to define e-HRM have changed and taken on several meanings. Researchers who focus on IT refer to e-HRM. It was described as carrying out HRM-related transactions over the internet or intranet, as well as as the administrative support of the HR function within organizations through the use of internet technology. E-HRM is a method of implementing HRM strategies, policies, and practices in organizations by actively and consciously utilizing web-based channels”, Tanya Bondarouk(2016).

4. Analysis and Discussion

Information Technology's (IT) Impact on Human Resource Activities:

Computer technologies and information systems are used by every organisation to communicate anywhere. The use of information technology and the internet in organisational learning, effective employee communication, for the impressive organisational learning process, and for the accessibility of information at any time and anywhere is very impressive. Managers needed this to put their skills and abilities to use in the organisation, as well as to quickly identify and address their weaknesses, among other things. Human resources functions like hiring, training, performance management, human resource management, and idea management tools have all transformed as a result of information technology.

5. 6 HR basics:

For Human Resource Management there are 7 basics which are as follows:-

- Recruitment & Selection
- Performance Management
- Learning & development:
- Succession Planning
- Compensation and benefits

- Human Resources Information Systems

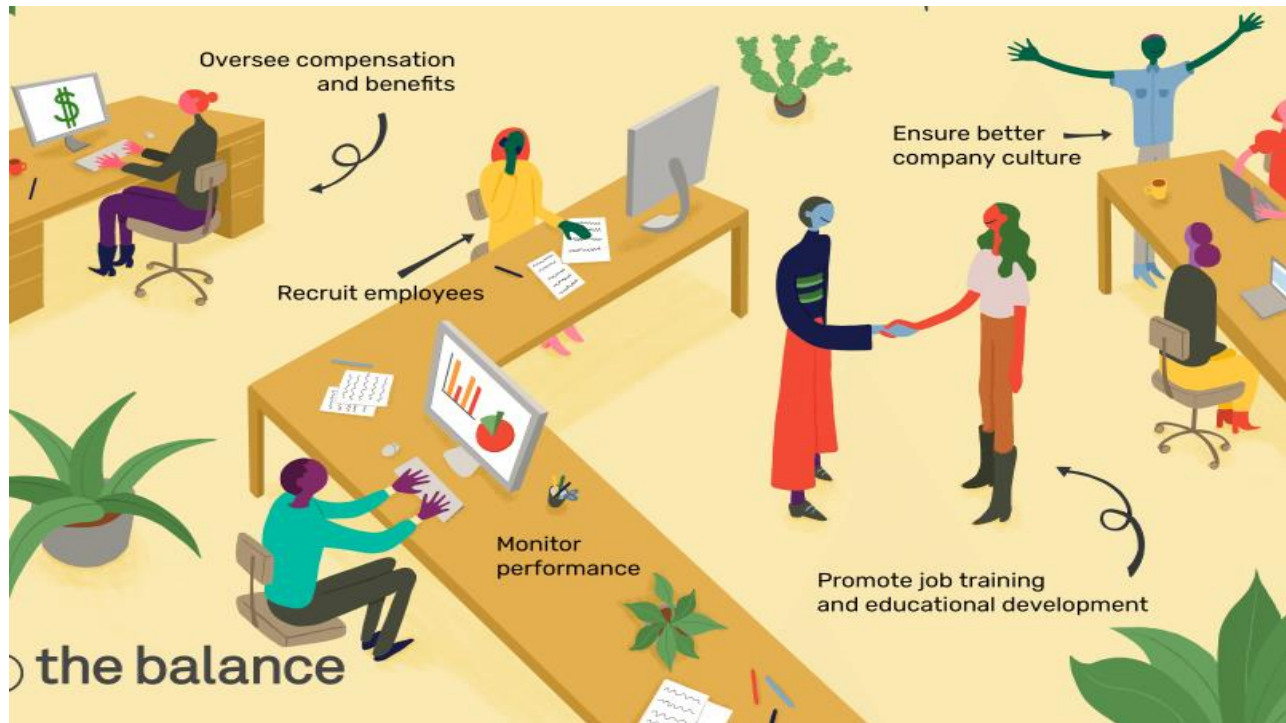


Fig 2: Function of Human Resource Department

i. Recruitment & selection:

Traditional Way: A significant HR role is to recruit applicants and select the best ones to come work for the organization. People are the organization's lifeblood, and finding the perfect fit is a critical effort. When a new position is created or an existing job becomes available, a request for new hiring is frequently made. After that, the direct manager sends the job description to HR, who then begins the process of recruiting candidates. HR can utilize a variety of selection tools in this process to locate the best individual for the job. Interviews, various tests, reference checks, and other recruitment processes are among them.

