

Course Name: AI in Human Resource Management

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Week - 04

Lecture - 11

Lecture 11: People Analytics using AI

Hello learners, welcome back to the course on AI in human resource management. We started with module 4. In the first lecture, if you have gone through, we have looked into the most critical HR analytics. Now, synonymously, HR analytics is used with people analytics. So today, I would like to dissect people analytics and would like to bring to you what exactly is people analytics what do you mean by that how is it you know helping the hr analytics or managing the human potential within the organization and how it has revolutionized the way human resource management as a functional area is looked at We'll look into that. I'm Dr. Abraham Cyril Issac. I'm an assistant professor at the School of Business, Indian Institute of Technology, Guwahati. Now, when you talk about people analytics, we are specifically dealing with people analytics using AI.

As you understand over the last few lectures, we tried to introduce you the topic first, then we'll try to link it with AI. In this particular session, I would like to bring in some softwares also which I will try to go through them with the available resources basically because these are some of the paid options we have. But then you will get a hands-on understanding by looking into what we generally do with respect to or what these tools or softwares actually enable us to do in terms of people analytics and usage of AI in people analytics. Now, let's understand people analytics first. When you look into people analytics, it evaluates workplace conditions and guides HR decisions on recruitment, performance, promotion and compensation using data analysis.

Now, when you look into some of the statistics, the global people analytics market was valued at USD 3.02 billion in 2023. and is projected to grow to usd 8.98 by 2032 so this typically shows the relevance of what we are talking about organizations actually you

know rely on it for data driven insights across hr areas be it hiring be it retention or workforce planning for that matter so by analyzing people related data hr can identify trends it can predict outcomes and make no mistake it can improve processes ensuring long-term success so when you use people analytics as a term it is often synonymous with hr analytics since it revolutionizes hr by increasing job offer acceptances you know reducing hr tickets and even optimizing pay strategies let's understand it with a quick example let's say People analytics provides data on how long it will take or it takes to fill specific roles, helping departments be better prepared and informed when hiring is needed. So this asserts the importance of the relevance of people analytics.

Now, let's look into the theme of today's lecture, AI in people analytics. When you look into artificial intelligence, no doubt it is shaping the future of nearly every industry, every individual. Needless to say that at this point in time, after discussing so many things in this particular course. It is a driving force behind emerging technologies, be it big data, be it robotics, IoT, and I presume that it will continue to lead innovation. Now, AI-powered people analytics platforms are very much transformative in nature because they offer organizations a very deeper understanding of employee dynamics by combining AI and advanced workforce data specifically.

So when you look into, let's say, an example like Ola, what we understand is AI enabled safety feature like Guardian uses real time trip data to detect unusual driver behavior. So this adds a certain level of safety element into otherwise a regular business centric or otherwise a regular business centric process. Now, in H.R., AI will enable real time evidence based decisions, allowing executives to forecast workforce needs, specifically guide managers in performance management and even ensure employees feel valued and supported to a great extent. So this is what that underscores the relevance of ai in people analytics now let's look into people analytics and ai's role in enhancing team by underscoring the seven key principles of people analytics when you look into uh you know the entire theme of this lecture this seven pillars acts as a crux quickly it is workforce planning analytics sourcing analytics acquisition or hiring analytics It could be onboarding, cultural fit and engagement. It could be performance assessment and development and employee lifetime value or even employee churn and retention for that

matter and employee wellness, health and safety. Let's quickly look into that in detail. When you talk about workforce planning, AI helps in predicting future workforce needs, enabling more strategic hiring and resource allocation.

So it enables us to, you know, identify skill gaps, matches the right employees to the right projects based on the skills and availability, and even to a certain extent, past performance. It helps in turnover prediction. It helps in scenario planning. It helps in demand and supply forecasting. So basically, we see workforce planning has a host of benefits associated with it when we merge people analytics and AI for that matter. We have sourcing. Sourcing analytics improves candidates sourcing by automating resume screening, matching job requirements with candidate profiles and identifying passive candidates for that matter. AI tools scan online platforms and talent pools to find the best fit for open positions. When you look into acquisition or hiring analytics, the third pillar, we see that AI streamlines categorically the hiring process by using predictive analytics.

