

# ARTIFICIAL INTELLIGENCE- THE TOOLS & LPU TECHNIQUES FOR DECISION MAKING IN THE MODERN ORGANIZATIONS : A STUDY

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**Abstract:** Research in AI has built upon the tools and techniques of many different disciplines, including formal logic, probability theory, decision theory, management science. In the competitive world Industries, collect the accurate data and analyzed the collected data for the use of company's growth and daily working is essential. Artificial Intelligence helps the industry to work in faster way and efficient way to complete the work. Artificial Intelligence is entering into various department like human resource department, finance department, marketing and production department. With using AI system organization can able to inform the existing performance and day-to-day functions. In business pressure has been increasing, tough managers understood the importance of artificial intelligence at workplace. The researcher was used secondary data where the data was collected from research papers, publications, websites, HR blogs, survey reports etc. The core objective of the study was examining the role of artificial intelligence in human resource department and understands the challenges in HR department. The research study has concluded that a role of AI is by applying the LPU models for better decision making. AI carried out in human resource department where by robotics companies can handle recruitment, hiring, analyzing the data, collecting the data, reducing workload at workplace and enriching workplace efficiency.

**Key Words:** Artificial Intelligence, Machine languages, human resource management.

## 1. INTRODUCTION:

Technology is one of the major influential factors in an Industry. Since the 19th century, the role of robot has been replacing employees in production department. In third revolution began in the year of 1970s personal computers and the internet entered into working life and human labor were replaced by the machines.

Now a day's digital technologies like machine language (ML) and artificial intelligence (AI) both are entering into day to day working at workplace and which will lead transformation in business. "Artificial intelligence is defined as "an ideal intelligent" machine that is flexible agent that perceives its environment and takes actions that maximize its chance of success at some goal." Artificial intelligence is an intelligence that demonstrated by machine, in contrast to the natural intelligence done by humans.

Artificial intelligence was coined first time in academics in 1956. Artificial intelligence is helpful in various business functions where it can help to reduce the workload and work pressure on the employees at workplace. Rapid changes in business needs fast response. With using AI system organization can able to inform the existing performance and day to day function.

In business pressure has been increasing, tough managers understood the importance of artificial intelligence at workplace. Now a day's artificial intelligence has entering into the overall system of an organization and one of the area is human resource department where by using AI system human replaced the human and all functions in human resource department is carried like candidate screening, recruitment, alignment of human resource activates and performance management etc.



## 2. LITERATURE REVIEW :

(Kapoor, 2010) Researcher has examined the role of business intelligence and its use for human resource management. In this research article, a researcher investigated the leading business intelligence vendor to look into the business intelligence and data analytics features incorporated in human resource management modules.

(Jain, 2018) The research paper identified the role of artificial intelligence in human resource management. The researcher has quoted that most of the companies has been adopting modern technology in various HR process like recruitment process, performance appraisal process, cloud-based HR systems.

(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.

(Buzko, et al., 2016) In paper title, Artificial Intelligence technologies in human resource development. The researchers, ponder on hurdles of AI technologies in human resource area where authors noted that AI not able to identify the effectiveness of training costs.

In the research paper authors noted that LPU artificial intelligence technologies facilitate the prompt analysis of data by human. (R & D, 2018)

## 3. LPU MODEL :

The ALP agent model, which embeds ALP in an agent cycle, is a powerful model of both descriptive and normative thinking. As a descriptive model, it includes production systems as a special case; and as a normative model, it includes classical logic and is compatible with classical decision theory. These descriptive and normative properties of the ALP agent model make it a dual process theory, which combines both intuitive and deliberative thinking. Like most theories, dual process theories also come in many forms.

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. In the research title, Artificial Intelligence in Human Resource Management, the researcher has insight the role of AI in human resource. An Author has concluded that AI is useful in workplace and help to HR professional to understand their working and to identify the problems and trends in advance.

### A . Brief Introduction to ALP Agents :

The ALP agent model can be viewed as a variant of the BDI model, in which agents use their beliefs to satisfy their desires by generating intentions, which are selected plans of actions. In ALP agents, beliefs and desires (or goals) are both represented as conditionals in the clausal form of logic. Beliefs are represented as logic programming clauses, and goals are represented as more general clauses, with the expressive power of full first-order logic (FOL).

In this paper, goals are written conditions first, because, like production rules, they are always used to reason forwards. Beliefs are usually written conclusion first, because, like logic programs, they are usually used to reason backwards. But beliefs are sometimes written conditions first, because in ALP they can be used to reason backwards or forwards. In the semantics, it does not matter whether conditionals of any kind are written forwards or backwards.

### B. The Model- theoretic semantics:

In the model-theoretic semantics, the agent needs to generate, not only actions, but also assumptions about the world. These assumptions explain the use of the term abduction in ALP. Abduction is the generation of assumptions to explain observations O. For example, if instead of observing fire, I observe there is smoke, and I believe: there is smoke if there is a fire. Then backwards reasoning from the observation generates an assumption that there is a fire. Forward and backward reasoning then continue as before.

