CAIIB
Module-E Unit-4

Human Resources Management

CAIIB HRM Module E Unit 4-HR Analytics', 'HR Entrepreneurship' & 'AI-based HR Solutions': New HR Trends For Future

HR Analytics

- **'HR Analytics'** is the process of collecting, processing, transforming and managing HR related data which is the further put to analytical data models and the process of analytics focuses on connecting human resources practices to strategic business plans and to achieve desired goals.

- Human Resource Analytics (HR Analytics) is defined as the area in the field of analytics that deals with people analysis and applying analytical process to the human capital within the organization to improve employee performance and improving employee retention.

It is a methodology for creating insights on how investments in human capital assets contribute to the success of four principal outcomes:

- ➤ Generating revenue,
- ➤ Minimizing expenses,
- ➤ Mitigating risks, and
- ➤ Executing strategic plans.

Difference between 'HR Analytics', 'People Analytics' and 'Workforce Analytics'

- **'HR Analytics'** basically deals with the metrics of the HR function like – Key Performance Indicator (KPI), employee turnover, time to recruit, training expense per employee, and promotion cycles etc. All these metrics are administered and managed exclusively by HR function for the people ie., Human Resource. **'Human Analytics'** is a most powerful tool which helps to determine and validate decisions that illustrate the driving forces behind individuals" and group behaviours and performance."

- **'People Analytics'** instill the approach of measuring and analyzing all the information and data relating to employees, shareholders, customers, suppliers etc. and inter-twine it together to aid and improve the quality of decisions and business excellence and performance.

- **'Workforce Analytics'** although refers to 'employees' but it encompasses all types of employees i.e., regular employees, on-sight employees, remote employees, freelancers, consultants or any other individuals working in any capacity in the organization and also make scope for future inclusion of AI and robots that will potentially replace current jobs within an organization. Data on employee productivity and performance informs both HR and workforce analytics, and the goal is to improve retention rate and enhance the employee experience.

HR Metrics vs HR Analytics

Aspect	HR Metrics	HR Analytics
Concept	HR Metrics are typically associated with operational measures and numbers the organizations to track. They are generally used to analyze performance, efficiency and the impact of certain practices or changes.	HR Analytics imply analyses and decision making and mainly focus on comparing variables to guide future decisions. Often, the focus is on developing business measures that can predict future outcomes, allowing the organizations to anticipate the impact of individual decisions in advance.
Objective	HR Metrics are what the organization measures to gauge performance or progress within a company or organization. They are key figures that help firms to analyse their human capital and measure how to find ways to utilize their human resources. They also used to determine the effectiveness and efficiency of HR policies.	HR Analytics use HR metrics to help the organization make decisions about how to move forward also to help to track effectiveness of metrics on HR and business outcomes.
Scope	HR Metrics restrict its scope only to reveal as to what is happening, or has recently happened, based on hard data. HR Metrics are measurements.	HR Analytics, like HR Metrics, are also based on hard data. But they look beyond the numbers and to try to find out as why something is happening and what the impact of what's happening, its reasons and links that may otherwise be difficult to identify or spot.
Illustration	Examining the number of turnovers in a particular vertical/section and calculate it as a percentage to total workforce in the particular vertical/section.	Finding common reasons for employees who leave the organization and to create a plan to remedy the reasons that may prompt other workers to adapt the same path.

Broad Areas of Application of 'HR Analytics'

Types of 'HR Analytics'

- HR Analytics used by businesses are **Descriptive Analytics**, which focuses on what has happened in a business**; Predictive Analytics**, which focuses on what could happen; and **Prescriptive Analytics**, which focuses on what should happen.

Descriptive Analytics:

- It is a used form of data analysis whereby historical data is collected, organized and then presented in a way that is easily understood.
- It is focused only on what has already happened in a business and, unlike other methods of analysis it is not used to draw inferences or predictions from its findings. It is, rather, a starting point used to inform or prepare data for further analysis down the line.
- Descriptive Analytics uses two key methods, **Data Aggregation and Data Mining,** to discover historical data. Data Aggregation is the process of collecting and organising data to create manageable data sets. These data sets are then used in the data mining phase where patterns, trends and meaning are identified and then presented in an understandable way.

Advantages and Disadvantages of Descriptive Analytics

- ➢ Since Descriptive Analytics relies only on historical data and simple calculations, this methodology can easily be applied in day-to-day operations, and its application doesn't necessarily require an extensive knowledge of analytics. This means that businesses can relatively quickly and easily report on performance and gain insights that can be used to make improvements.
- ➢ Descriptive Analytics has the obvious limitation that it doesn't look beyond the surface of the data – this is where predictive and prescriptive analytics come into play.

