

IMPACT OF ARTIFICIAL INTELLIGENCE ON HUMAN RESOURCE MANAGEMENT IN THE INFORMATION TECHNOLOGY SECTOR



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INTRODUCTION

- ❖ Technology has made our lives easier in a variety of ways, such as providing on-the-go services, easy access to information, the internet of things, improved entertainment services, advanced communication tools, and has always encouraged creativity, talent, and innovations, thereby increasing productivity and efficiency.
- ❖ Technology through HR is responsible for a variety of concerns, but the most pressing challenges that HR departments face today are recruitment, retention, and motivation, as well as leadership development and corporate working culture.
- ❖ Addressing these difficulties has become a continuous and time-consuming exercise as HR attempts to transfer on the way to a more strategic position.
- ❖ Technology is becoming more and more crucial in HRM, from remote work and Artificial Intelligence (AI) to employee engagement and talent management.
- ❖ Business has always been about constant change, but today's businesses must contend with a changing environment that is getting more complex and unpredictable.
- ❖ AI is a field of computer science that aims to solve cognitive problems commonly associated with human intelligence. in other words, AI enables machines to “think like humans,” and perform tasks such as learning, problem-solving, reasoning, and language processing.
- ❖ AI is being driven by two fundamental technologies
 - ❑ Machine learning algorithms can analyze vast amounts of HR data to identify potential candidates and predict their chances of being shortlisted for a particular job, enabling HR professionals to make better data-centric decisions.
 - ❑ Deep learning is defined as employees' ability to focus on demanding tasks for long periods of time without getting distracted. By practicing deep learning, employees develop their ability to better understand complex information and therefore produce better work

ARTIFICIAL INTELLIGENCE AND HRM TECHNOLOGY

- ❖ John McCarthy is considered as the father of Artificial Intelligence. John McCarthy was an American computer scientist. The term "artificial intelligence" was coined by him. He is one of the founder of artificial intelligence, together with Alan Turing, Marvin Minsky, Allen Newell, and Herbert A
- ❖ When it comes to HR technology, small and midsize enterprises face many of the same issues.
- ❖ Most of the time, these difficulties can be resolved by utilizing a single human resource management system, also known as a human capital management system, which can include all HR operations, from hiring new employees to assisting them with leaving the firm.
- ❖ Collect all HR data in one safe like cloud-based location. Digitize and automate as many HR procedures. That a more reliable, sophisticated system could address like diverse, clumsy platforms that produce insufficient data and subpar reporting, expensive and time-consuming IT add-ons and support, managing several providers, issues with compliance, lack of scalability, difficult employee lifecycle management, unsafe data storage or transfer, and the inability to view information on any device.
- ❖ Evolve and grow with a company, evolving to meet changing requirements.
- ❖ Combine the usage of self-service tools on the employee side like allowing them to input and manage their own information with managers' capacity to reduce their HR workload on the employer side.
- ❖ Provide broad, enhanced reporting and analytics to transform raw data into information that can be used to make decisions.
- ❖ Integrate artificial intelligence capabilities to make suggestions for upcoming HR activities.
- ❖ Change people's perceptions of HR's from a burdensome administrative task to a tool for attaining objectives and enhancing a company.