In the model-theoretic and operational semantics, observations O and goals G are treated similarly, by reasoning forwards and backwards to generate actions and other assumptions, to make G O true in the minimal model of the world determined by B. In the example above, given  $O = \{\text{there is smoke}\}$ , then  $= \{\text{there is a fire, I press the alarm button}\}$  together with B makes G and O both true. The operational semantics is sound with respect to the model-theoretic semantics. With modest assumptions, it is also complete.

The present paper stresses upon the impact of Artificial Intelligence on Human resource management. The paper goes on discussing the areas Resource wherein Artificial Intelligence Human Resource, Talent Management, Artificial intelligence (AI) has been the focus of thousands of technological developments for decades as mankind attempts to engineer increasingly sophisticated tools that can think, plan and adapt the strategies.

However, AI performs these processes at exponentially faster speeds than brains can manage without making computational errors or growing fatigued or bored. Artificial Intelligence (AI) is fast becoming a mainstream element

of business. Artificial intelligence is transforming our lives at home and at work. In the workplace, artificial intelligence is evolving into an intelligent assistant to help us work smarter. Artificial intelligence is playing a more significant role in business than ever before.

### **C. Choosing the Best Solution :**

There can be several, alternative that, together with B, make G and O both true. These can have different values, and the challenge for an intelligent agent is to find the best possible within the computational resources available. In classical decision theory, the value of an action is measured by the expected utility of its consequences. In the philosophy of science, the value of an explanation is measured similarly in terms of its probability and explanatory power. (The more observations explained the better.)

In ALP agents, the same measures can be used to evaluate both candidate actions and candidate explanations. In both cases, candidate assumptions in are evaluated by reasoning forwards to generate consequences of the assumptions in .

In ALP agents, the task of finding the best is incorporated into the search strategy for reasoning backwards to generate , using some form of best-first search, like A\* or branch-and-bound. This task is analogous to the much simpler problem of conflict resolution in production systems. Conventional production systems avoid complex decision-theory and abductive reasoning mainly by compiling higher-level goals, beliefs and decisions into lower-level heuristics and stimulus-response associations. For example: if there is smoke and I am on a train then I press the alarm button. In ALP agents, such lower-level rules and higher-level thinking and decision-making can be combined, as in dual process theories, to get the best of both worlds. Like BDI agents, ALP agents interleave thinking with observing and acting, and do not need to construct complete plans before starting to act. However, whereas most BDI agents select and commit to a single plan at a time, ALP agents select and commit only to individual actions.

## **4. RESEARCH OBJECTIVES:**

- To study the concept of artificial intelligence.
- To study the role of artificial intelligence in human resource management.
- To study the benefits of artificial intelligence in human resource management.
- To study the challenges of artificial intelligence in human resource department.
- To study the LPU Techniques in choosing the best solution.
- Artificial intelligence (AI) has been the focus of thousands of technological developments for decades as mankind attempts.

The paper goes on discussing the areas Resource wherein Artificial Intelligence Human Resource, Talent Management, Artificial intelligence (AI) has been the focus of thousands of technological developments for decades as mankind attempts to engineer increasingly sophisticated tools that can think, plan and adapt the strategies.

**4.1 Types of Artificial Intelligence:** Artificial intelligence (AI) is seen as the next wave of technological advancement with tools that can think, plan, and execute tasks that mimic human performance without stress or the need for a break from work. Artificial intelligence comes in narrow and strong levels, but most AI systems can be classified in three categories: voice recognition, bots and algorithms. There are actually many kinds of artificial intelligence that can range from calculating auto immune system perform , India transforming our lives at home and at In the workplace, artificial intelligence is evolving into an intelligent assistant to help us work Artificial intelligence is playing a more significant role in business than ever before.

The ALP agent model provides a simple framework, which can help to formalize such strategies, by integrating them with a comprehensive model of human thinking. In particular, it shows how the same criteria of expected utility, which are used in classical decision theory to choose between alternatives, can also be used to guide the search for alternatives in some form of best-first search. Moreover, it shows how heuristics and even stimulus-responses can be integrated with logical thinking and decision theory in the spirit of dual process models.

## **5. RESEARCH METHODOLOGY:**

The Research study is using the descriptive research design. In the research study the researcher has used secondary data. The secondary data has been collected from research papers, published materials, online websites, HR blogs, and survey reports published by various research organizations.

Role of Artificial Intelligence in HR Now a day's HR department heading towards the digital revolution and using various method to simplify the resources by using big data analysis, artificial intelligence, and cloud computing.

Most of the organization has been using artificial intelligence or digital technologies in HR like chat bot, machines learning, and robot process automation in human resource management which support in recruitment, screening, on boarding, and interviewing etc. Following are the role of artificial intelligence in human resource management;

**Recruitment:** -Organizations like SAT, Face book, GE are using digital technologies in screening, interview, and identify the new talent for the recruitment process in an organizational. Through AI recruitment manager can examine the application and candidate can get quick response. Chat box system or automated answering machine plays essential role to solve the quires and problems regarding the process of recruitment in an organization.