We have seen it in the previous module. to identify candidates most likely to succeed in a particular role. So AI-driven tools assess candidate experience. It gives assessment of skills, cultural fit, while reducing bias in selection. And the fourth pillar would be onboarding, culture fit, and engagement. It personalizes onboarding programs based on individual roles, individual skill levels for that matter. So AI in people analytics is a great addition to that. It can be it can also measure, you know, culture, fit and engagement by analyzing employee interactions, surveys, communication and providing insights into how well, you know, new hires integrate into teams. You look into other pillars. We have something with respect to performance assessment and development.

What we understand as employee lifetime value, you know, A.I., He specifically evaluates employee performance continuously by tracking key metrics, let's say like productivity, skill development, collaboration, etc. So it helps HR design personalized development plans, ensuring employees reach their fullest potential. Thus, you know, maximizing lifetime value to the organization. So this is vital when we look into people analytics and AI specific to performance assessment projects. We have another pillar, employee churn and retention. So I hope you understand what I mean by employee churn. AI predicts an employee turnover by analyzing factors such as job satisfaction, factors

such as engagement levels and external job market trends. So by identifying at risk employees early, Organizations can actually implement the retention strategies to improve the satisfaction and reduce any pain or any concern for that matter.

And finally, you have the employee wellness, health and safety. It monitors employee wellness through actions like sentiment analysis or health tracking or stress detection tools for that matter. AI-powered platforms, please remember, also help identify patterns related to workplace safety and even recommend preventive measures ensuring a healthier work environment. Now, having understood what is the critical relevance of AI in people analytics, it's time to look into some of the existing AI tools for people analytics. We have many.

Again, this should not be considered as an exhaustive list and this is again not endorsing some particular product but moreover what is used, what is understood and we have tried to use the demo versions, we have tried to get some images of people who are using it. So all these things I would like to at least give you some idea what is happening in industry at the moment. With respect to AI tools for people analytics, we have people box workday in IBM Watson. We have ultimate AI cultural and Vee, Hire Vue, textio etc. Let's look into that in a detailed fashion.

So when we look into AI tools quickly, people box is a tool which integrates, you know, employee data with business metrics to provide actionable insights. You have Visier or what we understand as Vee is an AI assistant that answers HR related queries using, you know, company specific data. We have, you know, Workday, people analytics, which leverages AI and machine learning to provide insights on diversity, retention and talent performance. Some of them we have already discussed. We have CultureLamp which uses AI to summarize employee feedback and analyze engagement level. We have the IBM Watson, which enhances HR solutions through AI-driven analysis of resumes and employee satisfaction for that matter. We have HireVue, which offers AI-powered video interviews that assess candidates' soft skills and the cultural fit he or she is having with the organization specifically. We have TextVue, which utilizes AI to optimize the job postings, you know, making them more attractive to diverse candidates. And we also do have the Ultimate.AI, which provides AI-powered chatbots for HR support.

So, you know, addressing employee inquiries efficiently and effectively. Now, let's look at some of the tools in more detailed fashion. Let's look into the popular one, Vee by Visier. You know, we makes people analytics conversational and self-serve, you know, instantly pulling data from the right sources to offer critical analysis or insights on managing teams or even the entire workforce. So it answers typical questions about policies, about procedures or benefits using the organization's document library. This is vital. Using the organizational document library, providing quick access to essential information. This also delivers best practices and tools for topics like, let's say, hiring, onboarding, performance management from internal or external sources. It could be sources like Galileo by the George Burson Company, Red Thread Research or other third party libraries for that for that particular matter. Now, when you look into the Vee, how does this platform look like?

Let's have a quick look. You know, you have to give some instructions, type your query and we use you the answer. Some examples could be. Who's the most at risk of resignation on my team? So that gives a certain insight.

So who is at the verge of resignation or having the most at risk of resignation in a particular team? Also, we'll have some particular understanding what would be the predicted resignation rate or what could be the different parameters that affect the resignation. When you look into vee, we draw from all the data sources, not only the data that is given at the beginning, but also time and attendance for that matter. Skills, learning, payroll, service, sales, employee experience, project management, so a whole lot of data. is being taken by vee and you know you can have different comparisons as I mentioned with respect to where you are individuals and the team stand in terms of this is just a parameter I wanted to discuss predicted resignation rate so where the individual stands on basis of the predicted resignation rate and how well you can actually look into his or her well-being in that case you can also have a check on some parameters like what's my high performer headcount it gives the details what is the or who is a high performer what is the headcount for that you know headcount dashboard for supervisors projected future headcount highest performers so a whole lot of data as i mentioned is

available you will also you know get the headcount dashboard for supervisors not only the employees, but also supervisors.