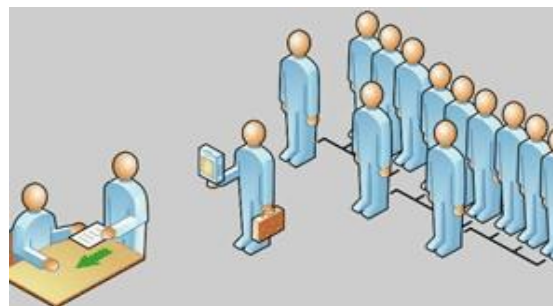


Fig 3: Traditional Recruitment & selection

Using Machine Learning and AI: The power of Artificial Intelligence (AI) lies in its ability to process high volumes of data at fast speeds, improving efficiency and productivity for organizations. Those same features and benefits can also be applied to the hiring process. AI is meant to expedite manual processes that take recruiters and hiring managers a lot of time, such as sifting through thousands of applications. The technology is meant to give human professionals more time to conduct more valuable work.

ii. Performance management:

Traditional Way: Performance management entails assisting employees in becoming their most productive selves at work, hence improving the company's bottom line. Employees are assigned a set of obligations that they must fulfill. Performance management is a framework that allows employees to receive feedback on their work in order to improve their performance. A yearly performance management cycle is used by businesses, and it entails planning, monitoring, reviewing, and rewarding employee performance. Employees can be classified as high vs. poor performers and high vs. low potentials as a result of this approach.

Using Machine Learning and AI: ML applications are strongest in the areas of recruitment and performance management and the use of decision trees and text-mining algorithms for classification dominate all functions of HRM. For complex processes, ML applications are still at an early stage; requiring HR experts and ML specialists to work together.



Fig 4: Performance Management

iii. Learning & development:

Traditional Way: Within HR, learning and development ensure that employees adapt to changes in processes, technology, and societal or legal shifts. Learning and development helps employees to reskill and upskill. Learning & Development (L&D) is led by HR and good policies can be very helpful in advancing the organization towards its long-term goals.

Using Machine Learning and AI: Artificial Intelligence can process massive data volumes, interpret unstructured information, and offer near-human experiences through bots. For learning and development, this has major implications.



Fig 5: Learning & Development

iv. Succession planning:

Traditional Way: Succession planning is the process of planning contingencies in case of key employees leaving the company. If, for example, a crucial senior manager quits his/her job, having a replacement ready will guarantee continuity and can save the company significant money. Succession planning is often based on performance ratings and L&D efforts. This results in the creation of a talent pipeline. This is a pool of candidates who are qualified and ready to fill (senior) positions in case of someone leaving. Building and nurturing this pipeline is a key to good people management.

Using Machine Learning and AI: Technology is fundamentally revolutionizing the succession planning process. Artificial intelligence (AI), machine learning and other emerging technologies can identify potential successors by providing data-driven insights on everything from productivity levels to leadership capabilities.



Fig 6: Succession Planning

v. Compensation and benefits:

Traditional Way: Another of the HR essentials is Compensation and benefits. Reasonable pay is a key in rousing and holding workers. One of the essentials of human asset the executives concerning pay are guaranteeing value and reasonableness. Making the right proposal of pay is a vital piece of drawing in the best ability. This should be offset with the spending plan and overall revenues of the organization. HR should screen pay increments, and set guidelines of legitimacy. HR may likewise do a compensation review on events. Remuneration contains essential pay and optional pay. Essential remuneration includes straightforwardly paid cash for work, which frequently is a month to month pay and once in a while execution based compensation. Auxiliary advantages are for the most part non-financial prizes. This can incorporate additional occasions, adaptable working occasions, day-care, benefits, an organization vehicle and PC, and significantly more. The objective here is to compensate individuals in manners that propel them.

Using Machine Learning and AI: Artificial intelligence is playing a bigger role in employee compensation decisions as companies grapple with pay equity issues, reconsider pay levels for remote workers who have relocated to new cities and strive to ensure top performers are paid at rates that make them less prone to poaching by competitors.



Fig 7: Compensation and benefits

vi. Human Resources Information Systems: Human Resource Information System, or HRIS. A HRIS upholds every one of the foundations we talked about above. For instance, for enlistment and determination, HR experts regularly utilize an Applicant Tracking System, or ATS, to monitor candidates and recruits. For performance management, an exhibition of the executives' framework is utilized to monitor individual objectives and put in execution evaluations.

6. Future Scope: Organizations can choose from a wide range of human resource management operations in information technology (IT). The organisational culture, organisational scale, and organisational special demands will determine the breadth of human resource management tasks in information technology (IT). Five main categories can be used to categorise the range of HRM activities:

1. Recruitment and selection of personnel
2. training and development for employees
3. management of employee performance
4. administration of benefits and compensation
5. Occupational relations

7. Limitations: The following are some of the constraints of HR in IT:

1. Recent origin;
2. Lack of top management support;
3. Incorrect actualization;
4. Inadequate growth programs; and
5. Insufficient details.

8. Conclusions: AI and Machine learning are having vast scope in the field of HR. By using AI in HR field organizations can achieve great success with less effort

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