Course Name: AI in Human Resource Management

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Week - 07
Lecture - 23

Lec 23: Building Organizational Capabilities through AI-Driven HRM

Hello learners, welcome back to the course on AI in Human Resource Management. Today, we move to the second part of Innovation and HR in Module 7. We'll be strategically looking into building organizational capabilities through AI-driven HR. I'm Dr. Abraham Cyril Issac. I'm an Assistant Professor at the School of Business, Indian Institute of Technology, Guwahati.

Now, when you look into an organization, there are resources, and there are always resource constraints as well. But when you talk about resources, there might be tangible resources, and there might be intangible ones. Now, when you look into resources from a holistic point of view—both tangible and intangible—what you understand is that there is a possibility of organizational capability. That can be developed as part of the pooling of resources. Sometimes, you see that different functions, different departments, or cross-functional entities come together to solve a particular problem. This is where organizational capability comes into the picture. Today, we will discuss AI-driven HRM and how it will facilitate boosting and enhancing organizational capabilities. So, on that note, let's look into organizational capabilities first. When you look into organizational capabilities, as I mentioned, they refer to a firm's or organization's ability to deploy, coordinate, and utilize its resources. When I'm talking about resources, I'm trying to make you aware that they could be both tangible and intangible.

You can just think along. Maybe what are the resources? Most of you might be associated with some organization. Most of you might be associated with some institution. What are the different types of resources, tangible and intangible, so that they effectively are

coming up as a resource to get the strategic objective or to obtain the sustained competitive edge over other organizations. So when you look into organization capabilities specifically, you look. into the strengths of an organization, the capabilities that encompasses skills, processes and knowledge that allow an organization to perform most of the key activities, adapt to environmental change and totally innovate wherever it is required. Now, when you talk about the key components of organizational capabilities, let's look into each one of them in detail. we see that there are some operational capabilities.

When you talk about operational capabilities, these refer to organization's ability to align its skills, routines, let's say processes to operate successfully in specific market. So there might be different economic conditions, there might be different economic situations. So operational capabilities develop over time. and are tailored to the organization's unique context. So, when you look into operational capabilities, they often blend into the background, making them less obvious, yet crucial for competitive advantage. Another critical component would be the strategic capability. When you look into strategic capabilities, they are linked to an organization's vision and long-term goals. The moment you see strategy or strategic capabilities, It is all about long-term goals. They enable organizations to adapt to changes in the environment and include aspects such as innovation, agility, or even customer responsiveness.

So these capabilities typically allow organizations to anticipate market shifts and align their strategies accordingly. Then you have some of the core capabilities. When you look into core capabilities, they encompass the fundamental skills, aptitude, and processes that are central to an organization's operations. So core capabilities may differ. With respect to different organizations, let's say the core capability of an IT-enabled service or an organization working in that domain might be drastically different from the core capabilities of a manufacturing organization. So this is what you understand by core capabilities. This includes. Areas like, let's say, leadership effectiveness. When you look into the HRM perspective, it includes things like collaboration among teams and accountability within the workforce. So core capabilities, please understand, form the backbone of an organization's identity and operational success.

Then you have enabling capabilities, something which is sort of a sidekick character. So these support day-to-day operations and include functions such as, you know, the financial management, human resource management, IT, IT systems, etc. So enabling capabilities ensure that the organization runs smoothly daily while supporting broader strategic objectives. Then you have cultural capabilities. Cultural capabilities is all about organization culture. Organization culture plays a very critical role, a very significant role in shaping how capabilities manifest within a company. So a strong culture fosters collaboration, innovation, employee engagement, which are vital for developing other organizational capabilities. Then there are some leadership capabilities. Leadership capabilities are vital. Effective leadership is crucial for nurturing organizational capabilities.