Predictive Analytics:

- Predictive Analytics focuses on predicting and understanding what could happen in the future. Analysing past data patterns and trends by looking at historical data and customer insights can predict what might happen going forward and, in doing so, inform many aspects of a business & HR, including setting realistic goals, effective planning, managing performance expectations and avoiding risks.
- Predictive Analytics is based on probabilities. Using a variety of techniques – such as data mining, statistical modelling and machine learning algorithms – it attempts to forecast possible future outcomes and the likelihood of those events.

Advantages and Disadvantages of Predictive Analytics

- ➢ Predictive Analytics can help talent acquisition teams determine if someone will be a good cultural fit for the organization before they're hired. It could even provide estimations on how long the person will stay with the company.
- ➢ Predictive Analytics can also improve many areas of a business, including – Efficiency (including inventory forecasting), Customer Service, Fraud detection and prevention, Identifying possible security breaches in HR that require further

investigation and Risk reduction which might mean improved candidate screening. With the help of Predictive Analytics, HR specialists can augment background checks, Forecasting employee turnover, Workforce planning etc. This method of analysis relies on the existence of historical data, usually large amounts of it.

Prescriptive Analytics:

- Prescriptive Analytics provides recommendations on what to do based on predictions and what has occurred in the past. If descriptive analytics tells you what has happened and predictive analytics tells you what could happen, then prescriptive analytics tells you what should be done.
- It calls businesses to action, helping executives, managers and operational employees make the best possible decisions based on the data available to them.
- Prescriptive Analytics could even help determine how to properly onboard new hiring, based on their skills and strengths, and across the employee life cycle.

Advantages and Disadvantages of Prescriptive Analytics

- ➤ Prescriptive analytics, when used effectively, provides invaluable insights in order to make the best possible, data-based decisions to optimise business performance.
- ➤ This methodology requires large amounts of data to produce useful results, which isn't always available. Also, machine learning algorithms, on which this analysis often relies, cannot always account for all external variables. On the flip side, the use of machine learning dramatically reduces the possibility of human error.

Steps Involved in 'HR Analytics' Strategy Implementation

- **Framing questionnaire on Business/HR:** This one is the initial step to explain as to what is the business reason to undertake this analysis. A clearly framed and well-defined business questionnaire ensures the exact purpose of undertaking the analytics work.
- **Building Hypothesis:** Building and clarifying a hypothesis or assumptions is important for "testing" beliefs about the causes of business issues.
- **Gathering data:** The data gathering step requires identifying the most relevant data for testing the hypotheses and determining whether data quality is sufficient to proceed. Decisions need to be taken as to whether to gather existing data, collect new data, or do both.
- **Conducting Analysis:** This is the step where the methodology and statistics are applied to data to test the hypotheses and provide the basis for insights. Without performing analysis, patterns in data will never be discovered.
- **Revealing Insights:** HR Analysts must uncover insights because if analysts present only data and analysis without insights, organization and executives might draw their own conclusions to best fit their preconceptions which may defeat the very purpose of the exercise.

- **Providing Recommendations:** A well-articulated recommendations on what the business / HR leaders need makes a great impetus for change. Some Analytics projects fail at this stage simply because recommendations are not expressed clearly.
- **Putting Your Point Across:** Experienced practitioners and leaders use storytelling and carefully consider their visualizations to create the desired impact of their recommendations and/or the pointed message.
- **Implementation And Evaluation: I**t ensures that decisions are made as a result of your project. It formulates actions for implementation based on those decisions. It facilitates evaluating the project against whether it returned value to the organization.

Advantages of 'HR Analytics'

- **To make better HR decisions:** An important role of HR analytics is to provide access to critical data and insights about the workforce which can be then analyzed for making better decisions.
- **To ensure better Quality of Hire:** Running machine learning algorithms on jobseeker's data allows organizations to identify the best matching talent for a vacant position, thus improving the quality of hire.
- **Employee Retention:** HR analytics helps identify the departments /sections suffering from the maximum attrition and the reasons for it.
- **Transforming HR as a strategic business partner:** HR professionals can provide business leaders with verifiable data to back their talent hiring, retention and engagement policies.
- **Help to predict the hiring needs:** Using HR analytics, one can predict the skills and positions which are needed to improve business performance.

Disadvantages of 'HR Analytics'

- **Security issues:** Since HR deal with huge amount of sensitive and confidential data, security and privacy are two main concerns. Any HR analytics system which handles this data must be designed to prevent any unauthorized access. There have to be multiple levels of access and the system must be constantly monitored for any data theft.
- **Costly:** Maintaining such a system will obviously lead to greater costs and that's the second main disadvantage to implementing HR analytics. High acquisition and maintenance costs mostly act as a deterrent, especially for smaller companies to implement such a system.
- **Require special expertise:** Also, operating a sophisticated HR analytics tool requires special expertise and that results in additional training costs, or the costs of hiring an IT expert to handle this system.