And if you scroll down, you'll get again net change in the headcount, net change in employee exits in a headcount for undivided, undefined versus invalid. You know, if you have a particular benchmark or baseline for that matter, you will also have certain summary parameters or summary statistics of headcount movement in a particular period let's say some some particular period you you take randomly with respect to the previous quarter or previous financial year for that matter you get more data encompassing that you will also see that there could be clear summary statistics of employee movement in the period with respect to what is the headcount on basis of a particular period that dashboard for supervisors is super critical and super useful when you look into you know other parameters we have you know some questions like what is average time to productivity of new hires click on questions to get the results so there are some analysis which also gives a trend you can download the reports there are a lot of again possibilities associated with that You can keep on adding the questions. What is average time to productivity of new hires? Something which is otherwise you can just make a guess or you can just calculate some value out of your hunch.

But this gives you more detailed insights. Specifically, let's say average time to productivity if you're looking into that. You have some groups that increase the metrics. You have some groups that decrease the metric. Employee, job, family, shift patterns, age range, shift patterns, overtime, exemption status, etc. are the groups that decrease the metric. You have performance group. You have performance rating. You have different age range, etc., which actually enables or equips more towards the groups that increase the particular metric. You also have possibility in V to pose questions like how well does the organization pay people related to the salary band and to the market.

So to comparison with the industry, that's what is happening or that that is what it can be done here. How has employee pay changed over time? You know, very crucial information to get deeper information. You can scroll down for for more results for that matter. You'll also have, you know, typical arrangements for different types of understanding from patterns. Right. What is happening with respect to a particular time

frame? This can also be understood properly. From, you know, softwares or programs like Wisier. You can also have understanding of how many employees received a pay change during the time period.

You can also have an understanding what's the total amount of pay change. So how many employees and what is the total? So both how and what of the total payment that can be obtained or understood. So this is just a quick example of how these tools actually work and what are the different benefits of that. Now, when you look into the tools specifically, you have to understand that, again, this is a point which I've specified in the previous lecture also. What is the critical use of these tools for you? If your company needs a specific, let's say, question or your company, your organization is having a specific question, you have a conundrum, you have an issue going on with respect to the attrition or with respect to the turnover rate. You know, then you should actually look into a tool like Visier or Vee for that matter. If you have some other requirements, say basis of resume scanning or maybe in terms of recruitment as a functional work, then you should have or you should go for a different tool. So based on your requirement, you need to change your tools.

This is specifically what I wanted to mention when you are being exposed to these tools and softwares for that matter. Now, let's look into ethical issues with AI in people analytics. You know, there are certain critical aspects. We are trying to look into the different flavors of these ethical issues in every single module. So as and when we progress to different topics within AI in human resource management, specifically, my intention would be to look into ethical issue from different lenses. So now we are going to look into ethical issues with AI in people analytics. So let's look into that. We have the first and the foremost one, the most critical one, obviously, the fairness and bias issue. When you look into critical issues of fairness and bias, you know, hiring algorithms and AI decision making systems have the critical potential to introduce ethical

bias and discriminatory practices leading to unfair treatment of candidates and employees. So in 2018, as you can see, Amazon discovered that its recruiting algorithm was biased against women. If you have followed the news, you'll see that it was a big problem and it favored male candidates by penalizing resumes with terms like women

and downgrading graduates from all women colleges. So after trying to fix the bias, Amazon eventually scrapped the algorithm because that was the logical end to the algorithm. So this highlights how specifically machine learning systems built on past data can inherit bias as a point, which I am trying to underscore in every single module. For instance, algorithm aiming to retain, let's say, employees. may discriminate against groups like women who left jobs due to cultural issues. Even though algorithms seem objective, a key consideration for AI, even though algorithms seem objective, they can reflect biases present in the data that they are trained on. Another critical aspect would be the privacy.

AI is used in surveillance specifically and data collection raises privacy concerns in an increasingly connected digital ecosystem. So employees are aware that the data is being collected and used, raising concerns about the privacy of sensitive personal information in HR activities. You also have ethical issues surrounding human data interactions. Human data interactions, a key consideration for AI-based HR algorithms is, you know, specifically how they influence employee behavior. So unlike in animate elements, people respond to evaluations and strive to improve their conditions for that case. So quantifying or specifically ranking employees can affect their actions. For instance, let's say AI is predicting which employees may leave could lead to them being treated differently, you know, such as receiving less support or training, which might actually inadvertently cause the predicted outcome to occur. We also have cases of lack of transparency referred to as a black box algorithm.