So leaders set the vision, they inspire teams and create an environment conducive to growth and adaptability. So leadership capabilities also involve ensuring alignment between individual contributions and organization goals. Please recollect the discussions we had on strategic intent at this point in time. There are also some learning and development capabilities. When you talk about learning and development capabilities, we have to acknowledge and appreciate continuous learning, which is vital for maintaining relevance in a changing market landscape. So organizations must typically invest in training and development programs that typically equip employees with new skills and knowledge necessary for evolving business needs. And then finally, you have customer connectivity. These are the abilities, or the ability, to connect with customers effectively. And that is inevitably a hallmark of strong organizational capability. So when you talk about customer connectivity, it involves understanding customer needs, their preferences, and behaviors to deliver tailored products or services that typically enhance customer satisfaction. Now, when you talk about organizational capabilities, please understand we are trying to bring technology into organizations. And that is where we have to understand the relationship that exists between technology and organizations. The relationship between technology and organizations is a reciprocal relationship. With rapid technological developments providing, let's say, a new smart digital context for HRM policies, when you talk about the relationship between technology and organizations, one

significant aspect of this technology landscape is the growing relevance of AI. So although AI is not easily defined,

Due to its broad range of applications, you might see that over the past, you know, five or six modules, we are trying to define and understand AI. But as it's evolving, as its nature itself is evolving, it is difficult to provide a contextual definition. So it generally refers to systems capable of making predictions, recommendations, or decisions for real or virtual environments, as we understand from our previous discussions. Now, let's understand AI in HRM again in the context of organizational capability. When you look into AI in HRM, AI systems, as you have already seen, operate with varying levels of autonomy, using inputs from both machines and humans to sense the environment, to build models typically, and apply those models to provide actionable insights.

So these systems have the potential to automate work processes, replacing human labor in some areas while augmenting human skills. So at some point, it's a replacement, whereas at some point, it is the augmentation that is happening. So let's understand this with an example. Let's say recent discussions around natural language processing (NLP) technologies, such as HRGBT, underscore the profound changes expected in organizational roles and functions. Now, let's look into the sub-disciplines of AI in HRM. We have seen over the previous few modules some of them: machine learning, artificial neural networks, deep learning, robotic process automation, etc., which will be an add-on in this module. When you talk about machine learning, very quickly—I'm not going to invest much time here because we have seen it. One of the best-known sub-fields, machine learning involves generating knowledge from experience. Using algorithms, they recognize patterns in data and make predictions based on high-quality learning data, which is often referred to as what we see and hear as training of AI.

Now we have the artificial neural network and deep learning models. Typically, they are used to process unstructured data as seen in chat boards or virtual or augmented reality. Then we have the critically important robotic process automation (RPA). Robotic process automation. RPA, along with its extension into intelligent process automation, is employed to streamline routine HR processes such as query handling, onboarding, etc. So these are typical introductions of AI that is happening in the world of HRM. When you

look into implications of AI on organizational capabilities, you see that AI contributes significantly to how organizational resources are transformed into capabilities. So by leveraging what we understand as ML and other AI technologies, HRM can optimize the talent management. It can enhance the decision-making processes and streamline operations.

So ultimately, building the organizational capabilities required to maintain a competitive edge or competitive advantage in the digital age. Now let's look into the crux of today's discussion, which is AI driven HRM for building organizational capabilities specific to each function. Let's start with the most common resume screening and candidate matching. So efficiency in screening, please note, Some of the discussions previously we have also emphasized on this fact that AI powered resume screening tools can analyze thousands of applications in just a fraction of the time. It would take a human recruiter by using these algorithms typically to identify, let's say, key skills or experience, or it could be even qualifications. These tools streamline the initial screening process, allowing HR teams to focus on more strategic tasks. there is a prioritization that is happening and this is possible mainly because of the introduction of ai when you look into in ai in resume screening we have to understand that there is also a possibility of candidate matching ai systems typically utilize the machine learning to match the candidates with job requirements more accurately they evaluate resumes against certain some predetermined criteria.