HR Entrepreneurship

- HR Entrepreneur is HR professional who have a blend of creative thinking and a constant urge to innovate better and viable products and services in HR

functioning which can sub-serve the needs of people in the organization and also in meeting the corporate business goals.

Some of qualities of HR Entrepreneur are as under:

- ➤ Efficiently manage the basic HR operations.
- ➤ Do not confine himself/herself to the role of people management but lean in on to business holistically
- ➤ Have innovative ability to evolve creative HR policies concerning people which drive them to deliver business.
- ➤ Propensity to take high risks and greater challenges.
- ➤ Reward employees possessing entrepreneurial abilities.
- ➤ Embrace constraints and have ability to face them resolutely and boldly.
- ➤ Possessing holistic understanding and perspective of organizational goals and strategies.
- ➤ Do not wait for change instead lead it from front.
- ➤ Have the thorough knowledge and understanding of the market dynamics in which the business of the organization operates.
- ➤ Well-aligned to the operational and technical aspects of the business, just as the line managers.
- ➤ Proactively look for opportunities to drive better business results.
- ➤ Facilitate and imbibe a futuristic approach all the time among people across the organization.

HR Consultancy / Outsourcing

- **'Human Resource Outsourcing'** is a practice in which an organization hires a third-party organisation to handle its human resources activities. It is a contractual agreement between an employer and an external third-party provider whereby the employer transfers the management and responsibility for certain HR functions to the external provider.
- Many organisations including Banks, have been outsourcing many of heir non-strategic HR functions to HR professional Agencies. This is being resort to with various objectives.

Some of such objectives are:

- ➤ Delivering cost savings – whether direct or indirect.
- ➤ Liberate internal HR resources to be redeployed to man developmental HR roles which are augmenting to business.
- ➤ To focusing more on the strategies to achieve business rather than on internal processes.
- ➤ To ensure compliance with legal, regulatory and best practice requirements.
- ➤ Sharing risk and liability for people issues with the outsourcing firm.
- ➤ Saving time and efforts through improved efficiency.
- ➤ Helping to create a stable, cost-effective operating HR platform
- ➤ Turning the HR function as more professional and transformational
- ➤ Building the organization as a great place to work with

Broad Areas of HR outsourcing

- Organizations have been resorting to outsourcing very many functions (except those which are critical and confidential) of HR as, either there being short of talents to man and handle some new and upcoming contemporary areas and/or to free the manpower of HR function to deploy in productive business functions.

Some of such functions/areas of HR which can be outsourced are:

➢ Human Resource Management System, including Pay Roll
➢ Recruitment & Selection (including background checks)
➢ Employee Induction Programs
➢ Training & Skill Development
➢ Leadership Development for Top Management
➢ Analyzing organizational structure
➢ Assessing staffing needs
➢ Productivity Improvement Services
➢ Attitudinal and cultural surveys
➢ Employee Engagement Surveys
➢ Benefits Administration
➢ Medical & Health services (including Health Insurance)
➢ Building HR Brand image
➢ HR Audit

Barriers & Disadvantages of 'HR Outsourcing'

Barriers of HR outsourcing

- Questionable cost/benefit justification
- Inadequate readiness of people and systems
- Organizational resistance from within HR and from Trade Union/s
- Inability to manage relationships with outsourcers
- Losing considerable amount of authority to outsourcer
- Lack of complete control over the outsourced activity
- Likelyhood of cost escalation by the time of completion of the project
- Chances of spoiling the company's image especially when outsourcing is associated with downsizing
- Demotivation among the existing employees on the fear of losing their job or loss of control

Disadvantages of HR outsourcing

- Employees with key talents may feel disposable or threatened and may quit their jobs
- Some staff members might become redundant or excess
- Possible communication issues, due to language or time zones between outsourcing partners.
- HR Policies and procedures will be difficult to control

- Data insecurity due to confidentiality and privacy concerns

Artificial Intelligence

- **'Artificial Intelligence (AI)'is** a wide-ranging branch of computer science concerned with building smart machines capable of performing tasks that typically require human intelligence. It is the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings.

