MAKING SCIENCE FICTION AN HREALITY

3 WAYS ARTIFICIAL INTELLIGENCE CAN BENEFIT HUMAN RESOURCES

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The human resources function has enormous potential to capitalize on the benefits of artificial intelligence (AI). For one, AI can help achieve better business results by helping HR leaders and managers make better decisions about their people through more accurate job taxonomies, fairer pay and improved new-hire screenings. Furthermore, AI models can be built in HR functions to replace repetitive work and shift the focus of HR leaders from administrative tasks to more strategic contributions.

Experienced HR executives know more than anyone that leaders who don’t take control of technology and innovation will end up being controlled by it. However, when it comes to AI, there are a lot of “half-truths” out there. For example, there is a lot of speculation that robots and automation will drive massive unemployment. While some jobs will go away, we believe many new jobs will be created to manage this technology — just how many is, of course, hotly debated among economists. Because of these half-truths surrounding AI, many HR leaders are unsure or skeptical of how this type of technology can benefit them.

It’s important to note that AI models cannot replace HR or managerial decision making. It’s a tool that informs better decision making. After all, people leaders know their organization in ways that technology can’t. Also, leaders are ultimately responsible for attracting, retaining and engaging their workforce and can’t just go back and blame the machine if things go wrong.

The following three “real world” solutions illustrate the benefits that AI can bring to the HR function.

**Automating Job Matching: Deep Match**
Compensation survey providers work with survey clients to input their data submissions, including job characteristics such as job family, job functions and job categories. They ensure each incumbent is correctly mapped to the job taxonomy in surveys so that companies can make an apples-to-apples comparison for market analysis and compensation benchmarking.

The challenge for companies is that job-matching work can be a repetitive and tedious task. To solve for this pain point, AI models automate the job-mapping work, thereby significantly improving the efficiency of this process and freeing up time and resources from those tasked with this job to spend time on more impactful work. This is particularly important for Fortune 500 clients that have large job-mapping tasks.

While this solution is mostly designed to increase the efficiency of matching client jobs to a job taxonomy, there also are strategic use cases being explored. For example, we’re observing a rising number of companies across industries that are losing internal controls over their job titles. In an effort to attract new talent or incentivize current employees, some businesses are handing out job titles that don’t fit the actual work being done by the employee or don’t match the traditional education and experience required for the job title. Oftentimes, organizations don’t realize how bad this situation has become for them until they begin matching jobs to an external survey. A “Deep Match AI” tool can quickly reveal situations where job titles are systematically inflated so that organizations can better align themselves to the market.
How the Model Works

Ever wondered how these AI models are developed? For the job mapping tool, the model first processes an incumbent employee’s job title and their manager’s job title using the natural language processing method: Each word (e.g., “software”) and its context (e.g., “developer”) is translated into a series of numbers. These numbers are then correlated to whatever you want to match them to (e.g., job category, job family or job function). In a sense, the algorithm is testing which job category or job function elements aligns most with each element of the series of numbers. This means that AI identifies and replicates the inner logic that compensation decision-makers have used previously when matching jobs to the Radford job taxonomy using a limited set of information (e.g., job titles). Interestingly, the small set of data points we are using for the tool happens to predict job matches really well — suggesting that the underlying logic used to match jobs is perhaps not dramatically complex.
Predicting Future Pay in New Markets: Pay Inference

When it comes to hiring new talent, using AI can help companies more accurately set base pay so that it reflects the market. Companies often use external survey data to obtain competitive benchmarks for the median pay for targeted jobs and regions. But when entering a new market with limited data for targeted jobs (for example, a software engineer in Albania), you need a way to reliably obtain market pay based on whatever limited information might be available.

We see this challenge becoming a bigger issue as more companies hire employees to work remotely from areas in the world where the business doesn’t have a centralized office. A “Pay Inference” tool uses deep learning to fill in the gap for missing salary information and provides a statistically reliable compensation range for target jobs and regions. This type of tool is particularly useful in two types of situations:

1. **Privacy concerns:** The model bases the compensation estimate on the pattern built by the entirety of data points — not just those five or so software engineers employed by United States-based technology companies in Albania — so the results are more defensible from a privacy standpoint.

2. **More comprehensive data results:** An average data cut only takes into account the specific data points in that cut (e.g., pay received by five software engineers in Albania) while ignoring other information that can inform relevant pay rates. For example, an AI algorithm would use multiple data points to infer a pay rate, such as pay rates for software engineers in Serbia, overall pay differential between technology employees in Serbia vs. Albania, pay rates for data scientists in Albania, overall pay differential between data scientists and software engineers in countries that are adjacent to Albania and so on.

Assessing the Right Job Fit: Pathfinder

A most pressing question today is how to motivate and retain talent in times of economic uncertainty. Careers and learning opportunities are a great motivator, but upward mobility is costly. Therefore, lateral moves (i.e., a “climbing wall” instead of a “career ladder”) are really the only feasible alternative. Ironically though, our research shows that employees are about three times more likely to quit working for their organization than move laterally across job families or functions within the same organization. Clearly, it will take more powerful solutions to drive such cross movement.

Recognizing this problem, using a tool that can identify alternative job choices for employees by analyzing their individual characteristics, historical job mobility, skill similarity and assessment data, such as Aon’s “Pathfinder,” can be helpful. Leveraging existing and historical data allows for robust recommendations and provides valuable guidance to employees for career planning and organizations for workforce planning.

After entering the relevant information, Pathfinder recommends between one and five alternative internal job alternatives for employees — with a direct link to the internal applicant tracking system to enable an immediate job application. It provides developmental guidance to prepare employees for their next career step. And it not only informs job fit, but also development areas and skill gaps — all driven by AI.

Table 1 shows the type of individual information the model collects and uses in conjunction with company information to make alternative job recommendations.

The Future of HR

In the current environment, the future is hard to predict. The pressure to increase HR process efficiency and add strategic value will likely continue or even increase going forward. Tools leveraging AI can achieve both if packaged into user-friendly practical solutions that drive immediate business value. While we’ve outlined three applications of AI for HR, the potential for utilizing this technology in ways that can make the human capital function even more strategic is immense.

It is important to keep in mind that, almost without exception, AI tools developed to help people leaders are built or “trained” based on decisions originally made by people. For example, an algorithm to compute market pay uses underlying pay data and therefore reflects the decisions made by real people to set or accept real pay levels. As a result, these models sometimes get it wrong. A case in point: Resume evaluation software that has been shown to favor men because, historically, men were favored by hiring managers.
Furthermore, we as a society are nowhere near a situation where employees, managers or executives are ready to accept decisions that are made by a computer — even if those decisions are correct. When it comes to the workplace, the decision itself is often less important than how it is explained by the people we trust. In that vein, we urge our clients to embrace the power of AI, but also acknowledge its limitations. Ultimately, AI drives efficiencies and strategic value if it is used to support human decision-making as opposed to replacing it.

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Acknowledgments
We’d like to thank the Aon Human Capital Strategy AI team, including Will Cubitt-Smith and Chris Lawrie, for their contributions in developing the algorithms used for the applications discussed in this article.

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