REVIEW OF LITERATURE

- ❖ **Umasankar Murugesan et al (2023), “A study of Artificial Intelligence impacts on Human Resource Digitalization in Industry 4.0”**, Artificial Intelligence (AI) has opened up tremendous opportunities in the workplace through robotics innovation, which envelops both AI and the Internet of Things (IoT). Precision, Efficiency, and Flexibility are considered the potential benefits of Industry 4.0. The implementation of Industry 4.0 requires a lot of changes, including the Human Resource (HR) function. In Industry 4.0, the HR capability is more critical and gives an upper hand to the organization. The HR capability should be more cautious and adaptable to adjust to the difficulties and requirements. We study the contributions of AI in HR digitalization and practices in Industry 4.0. *271 HR experts working in Information Technology (IT), Manufacturing, and administration* are selected to participate in this review focusing on five AI applications in HR capability and three elements of HR readiness.
- ❖ **Mandeep Kaur, Rekha A G and Sona Vikas (2021), “Adoption of Artificial Intelligence in Human Resource Management: A Conceptual Model”**, The advent of Artificial Intelligence Technologies (AIT) has a transformational impact on HRM domain. This research proposes an integrated model related to factors that impact the adoption of Artificial Intelligence in the HR function. The study deploys a framework of the Technology-Organization-Environment model enhanced by Technology-Adoption-Model. The proposed model provides key insights to support researchers to enhance assimilation, and forge ahead in the research on the organizational perspective of the adoption of AIT in HRM. The model is appropriately linked to the decision- makers and HR professionals. The research provides a foundation for detailed empirical studies related to the factors impacting the adoption of AIT.
- ❖ **Almarashda et al. (2021), “Human Resource Management and Technology Development in Artificial Intelligence Adoption in the UAE Energy Sector”**, Artificial Intelligence (AI) is proved a very effective technique in reducing complexity and making suitable quick decisions for achieving success. Artificial Intelligence is an emerging area and growing fast. It is used successfully in various fields. With the help of a questionnaire survey, 350 questionnaire forms were analyzed to prioritize the parameters affecting AII adoption. From the analysis results it was found that "Organization use AI to provide effective business innovation", "Organizations use AI to align with its business strategy", and "Organization use AI to improve the levels of production" are the key motivating factor to adopt AI. *Significant parameters of AI technology include are; AI Technology is user friendly, AI Technology is able to improve the quality of the work and AI Technology fits well with the tasks involved; are reported as significant technological parameters to adopt AI.*
- ❖ **Rajasshrie Pillai, Brijesh Sivathanu (2020), “Adoption of artificial intelligence (AI) for talent acquisition in IT/ITeS organizations”** Human resource managers are adopting AI technology for conducting various tasks of human resource management, starting from manpower planning till employee exit. AI technology is prominently used for talent acquisition in organizations. This research investigates the adoption of AI technology for talent acquisition. he survey was conducted among the 562 human resource managers and talent acquisition managers with a structured questionnaire. The analysis of data was completed using PLS-SEM. *It is found that task and technology characteristics influence the task technology fit of AI technology for talent acquisition.* Adoption and task technology fit of AI technology influence the actual usage of AI technology for talent acquisition.

OBJECTIVE OF THE STUDY

The present study tries to explore the various the impact of artificial intelligence and HRM in the information technology industry. Hence, the following research objectives are enlisted:

1. To study the concepts of human resource management, artificial intelligence and information technology in the digital age.
2. To understand the role of AI in today's HRM and the reasons of adopting Artificial intelligence.
3. The challenges of human resource technology and artificial intelligence in human resource management.
4. To know about companies using artificial intelligence in human resource management.
5. To study the future artificial intelligence in human resource management in information technology industry.



RESEARCH METHODOLOGY

The following research methodology has been adopted for the current research work based on the secondary data.

Research design: The research paper is a descriptive and exploratory study by nature. Secondary data was collected from different journals and research articles from Research Gate, Google Scholar, and Google websites based on available information of IT industry.



ARTIFICIAL INTELLIGENCE AND HUMAN RESOURCE MANAGEMENT

- ❑ AI has influenced everything these days; it also impacts the HR department.
- ❑ They have understood the necessity of revamping the integration of human knowledge and machine learning for an effortless work process and predictive work environment.
- ❑ Artificial intelligence is a breakthrough innovation that shapes decision making real-time.
- ❑ It follows a definite set of algorithms and innovative computing techniques.
- ❑ Integration of AI with the human resource department will enhance the experience for workforce and candidates.
- ❑ Multiple businesses also choose to install voice assistants to assist their staff with HR-related questions.
- ❑ **Alexa and Siri** are now common examples of voice assistants in our everyday lives; AI in HR can be used to provide a similar experience in the office.
- ❑ Applying AI technologies in HRM contributes to more capability, diverse insights, and analytical support to enhance people management.