Black box algorithm can make it difficult to identify issues. Again, like bias, it raises questions about accountability, about responsibility for those who are using these systems specifically. Then you have certain cyber security risks. Please note increased automation and AI usage specifically. Heightened concerns over technical risk, including data breaches and cybersecurity vulnerability for that matter.

You have some trust issues in employees. Trust is a critical issue. If AI systems breach this trust by mishandling personal data or making biased decisions, it could have, you know, long term negative effects on employee engagement and honesty. You have some unintended consequences also. Please note. You know, unintended consequences are

more critical. The use of AI in HR may lead to unforeseen negative outcomes, such as, you know, something like reinforcing existing biases with data sets that are more biased or creating new ethical dilemmas in human data interaction. So these are some of the ethical issues that you see. Now we'll quickly look into the keys to strategies that are for use of AI. We have the most prominent NLP, natural language processing.

We have real time people analytics. We have behavioral stimuli and we have digital wellness and gamified AI. Let's look into the NLP. Let's start with NLP. You know, recent improvements in natural language processing and machine learning have made it easier to analyze sentiment in both written and spoken. So both the elements of written and spoken language pulse surveys, which gather quick feedback, have transformed how companies measure employee feelings and monitor practices in real time for that matter. Employee dissatisfaction often goes beyond pay issues and can now be easily identified using NLP tools. We have the real-time people analytics, you know, AI allows management to move beyond annual reviews to monitor employee satisfaction and performance. So companies can now perform real-time sentiment analysis on employee communications to actually understand what is a workforce morale, what is a workforce motivation.

Combined with the predictive analysis, you know, these insights actually help employees measure engagement and take immediate corrective actions to improve it, reducing turnover and boosting productivity for that matter. You also have gamified AI. Gamified AI has strengthened employees connection to company goals. This type of AI goes beyond, you know, simple voice activated tools. They are shifting employee engagement measurement from mere static surveys to, please note, ongoing polls and real time reporting for that matter. You have digital wellness. AI focused on employee health has the potential to transform how typical companies manage their wellness program. So with a growing digital native workforce, AI is set to become a key player in the workforce. As a result, companies now recognize that prioritizing employee health is crucial for maintaining a positive work environment.

You also have behavioral stimuli. AI can create an immersive work culture using some of the virtual motivators like what we see in today's world, views, the likes, the comments to prompt actions actually. So when organizations merge insights from behavioral science

with AI, they can transform how employees perceive the workplace. Such programs can eliminate biases and foster a fair environment where employees are rewarded equitably for their contribution. Now, let's look into one of the most important frameworks specific to people analytics.

It is IEI, identify, evaluate, experiment and implement in this framework. Helps organizations, no doubt, to achieve the desired objectives by using right technologies and tools at the right place. This framework was explained on the basis of employee engagement, which is one of the applications of people analytics. So you have the first one, identify. Now, when you look into the aim of incorporating technology in the workplace is to remove a repetitive mundane task. So HR should identify areas that can be automated with AI to reduce such tasks, allowing employees to focus on more meaningful work and projects. This can enhance employee engagement and strengthen their connection to work environment. So when you look into the I framework, identify is all about understanding this. When you look into evaluate, you know, one's HR. The second point, evaluate once HR identified tasks that can be enhanced with technology, they must assess the feasibility and potential drawbacks from an application standpoint.

So AI-powered solutions have been shown to enhance the impact of human interventions through a very comprehensive data-driven approach while still recognizing the value of HR professionals' expertise. You have the experiment as the third element of the framework. The experiment phase actually evaluates how employees respond to HR's use of technology, be it for engagement, be it for whatever purpose or functional aspects of HREs, and compares the effectiveness of AI-driven engagement with the traditional methods. Then you have the final aspect, which is implement the most critical one. AI tools and related technologies must be carefully implemented after following all the outline steps. Organizations will then view AI as a key driver for promoting effective organizational change and improving workplace culture, beyond the actual environment or into a very hybrid environment as the case is in today's world. Now let's look into the benefits of AI in people analytics very quickly. We'll see that the first one is enhanced recruitment and talent acquisition. You'll see that you have certain aspects of recruitment that is already being handled by the AI driven mechanisms.