What is the criterion that you want? So based on that, they will typically ensure that only the most suitable candidates are shortlisted accordingly. So this not only saves time but also improves the quality of hires by aligning candidate skills with organizational needs. Then you have automated candidate engagement. So AI-driven chatbots can facilitate this automated candidate engagement because they can facilitate communication with candidates during, let's say, even the screening process, answering queries and providing updates on application status. So a whole lot of applications can be seen in the case of candidate engagement. So this typically enhances the candidate experience while freeing up recruiters to concentrate on high-value activities. When you look into another significant aspect of AI-driven HRM for building organizational capabilities, I cannot

move forward without touching upon bias reduction in hiring through AI. We have explained it in detail in modules two and three, but typically I would like to give a different perspective specific to standardized evaluation and the diversity angle.

So when you look into standardized evaluation, one of the significant advantages of AI in recruitment is the ability to standardize the evaluation. So by relying on data-driven criteria rather than mere subjective judgments, AI helps mitigate unconscious bias that can occur during the manual screening process. Then there is diverse candidate sourcing. AI tools can also assist in sourcing. Please note, Diverse candidates by analyzing data from various platforms and identifying talent pools that may have been overlooked traditionally. This approach fosters a more inclusive hiring process and promotes diversity within organizations. You also have an inherent advantage coming your way in terms of continuous learning. Advanced AI systems can continuously learn from hiring outcomes to improve their algorithms over time. By analyzing which candidates succeed or fail in specific roles, these systems can refine their criteria to enhance future hiring decisions.

When you look into predictive analytics for employee fit, you have to understand that there can be insights produced because of the data-driven platform. There is a cultural fit angle. Also, there are proactive talent management strategies. When you look into predictive analytics, it leverages historical data, no doubt about it. To forecast which candidates are likely to succeed within an organization.

By analyzing factors such as past performance metrics and employee turnover rates, HR teams can make informed decisions about candidate fit before making hiring choices. Another significant factor would be the cultural fit assessment. AI tools can assess candidates' cultural fit. By analyzing behavioral traits and personality characteristics through various evaluation methods, it could include ongoing innovations like gamified assessments or some established methods. Tests like psychometric tests. So, this ensures that the new hires align not only with the job requirements but also with the organizational values and culture typically. You also have proactive talent management. So by integrating predictive analytics into the recruitment process, organizations can proactively manage their talent pipeline. So this allows them to identify potential future

leaders or high performers early in the hiring process, enabling targeted development initiatives that align with organizational goals. Now let's look into real-time performance monitoring and feedback.

You have the option of continuous monitoring. AI systems typically analyze data from various sources. It could be project management tools. It could be communication platforms. It could be some productivity software to provide a holistic view of employee performance in real time. There could be a possibility of instant feedback mechanisms. As we have seen, AI tools provide immediate feedback through notifications or alerts when specific performance metrics are met or sometimes exceeded. So this typically aids employees in adjusting their efforts promptly. There's another possibility of data visualization dashboards powered by AI presenting performance data in an easily digestible format. So allowing managers to identify trends, strengths, and areas for improvement quickly. Then we have AI-powered development and learning programs. You can look into personalized learning paths. AI systems can assess employees' current skills and recommend tailored training modules that align with their career goals and organizational needs. You have adaptive learning technologies. Technologies that adjust the content delivery based on employee progress and understanding, ensuring that learning is effective and engaging.

There is also the possibility of skill gap analysis with the introduction of AI. AI tools can identify gaps in skills across the organization, helping HR teams prioritize training initiatives that align with strategic objectives. Then you have the personalization of employee development. We have customized development plans that are enabled by AI, as AI analyzes employee data to create individualized development plans that align with both personal goals and organizational needs. So predictive analytics for career progression: AI analyzes data.

You know, some of the historical data on employee success factors. AI can predict potential career paths within the organization for individual employees. Then there are feedback loops. You can look into continuous feedback mechanisms that allow employees to adjust their development plans based on real-time insights into their performance and progress. Then there is the possibility that is looming large with

sentiment analysis. We have touched upon sentiment analysis in the previous module. But here, we look into sentiment analysis from a feedback and analytics point of view. When you look into real-time feedback, AI tools can continuously monitor employee sentiment through surveys, social media interactions, and internal communication. This allows organizations to gain immediate insights into how employees feel about their work environment. There's scope for predictive analytics by analyzing historical sentiment data. AI can predict potential issues before they escalate. For example, if a decline in sentiment is detected in a specific department, HR can proactively address concerns to prevent turnover. There could also be customized engagement strategies. Insights from sentiment analysis enable organizations to tailor engagement initiatives based on employee needs and preferences.