Information technology components and functions

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Cloud computing



Data centers



Computers



Servers



Storage



Databases



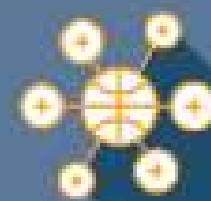
Data and data management



Operating systems



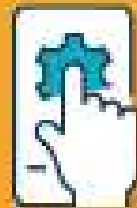
Applications



Networks



Telecommunications



Application development



Security



Websites and web portals



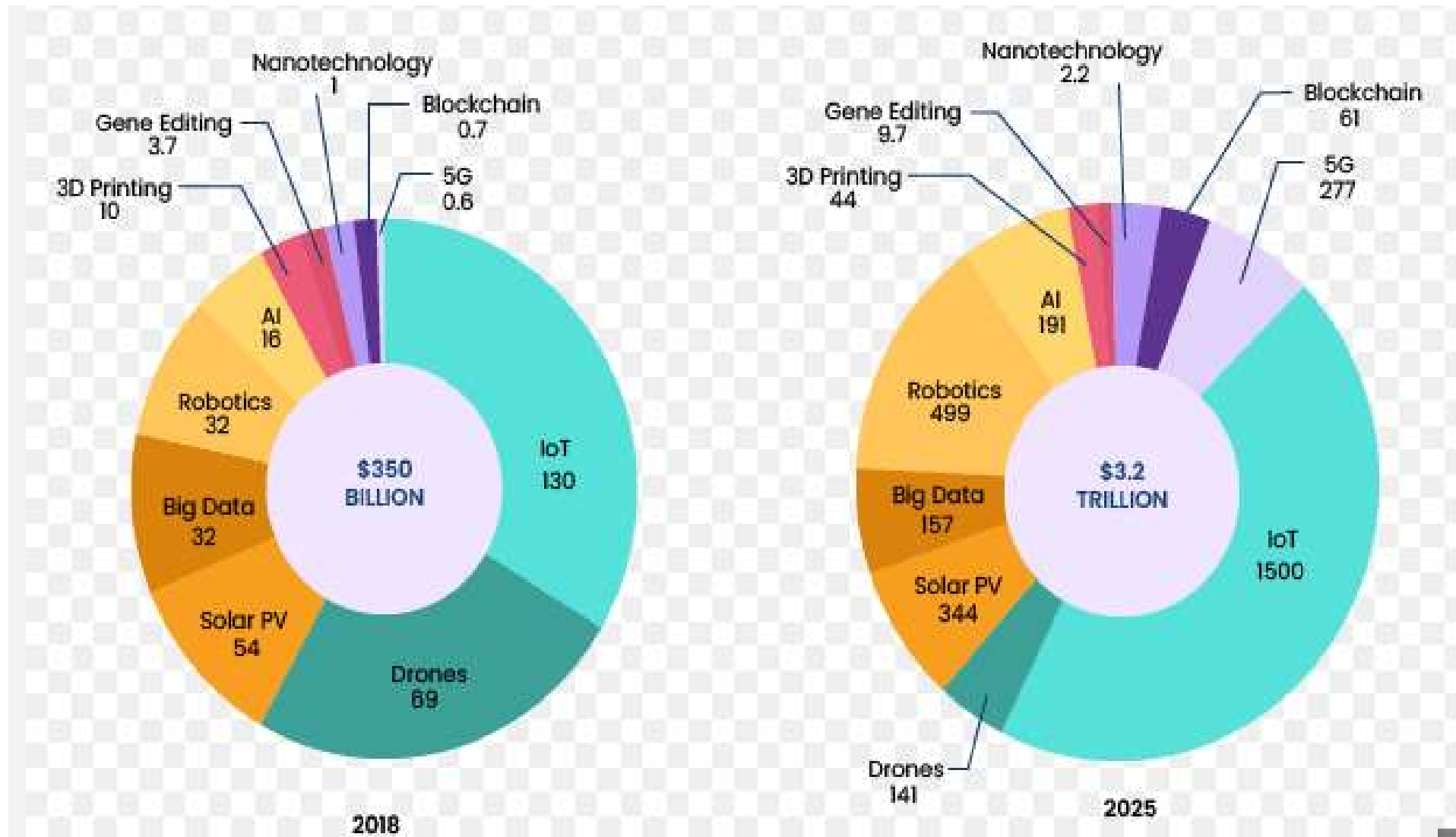
Internet

AI IN HRM IN IT INDUSTRY

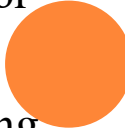
- ❖ **Candidate Screening-** AI powered algorithms can analyze resumes and applications, helping HR professionals identify the most qualified candidates more efficiently.
- ❖ **Chatbots and Virtual Assistants-** It can handle routine HR queries, such as answering employee questions about benefits, policies, and leave, freeing up HR staff for more strategic tasks.
- ❖ **Predictive Analytics-** Analyze large datasets to predict employee turnover, identify high potential employee etc.
- ❖ **Performance management-** employee performance by analyzing various data sources
- ❖ **Training and Development-** recommended personalized training and development plan based on individual employee skill and career
- ❖ **Diversity and Inclusion-** can help identify biases in recruitment and promotion process, etc
- ❖ **Employee Engagement-** employee sentiment through sentiment analysis of surveys and feedback.
- ❖ **Talent Acquisition-** potential candidate from various online platforms
- ❖ **Employee Benefits Optimization-** employee benefits preferences and usage patterns to tailor benefits packages more effectively.
- ❖ **Workforce Planning-** long term workforce planning considering factors, skills gaps, retirement trends, and market dynamics




ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE MANAGEMENT



AI IMPACT ON HRM IN THE IT INDUSTRY

- ❖ **Recruitment and Talent Acquisition:** AI powered tools are used to streamline the recruitment processes. It can analyze resumes and applications, helping HR professionals identify the most qualified candidates more efficiently. To save time for HR professionals.
 - ❖ **Skills Assessment:** AI can assess the skills and capabilities of potential employees more objectively, helping HR departments identify the best candidates for IT information.
 - ❖ **Chatbots and Virtual Assistants-** It can handle routine HR queries, such as answering employee questions about benefits, policies, and leave, freeing up HR staff for more strategic tasks.
 - ❖ **Predictive Analytics-** Analyze large datasets to predict employee turnover, identify high potential employee etc.
 - ❖ **Performance Management-** employee performance by analyzing various data sources
 - ❖ **Training and Development-** recommended personalized training and development plan based on individual employee skill and career
 - ❖ **Diversity and Inclusion-** can help identify biases in recruitment and promotion process, etc
 - ❖ **Employee Engagement-** employee sentiment through sentiment analysis of surveys and feedback.
 - ❖ **Talent Acquisition-** potential candidate from various online platforms
 - ❖ **Employee Benefits Optimization-** employee benefits preferences and usage patterns to tailor benefits packages more effectively.
 - ❖ **Workforce Planning, Data Security and privacy** - long term workforce planning considering factors, skills gaps, retirement trends, and market dynamics. It can help prevent insider threats of analyzing employee behavior and data access patterns.
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COMPANIES USING AI IN HRM

- New AI statistics show that 35% of companies are using AI and 42% of companies are exploring AI for its implementation in the future.
 - India- Most of the companies are looking forward to adopting this technology. Numerous large-scale organizations such as TCS, Deloitte, IBM, Accenture, and Tech Mahindra have already started to use AI as a part of their recruitment process.
 - SHRM reports that at least 79% of companies already use some form of AI or automation in their recruitment and hiring processes.
 - HireVue is arguably the best-known AI-powered hiring platform deployed by 700+ companies, including Unilever, Vodafone, PwC, and Oracle. For example, Unilever deployed HireVue AI-driven assessments and achieved £1M annual cost savings, a 90% reduction in time to hire, and a 16% increase in hiring diversity.
 - Companies such as Amazon, PayPal, Google, and Uber use InstaHyre for hiring employees. In a conversation with businessline, Sarbojit Mallick, co-founder and CBO, InstaHyre, said, “Using AI, we train the machine to understand which candidates will be great for a company.”
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PLATFORM SOFTWARE: COMPANY USES TECHNOLOGY

Utilizing centralised platform software, such as membership management software, can reduce all of this. There are a lot of ways in which the company uses technology to make more money. Some of the ways are mentioned below:

- **Employee management:** Employee management deals with achieving the full potential of the employees of the organization. This results in achieving the objectives of the company. This includes recruitment, payroll management, and talent management.
- **Employee engagement:** The various platforms of the centrally managed systems provide a range of strategies to the HR department, and they also allow the employees of the organization to express themselves.
- **Performance management:** Most of the performance modules have interactive features that allow the employees to give feedback during the process known as “continuous performance management. Such continuous performance systems can help the employees build better employer-employee relationships and productivity.
- **Training and development:** Today, most of the training programs are organized digitally according to the individual’s needs. The HR teams continuously track progress and keep evaluating the efficiency and effectiveness of established objectives. The teams of professional HRs organize online training sessions and webinars for the development of the organization.
- **Recruitment:** To keep the recruitment process running smoothly, the digital platform makes it easier to hire people through them. Today, most of the positions are advertised online, and applications are processed through a single digital platform.
- **Employee scheduling:** Simple things like the overlapping of leave requests by employees can wreak havoc on a company’s efficiency. The right HR software ensures that the HR department can continuously keep track of the employee’s efficiency and availability. It also has to manage and schedule the employee properly.
- **Documentation:** The HR department needs to access important information to take key decisions. This increases the transparency between the employer and employee of the organization and helps build trust and culture. Both of these are necessary to foster the organization’s great success.
- **Integrated Management System:** The digital platforms make it easier to share the data and information. They ensure that the departments have all the information they need to complete the tasks. This helps the company develop community trust, track the behavior of the employees, and boost engagement and productivity.
- **On Boarding:** Getting everyone set up takes a little bit of time. Using technology to plan the on boarding process ahead of time can save time and effort. To streamline the onboarding procedure, we can use technology to plan the employee’s onboarding program and improve communication about it.