So when you are focusing AI in people analytics, AI driven tools actually streamline recruitment by automating resume screening, matching candidates to roles and predicting job performance for that matter. So this reduces bias and speeds up the hiring process and ensuring more accurate talent acquisition. You have improved employee engagement and retention. AI models typically analyze employee sentiment through surveys. Emails are all sorts of communication for that matter, enabling a real time insights into engagement and job satisfaction. So early detection of dissatisfaction helps HR take proactive steps to retain employees and improve a workplace morale. You have the data driven performance management as another benefit of AI and people analytics. You know, artificial intelligence powered systems actually offer. Continuous and objective performance evaluations by analyzing employee productivity, by analyzing the contributions of the people involved, by analyzing the skill development that is required. So this specifically leads to fairer performance reviews and personalized feedback.

You have the predictive workforce planning as yet another benefit of AI. AI intensifies and identifies individual learning needs and tailors development programs, offering personalized training opportunities based on performance data and career goals. So this enhances employee growth and satisfaction. You also have benefits like bias reduction in HR process. You know, AI algorithms typically, when trained properly, can help eliminate unconscious bias in recruitment, promotions and even all sorts of evaluations by focusing on data driven metrics rather than relying on mere human judgment for that matter.

You also have some of the cost and time efficiency. Needless to say, this should have been prioritized in the beginning. AI systems automate many repetitive and manual HR tasks such as candidate screening and data analytics, freeing up HR professionals to focus on strategic initiatives. This increases efficiency and reduces the particular cost. So these are some of the critical benefits of AI in people analytics specifically. That said, as my theme or my attempt or intention in this entire course is to give you a practical insight into the course. We'll go ahead with one of the typical case studies, which has been very popular of late because of the AI involvement specifically in people analytics. It is

pertaining to the Google's Project Oxygen. We will try to break down the case into the problem. We'll try to then analyze what what is the problem specifically.

Then we'll try to give a solution and recommendation from our side and what the case is all about when it comes out from a from a solution point of view. So let's look into that. The Google's Project Oxygen. You know, the problem is. has been very critical.

Google initially operated under the belief that management was not essential to success, given the company's focus on individual talent and innovation. However, over time, it became clear that managers played a pivotal role in fostering a positive work environment. So this happens to be the first major flaw there. Enhancing employee satisfaction and driving productivity. So the challenge was identifying the specific behaviors that distinguish great managers from average ones and understanding how these behaviors actually influence team performance.

So this was specifically the problem per se. The solution for Project Oxygen, you know, Google's Project Oxygen launched in 2008. He's a research based initiative aimed at improving the management practices within the company. So spearheaded by Google's people operations now, which is known as people plus AI research or pair. The project sought to identify the most important qualities that make a great manager. So the research team conducted a comprehensive study using internal data from employee surveys, performance reviews and nominations for the great manager award. The objective was to identify management behaviors that correlated with improved employee satisfaction, retention and productivity for that matter. So based on this particular analysis. Google initially identified eight core behaviors most closely linked with high performing managers. So in 2018, by around that time, this list was expanded to around 10 behaviors, I think, to reflect the growing complexity of management roles within the company.

Now, critically, what made it successful? The project used people analytics. This is where the theme of the lecture comes into play, aligning with Google's data-driven culture, which gave it credibility, basing the initiative on employee feedback, increased trust and engagement, while data convinced managers to improve their management styles. Technical skills ranked last, highlighting that soft skills like coaching and communication

are more critical for effective management. So it provided a checklist of key management qualities, reminding managers to actually apply these skills on a daily basis. So when you look into the 10 oxygen behaviors, Based on this, Google adjusted its feedback service to focus on these management qualities and develop training programs. So you have the different 10 oxygen behaviors, coaching, empower, inclusivity, productivity, sharing, supportive, vision, technical collaborations, decisions, etc. So this is what Google has understood that it is futile to make an assumption that management is not relevant.

Please make no mistake in understanding and acknowledging the fact that whatever be the technological upgrades, whatever be the technological developments that happen, human element is critical and will be critical in the future because the level of complex level of calculations and analyzing Over and above the emotional handling that the brain does cannot be matched by AI, at least in the present day scenario. So what the Google project has also shown us is typical. It can give us a lot of insights. There is no doubt about it with respect to the behavioral patterns, with respect to some of the predictive analytics. But that said, there has to be a human element which is making judgment in terms of the available data. So both this in a convergent manner would be the future, would be the world that is going to unravel. That's all from today's class. See you with more insights in AI in human resource management in the next class. Till then, take care. Bye-bye.