For instance, if employees express a desire for more flexible work arrangements, HR can implement policies that accommodate this feedback. Then, there is the possibility of personalized employee experiences using AI. When you are looking into tailored learning and development, AI can assess an employee's skills, career aspirations, and learning preferences to recommend personalized training programs that align with their goals. There are also possibilities with respect to communication, especially customizing communication. AI-driven platforms can deliver personalized messages and resources based on individual employee profiles. So please note, When you are looking into an employee interested in mental health resources, he or she could receive targeted information about available support programs. Or in a related way, someone who is looking into a technology-related aspect can actually get targeted information about the available programs in that particular domain. We also have flexible work arrangement possibilities with respect to AI.

So by analyzing productivity patterns and preferences, AI can help organizations implement flexible work arrangements that suit individual employees' needs while maintaining overall productivity. Now, we also have some AI-powered employee wellness programs. You are seeing that there are some personalized health recommendations that organizations are able to provide because of AI. AI algorithms can analyze biometric data. It could be, let's say, heart rate, activity levels, etc., to offer

recommendations. Tailored wellness suggestions. It could be something like exercise routines or maybe some suggestions with respect to dietary changes based on individual health metrics. There is also the possibility of predictive analytics for health risks. By monitoring trends in employee health data, AI can potentially identify health risks early on. So this proactive approach enables employees to take preventive measures before issues typically escalate. Also, there's a possibility of virtual wellness challenges. Please note, AI can facilitate virtual fitness challenges that encourage team participation while promoting healthy habits. So these challenges can be customized based on employee interest and typical fitness levels. We also have a bigger role played by AI in succession planning.

So at this level, I am pretty sure that you don't need an explanation about what succession planning is, but we'll typically look into what role predictive analytics plays in succession planning. So let's say, let's deal with talent forecasting first. When you're looking into talent forecasting, please note predictive analytics can forecast future staffing needs by analyzing trends such as employee turnover rates, retirement eligibility, and even business growth projections. So this proactive approach allows organizations to prepare for upcoming talent shortages, if any, and ensure a smooth transition when key positions become vacant. We also have a potential opportunity identifying potential employees by analyzing performance data, skills assessments, and career trajectories. Since we are essentially looking into succession planning, predictive analytics can help identify employees with high potential for leadership roles. This typically enables organizations to focus on developing these individuals specifically through targeted training and mentorship programs. We also have skills gap analysis. Predictive analytics can pinpoint existing skills gaps within the organization by comparing current employee capabilities with future business needs.

So this information is vital for designing effective training programs that align with strategic objectives. Finally, we have the possibility of scenario planning in succession planning. Organizations can use predictive models to simulate various scenarios, such as market changes or organizational restructuring, to assess their impact on workforce needs. This allows HR professionals to develop

contingency plans that ensure leadership continuity during transitions. Next, we have resource optimization. We began our discussion today with resource constraints and organizational capabilities. This happens to be the key focus of today's discussion. Resource optimization through AI models. We have the possibility of intelligent scheduling. When we look into AI-driven scheduling algorithms, they can automate the creation of staff schedules while considering employee preferences, availability, and business requirements. This typically leads to balanced workloads and minimizes scheduling conflicts. Another possibility is demand forecasting. AI analyzes historical data to predict demand. When looking into workforce alignment, by aligning workforce resources with anticipated demand levels, organizations can avoid overstaffing or understaffing situations.