INFORMATION ECONOMY AND THE GROWTH OF INDIAN INDUSTRY

- It is crucial to first discuss economic developments in India and how the IT sector can emerge and grow quickly in nations that theoretically should still be in the industrialization stage given the significant role that the Indian Diaspora plays in the process of economic development that is focused on the IT sector.
- It will be shown by examining how India's modern technological development has evolved since gaining independence and how, initially, the agricultural revolution served as the primary benchmark for technological improvement in India.
- Over the years, India has steadily advanced from being a non-player to the position of an IT "Super Star." This journey started in the 1970s, when India, like other developing nations, lacked an informatics infrastructure.
- However, New Delhi was seeking for independence, which was partly required by the country's needs for nuclear and space exploration.
- Although the government maintained a strict regulatory framework for the IT industry, a number of public and private indigenous firms, such as Tata Consultancy Services (TCS), Electronics Corporation of India Limited (ECIL), UP Electronic Corporation Limited, DCM Data Systems, Data Management Limited by Sarabhais, and Operations Research Group, have sprung up for the production of hardware (assembly/manufacture) and software.
- The government has come to understand the economic importance of India's IT boom over time. The industry thereafter underwent ongoing deregulation and saw the establishment of crucial organizations like the National Association of Software and Services Companies (NASSCOM).
- The Tata Consultancy Services Company, which was founded in Mumbai in 1967, later collaborated with Burroughs to launch India's IT services exports in 1977.
- SEEPZ, the original software export zone and forerunner of the modern-day IT park, was founded in Mumbai in 1973. By 2025, it is anticipated that the Indian IT & business services sector will increase to US\$19.93 billion. In India, spending on IT is anticipated to reach US\$ 144 billion in 2023. By 2026, significant cloud use could create 14 million new jobs and boost India's GDP by US\$ 380 billion.



CONSEQUENCES OF TECHNOLOGICAL CHANGE OR DISRUPTION

One of the major ways in which technology has impacted HRM is through the streamlining and automation of HR processes. With the advent of HR software and other technological tools, many of the tasks and responsibilities previously carried out by HR professionals can now be automated.

- ❖ Many important ramifications of digital are felt by the HR department.
 - ❖ Practically all aspects of HR will be simplified. HR may evaluate employee data and develop specialized talent offerings.
 - ❖ Cooperation and a new organizational structure will grow.
 - ❖ Assessing external technologies and enhancing the strategic nature of businesses.
 - ❖ Robots are used for interview and selection process, learning, communication, and also in controlling harassment. They are also used as cobots (collaborative robots) alongside humans in workplace. Networks are used in the processes of recruitment, learning and development, career path and collaboration.
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CONCLUSION

- ❖ AI offers many advantages in HRM for the IT industry, its important to balance these innovations with ethical considerations and maintain a human touch in HR processes to ensure a positive employee experience.
- ❖ AI needs proper storage and maintenance of data for efficient functioning. It gathers and analyzes all the necessary data and lets the HR department make data-driven decisions. HR can make Data-driven decisions that are sustainable and impactful.

Companies around the world planning to invest in AI this year are targeting:

- ❖ Chatbots for employee self-service, such as changing benefits or requesting time off.
- ❖ The ability to identify employees who are disengaged or at risk of leaving.
- ❖ Suggestions of job openings or career paths for current employees, help in the performance management process, customization or improving benchmarking in compensation.
- Overall, AI is transforming HRM in the IT industry by automating routine tasks, improving decision-making through data analysis, and enhancing the employee experience.
- Organizations need to address ethical and privacy concerns associated with AI in HR to ensure fair and responsible use of these technologies.
- AI can enhance efficiency, accuracy, and decision-making in recruitment, talent management, learning and development, performance management, and workplace safety.
- AI can help human resources management to perform effectively which will boost the human resources efficiency based on real time data provided by the system.
- This helps management to take fast decision and keep the organization agile to suit to the changing business environment.

FUTURE OF AI IN INFORMATION TECHNOLOGY

- The productivity of artificial intelligence may boost our workplaces, which will benefit people by enabling them to do more work.
- As the future of AI replaces tedious or dangerous tasks, the human workforce is liberated to focus on tasks for which they are more equipped, such as those requiring creativity and empathy.
- AI technology can be used to conduct surveys, collect feedback, and evaluate diverse business-related data such as productivity levels, employee engagement, performance, and areas for improvement.
- AI can automate repetitive and time-consuming tasks so HR professionals can focus on creating strategies.
- AI also improves decision-making with valuable insights via HR and predictive analytics. For example, AI can enhance hiring efficiency by streamlining the screening and selection process.
- They will also enable to create more human-centric, diverse, and inclusive HR practices. By embracing HR analytics and AI, will be able to transform HR function from a reactive and transactional role to a strategic and value-adding role.



THANK YOU