Types of Artificial Intelligence

- ➢ **Artificial Narrow Intelligence:** This is also called **'Weak Intelligence'.** This kind of artificial intelligence operates within a limited context and is a simulation of human intelligence. Narrow AI is often focused on performing a single task extremely well but they are operating under far more constraints and limitations than even the most basic human intelligence. **Examples** - Apple's Siri, Amazon's Alexa, Google search, Image recognition software, Self-driving cars.
- ➢ **Artificial Strong Intelligence:** This is also called 'Artificial General Intelligence' or 'Artificial Super Intelligence'(ASI) and it is a machine with general intelligence and, much like a human being and it can apply that intelligence to solve any problem. It would have a self-aware consciousness that has the ability to solve problems, learn, and plan for the future.

'Machine Learning & Deep Learning': Two Sub-Sets of 'Artificial Intelligence'

- Machine Learning is a subset of artificial intelligence focusing on a specific goal: setting computers up to be able to perform tasks without the need for explicit programming
- It feeds a computer data and uses statistical techniques to help it "learn" how to get progressively better at a task, without having been specifically programmed for that task, eliminating the need for millions of lines of written code.

- **'Deep Learning'** is a type of machine learning which is a subset of Artificial Intelligence. It runs inputs through a biologically-inspired neural network architecture. The neural networks contain a number of hidden layers through which the data is processed, allowing the machine to go "deep" in its learning, making connections and weighting input for the best results.

Major differences between 'Machine Learning' and 'Deep Learning'

S.No.	Factor	Machine Learning	Deep Learning
1.	**Human Intervention**	Machine learning is about computers being able to think and act with less human intervention to get results.	Deep learning is more complex to set up but requires minimal intervention thereafter. Deep learning is about computers learning to think using structures modelled on the human brain.
2.	**Hardware**	Machine learning programs tend to be less complex than deep learning algorithms and can often run on conventional computers.	Deep learning systems require far more powerful hardware and resources.
3.	**Time**	Machine learning systems can be set up and operate quickly but may be limited in the power of their results.	Deep learning systems take more time to set up but can generate results instantaneously.

S.No.	Factor	Machine Learning	Deep Learning
4.	**Approach**	Machine learning tends to require structured data and uses traditional algorithms like linear regression.	Deep learning employs neural networks and is built to accommodate large volumes of unstructured data.
5.	**Applications**	Machine learning is already in use in our email inbox, bank, and doctor's office.	Deep learning technology enables more complex and autonomous programs like self-driving cars or robots that perform advanced surgery.
6.	**Others**	• Machine learning requires less computing power • Machine learning can-not analyze images, videos, and unstructured data easily like deep learning does.	• Deep learning typically needs less ongoing human intervention. • Deep learning can analyze images, videos, and unstructured data easily than machine learning.

Digital Assistant

- A digital assistant / virtual assistant is voice-activated software that can understand and carry out electronic tasks for the people. These are built with ML algorithms to understand natural language and the intent of a user's question, and to provide intelligent guidance to complete required steps. **Examples- Siri, Google Assistant, Cortana, Alexa.**

Role of 'Artificial Intelligence' in HR Functions

- **Recruitment and Selection:** Using AI to improve sourcing can greatly enhance an organization's ability to find the right talent at just the right time. From screening applicants to maintaining databases, arranging interviews, and addressing and resolving contestant queries, AI reduces the time and effort required to complete these activities.
- **On-boarding/Orientation of New Recruits:** There are a lot of questions that might be asked by the recruits, and the AI for HR answers all of them so that the employees do not have to do that manually. New workers will get all necessary information, such as job profile data, business regulations, job role assignments, departmental information etc, via a mobile application or structured information on their laptop.
- **Learning and Development:** AI is a very useful technology in training of employees which will aid the organizations to ensure a seamless learning

experience to their workforce. Employees will be able to study and teach themselves about appropriate roles and needs using AI development services. It will also assist them in staying current by providing information on current technologies and software advancements in the industry.

- **Compensation Management:** Organizations require a wider range of data to create a strategy that works for their people and matches differences in expectations, roles, and skill sets. In this context, Artificial Intelligence solutions will help the organizations to have effective compensation management. It helps in efficacy matching a specific offer with individual job and employee histories to calculate the odds of whether a candidate will accept.

- **Talent Management & Employee Retention**: AI can create an environment that meets employee needs and improves retention. Such technology can personalize career development, optimize succession planning, fill skills gaps, and steer compensation strategy, supporting managers, leaders, and managers in developing and deploying talent, which in turn creates strategic advantages for the business.

- **Career Development:** Employees expect to be offered learning and career opportunities that help them grow their career and realize their goals. Artificial Intelligence (AI) can offer best solutions in developing excellent careers to employees.

- **Succession Planning**: AI can help to identify flight risk. Flight risk prediction draws on different attributes and behaviours in order to formulate its conclusions. It will uncover most capable successors. Leveraging data models to analyze employee behavior and determine which employees are ready to step up based on cultural fit, leadership capability, and the accomplishments of past successors.