Skill-based resource allocation is yet another important aspect when it comes to resource optimization. We see that AI can assess the skills of employees and match them with project requirements effectively. So this ensures that the right talent is assigned to tasks that align with their expertise, enhancing productivity and job satisfaction. Also, possibility of real time adjustment. When you talk about resource optimization, this is vital because we need to have a real time understanding of the scenario. AI systems enable real time adjustments to staffing plans based on changing business conditions or unexpected events. Let's say there's a sudden increase in the customer demand on this flexibility. Typically is crucial for maintaining the operational efficiency. And when you look into AI, its role in bias reduction, we see that there are different possibilities that come into picture when we deal that in detail. One is objective evaluation. You know, objective evaluation is data driven evaluation of candidates minimizing the influence of unconscious bias. by analyzing the skills, the qualifications, experience. There could be unbiased job advertisement. Please note many a time you see job advertisements with very heavily loaded statements or some of the sweeping statements which are mostly biased. So AI can analyze the job descriptions to eliminate biased language, making them more inclusive and appealing to a diverse range of candidates.

There could also be a possibility of Structured interviews, you know, AI typically assists in conducting structured interviews where all candidates are asked the same questions,

reducing variability and bias in evaluations. That could also be a mechanism of diversity analytics. Diversity analytics, ladies and gentlemen, you should know that AI analyzes HR data to identify patterns related to diversity, helping organizations pinpoint areas of bias and take proactive measures to foster inclusivity. So when you're looking into AI's role in bias reduction,

Diversity analytics is also a prominent aspect. There could also be automated candidate evaluation, as we have seen, as an extension of objective evaluation. AI tools streamline candidate assessments through standardized testing, let's say, ensuring all candidates are evaluated based on the same criteria. Then there is this bias mitigation in promotion within the organization. Also, AI can help identify potential biases in promotion decisions by analyzing data on employee performance and demographics, ensuring fairer advancement opportunities. When you look into AI, significantly, the organizational capabilities part. We also have to understand how, you know, workplace inclusion can be improved with AI. We have some personalized employee engagement possibilities. AI can tailor communication and engagement strategies based on, let's say, individual employee preferences, enhancing the sense of belonging.

There could be some feedback mechanisms. AI tools can facilitate continuous feedback loops between employees and management, promoting transparency and open communication regarding inclusion efforts. There could be a possibility of diversity metrics and monitoring them. AI can track these diversity metrics over time, which we have discussed in the previous slide regarding AI. You know, over a certain time period, insights into the effectiveness of inclusion initiatives can be made, thereby helping organizations adjust their strategies and tactics. You also have training and development as a factor. AI can identify skill gaps within diverse groups and recommend targeted training programs to support career advancement, especially for underrepresented employees. There could also be ERG support, support for employee resource groups. AI can analyze participation data in ERGs to assess their impact on workplace culture and employee satisfaction. And finally, you have the culture fit assessment.

AI can evaluate how well candidates or employees align with organizational values related to diversity and inclusion, ensuring that culture fit does not inadvertently lead to

homogeneity. Now let's do some practical sessions. Let's do something in the world of practice. What's going on? AI in resume screening and candidate matching.

I would like to give you a demo from Eightfold.ai. Again, you can always go and explore with more options with respect to that. But just as a cursory, you know, way to how to go about it. You can go to Eightfold.ai and click calibration from the homepage. So you basically will be reaching a page like this where you will be looking into the different aspects of position, job location, who is your ideal candidate, you know, what are your requirements, how you can actually change or refine them. Then once you go to the calibration part, you can define the background of the job, let's say. You need a marketing manager. You can give the input as such. You know, you have different options. You can complete the requirements totally needed for the job. Whatever is the specific requirement, it's again tick based mechanism. You can go for that. Then finally, all the eligible candidates will be displayed at the end. page out of all the applications. So it is again a sample. All eligible candidates will be displayed on the final page out of all the applications. So you have made a search. You can apply filters again. You can always understand with respect to the different highlights, such as strong career growth, industry similarity, or applicants you have contacted. So this

To a great extent, this eases or simplifies the job when you look into the recruitment and shortlisting process. Now let's look into the elephant in the room: challenges in building organizational capabilities through AI-driven HRM. We have seen most of these things, but let's see how they manifest as challenges. When you talk about Bias and discrimination in algorithms—we have seen how bias creeps in. Please note, AI systems can perpetuate existing biases if trained on biased data, a point I emphasize in every module, leading to discriminatory hiring practices. It could be based on gender, race, or other factors. Regular audits of AI algorithms are necessary to mitigate this risk. There is a job displacement concern. The automation of HR tasks may lead to fears of job losses among employees, which typically impacts morale and retention. Organizations must address these concerns through reskilling and upskilling programs.