**Screening and Interview Process:** - Artificial intelligence is helpful in automating the interview process by examining them with word or speech patterns exams. Through Ay software digital interview can take place and AI also helps to improve the candidate experience. Tools like Amy and Clara are used to scheduling interviews, working meetings.

**Reduce Administrative burden:** - In an organization HR have to play multitasking roles where using technology and Artificial intelligence companies try to reduce workload. AI provides solutions of problems and it helps to increase the efficiency of HR in an organization.

**Selecting:** - Through AI human resource manager can able to trace right candidate in short time of span and technology will helps out to identify the suitable candidates as per required skills sets.

**Reduce Discriminations:** - Nowadays, AI is being used to reduce the favoritism and will help to increase the transparency at workplace. In such a way organization can able to select the resume. AI applications can be used to analyze job descriptions.

**Increase Efficiency:** - Artificial Intelligence will helpful to reduce the redundancy of employees at workplace. Various robotic tasks has been carried out to increase the efficiency at workplace. Robotic task includes collecting data, filing reports, copying data, identifying required data from available data, processing, collecting data for HR and payroll systems etc.

**Enrich workplace learning:** - Now a days, computers and digital technology can do the behind the scenes role in industry. Through computers and modern technology industries can able to manage data analysis and provide real-time feedback during training, alteration of course of actions based on progress and responses which industries has obtained.

## 6. Challenges of Artificial Intelligence in HR :

Nowadays, necessary skill set for employees are required due to involvement of artificial intelligence into human resource department. Most of the times it is difficult for employees to adopt and learn the AI tools and have a proficiency in the field of digital technologies The core part in any company is their human resource and by implementing the AI system it may have impact on levels of management which will lead fearless in the mind of employees. Getting right candidate to handle AI tools is one core challenge in front of industry and it can be difficult to HR department.

One more limitation and challenge is restrict HR department to take decisions in day-to-day life as technology overcomes the authority and role of HR into decisions making in an organization.

## 7. Benefits of using Artificial Intelligence in Human Resource Management :

The benefits of using AI in Human Resource Management have been identified in particular:

**Reducing Human Bias:** Artificial intelligence can help eliminate bias from certain performance metrics when needed. If an employee is simply not holding their own within a company, the data will show it and the AI can determine whether or not that employee should remain on the team. Similarly, HR can use productivity measurements to determine manager effectiveness.

**Increasing Efficiency and Insight in Candidate Assessment:** One of the key challenges for HR departments is selecting promising candidates from a large number of applicants. AI allows a number of the stages of the recruitment workflow to be automated. This means that more data can be gathered and assessed for each candidate and more candidates can be assessed overall. Innovative companies that provide AI recruitment solutions include Glider, who use sophisticated algorithms to assess candidates' skill sets.

**Recruitment agency:** I.T.S also makes use of AI to assess candidate suitability for job listings on behalf of their clients.

**Improving Relationships:** With Existing Employees HR departments are inundated with questions from employees. A significant number of these questions can be answered using AI. By programming automated email or instant messaging replies to common questions, the workload for HR departments can be reduced. This frees up HR personnel to answer more complex questions and engage more efficiently with a company's employees. Additionally, AI could soon play a role in other more mundane HR tasks. AI company x.ai recently launched "Amy," a virtual personal assistant that automates the process of scheduling meetings.

**Predictable turnover and attrition** Human resource departments often deal with turnover and attrition after the employees have already left, but ai could predict such actions before they even take place. Using employee engagement data, whether it be from pulse surveys, brand advocacy or performance gamification, artificial intelligence could determine an employee's level of interest and give a prediction on whether they are trying to change positions. This would allow HR managers to account for potential job openings and preemptively hire new workers to more smoothly transition workflow.

**Recommended training methods:** Artificial intelligence can analyze the data from employee interactions and use that information to better tailor training sessions to the individual worker. Everyone learns in different ways and has varied skill sets, so allowing employees to learn to the best of their abilities will only improve on-boarding and productivity.

## 8. CONCLUSION:

Artificial Intelligence and Human Resource Management Artificial intelligence is not the future of the workplace; it is the present and happening today. HR leaders and experts are starting to realize the power and impact of data-driven statistics and insights when it comes to mellowing down risks and driving decision-making powers for organizational efficiency and people management. With advanced data-driven technology such as artificial intelligence (AI) growing by leaps and bounds across businesses, it should not come as a surprise that HR experts are looking up to AI as their go-to or perfect pick-me-up tool for spot-on decision making and people management in future. IBM and a number of startups are targeting intelligent assistants, also known as chat bots, or computer algorithms designed to simulate a human conversation, to recruit employees, answer HR questions, or personalize learning experiences.

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