So this would be a solution for job displacement concerns. Quickly, we see data privacy and security risk. You see that the collection and storage of sensitive employee data

typically raise the privacy concerns. Organizations Must ensure that compliance with data protection regulations and implementing robust security measures should be there to prevent the breaches. Then you have integration. Lack of human interaction could be also a thing. But when you talk about integration, then we have integration with existing system. Ensuring compatibility between new AI tools and existing HR systems can be challenging. So organizations must evaluate how AI solutions fit within the current infrastructure and how disruptions could be prevented or avoided.

Then there are certain cost implications. Please note, when you look into implementing AI solutions, it involves financial investment, not only in technology, but also in training and ongoing maintenance. So organizations need to carefully budget for AI. these costs to ensure sustainable implementation there are certain typical ethical considerations please note that ethical implications surrounding the use of ai in hr must be addressed including accountability for algorithmic decisions and ensuring fairness in hiring practices There should be also a certain adaptation to evolving technologies. You know, the rapid pace of technological change necessitates ongoing training and adaptation, particularly within HR departments, to keep up with advancements in AI. Also, as I mentioned, there is a possibility of a lack of human interaction. When you look into over-reliance on AI, it can lead to a reduction in human interaction within HR processes, making the workplace feel a bit distant and alienating to a certain extent. So, maintaining a balance between AI automation and the human touch is vital for employee satisfaction. Now, finally, when you look into these challenges, you see that the future of AI in HRM and organizational capabilities is moving toward strong AI.

It is working toward an integration of AI across HR functions, shifting from weak to strong AI. When I'm talking about strong AI, the evolution toward strong AI will enable systems to perform complex tasks autonomously. Such as, say, strategic workforce planning and personalized employee data or employee personalized employee development. There could be a possibility of enhanced data utilization. There could also be a possibility of collaboration with the human workforce, so AI will work alongside human employees, augmenting their capabilities rather than replacing them. So please note, it should not come up as a concern; rather, it is an augmentation leading to a more

collaborative work environment when you're looking into the future of work and the involvement of AI. Please note, AI is expected to automate up to 30% of the current hours worked by 2030. Particularly, it may happen in roles involving repetitive tasks, mundane tasks, thereby freeing employees for more strategic activities. Creation of new job roles. While some jobs may be displaced, AI is projected to create approximately 97 million new roles focused on technology and AI management. There could also be a stunning demand for new skills. You know, as automation increases, there will be a significant rise in demand for STEM-related skills and other high-skill professions, necessitating a major skill upgrade.

And of course, with the changing workforce dynamics, the integration of AI, will alter the workforce dynamics requiring HR professionals to manage a very hybrid workforce that includes both human and AI systems. So when you look into typical aspects of AI, you should understand that there is a possibility that is coming up in terms of increasing personalization, increasing the need for the tailor-based learning. And moreover, it will encourage the continuous learning. But that said, one point I would like to leave as a foot for thought is the ethical consideration. So as I try to say this in most of my lectures, you know, whether we are trying to remove the human angle from will be effective in actually having a sensitivity in the workplace. So that would be the foot for thought I'll be actually leaving with you today. But please do understand that when you're talking about AI, there is an ethical consideration also that is going to come in. And when you're taking the human angle, sometimes you may boast of it as a positive thing, but sometimes it may land up as a negative aspect also. So please think on that. Let us see with AI and metaverse and more such details in the next class. Till then, take care. Bye-bye.