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How We Can Apply AI, and Deep Learning to our HR Functional Transformation and Core Talent Processes?

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Abstract

[Excerpt] While organizations agree with the importance of AI, only 31% are ready to embrace or have already applied it to their HR process. There are varying levels of acceptance for AI across the HR function. Top areas of implementation are: recruiting and hiring (49%), HR strategy and employee management decisions (31%), analysis of workplace policies (24%), and automation of tasks previously performed by humans (22%).

Keywords

human resources, artificial intelligence, AI, robotics, functional transformation, machine learning, deep learning, deep neural networks, robotic process automation, chatbots, transactional HR, HR operations, talent acquisition, training and development

Comments

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Required Publisher Statement

Research Question

How we can apply AI, and deep learning to our HR functional transformation and core talent processes?

Background

While organizations agree with the importance of AI, only 31% are ready to embrace or have already applied it to their HR process. There are varying levels of acceptance for AI across the HR function. Top areas of implementation are: recruiting and hiring (49%), HR strategy and employee management decisions (31%), analysis of workplace policies (24%), and automation of tasks previously performed by humans (22%). (see Appendices A&B)

Terminology

First, it is important to understand the many different concepts that fall under the umbrella of Artificial Intelligence (AI). **AI** is an area of computer science where computers are "developed" to behave much the way humans do. **Machine learning** is the science of getting computers to "learn and act" like humans, improving learning by amassing and analyzing actual interactions. **Deep learning**, which is regarded as the highest level of AI today, is advanced machine learning that "teaches" computers to learn through deep neural networks (DNNs). **RPA** (Robotic Process Automation) is "bot" software which assists with basic, high-volume, repetitive, and rule-based tasks. RPAs often improve the accuracy and speed of data processing. RPAs are 'taught' by humans and can assist in automating back office tasks. **Chatbots** can be considered as a conversational or more tangible version of AI which has potential that can be widely used throughout an HR function e.g. answering FAQs on company or HR policies.

The application of Artificial Intelligence to the HR function

All organizations, regardless of mission or purpose, seek to become more effective and efficient. The utilization of simple rule engines such as RPAs to complex cognitive computing is radically reshaping how HR departments function.

Robotic Process Automation (RPA) Utilization for Transactional HR

RPA can assist companies in streamlining repetitive tasks such as benefits enrollment and payroll, employee data management, and the onboarding process. Typical tasks for RPAs include: collecting data from XLS files or systems, running reports, copying data, checking data for completeness, reading, processing and submitting emails, entering data in HR or Payroll systems and pre-populating forms. Savings can be substantial with cost reductions of 50% to 70% on average.[1]

Chatbot Innovations in HR Operations

Chatbots are commonly used to address the common questions relating to company or HR policy that waste time for HR professionals and hamper productivity. However, many companies are becoming more innovative and beginning to utilize chatbots in combination with deep learning

and RPAs to produce high-quality interactions for employees and customers. The Chatbot presents a friendly text or voice interface to the user while interactions will trigger a RPA that connects to back-end applications, retrieves customer data, and executes specific tasks for the user.

Firms such as NICE Ltd. are leveraging machine learning and big data to predict customer demands and enable chatbots to proactively communicate with customers.[2] By analyzing, interpreting, and understanding large volumes of customer requests, the solution could pitch healthcare options to an employee based on his or her background, while RPA robots auto-fill the application form to save the employee time.[3]

Integrating AI and Talent Processes

Talent Acquisition

AI is enabling passive candidate sourcing by identifying likely candidates from verified data sources. Using recruiter-defined parameters (e.g. location, skill set or industry), AI can return lists of potential candidates, predict their readiness for a move, develop and send communications, and map responses.[4] For example, IBM has created a suite of tools to help candidates personalize their job search experience based on the engagement they have with Watson. However, there are clear downsides to AI filtering candidates. Amazon recently scrapped an AI driven recruiting engine as the tool as algorithms began to show bias against resumes of female candidates.[5]

Training & Development

Companies on the cutting edge of AI implementation are using AI to create or adapt training programs that fit company and employee needs. Training platforms powered by machine learning can analyze an employee's background, their current role, and career aspirations to recommend relevant training programs through services such as Lynda or Udemy. Learner-centric training, made more efficient through AI systems, can lead to increased engagement and retention.[6]

Other Applications

Predictive analytics which relies on human interaction to query data, validate patterns, and test assumptions. Machine learning can bring prediction to the next level. When data previously validated by data scientists is constantly updated and validated using AI, predictive models iterate more frequently and keep HR on the cutting edge of employee insights. More information on alternative trends for AI and Deep Learning in HR can be found in "Additional Background Research & Trends".

Conclusion

As technology becomes more advanced, HR departments should seek to innovate in how RPAs, Chatbots, AI/Machine Learning (ML), and Deep Learning (DL) are integrated into day-to-day HR operations. HR departments should seek the help of knowledgeable external consultants and acquire key talent such as ML/DL engineers to fully understand how the aforementioned capabilities can best aid their operations and the organization they serve.

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Additional Background Research & Trends

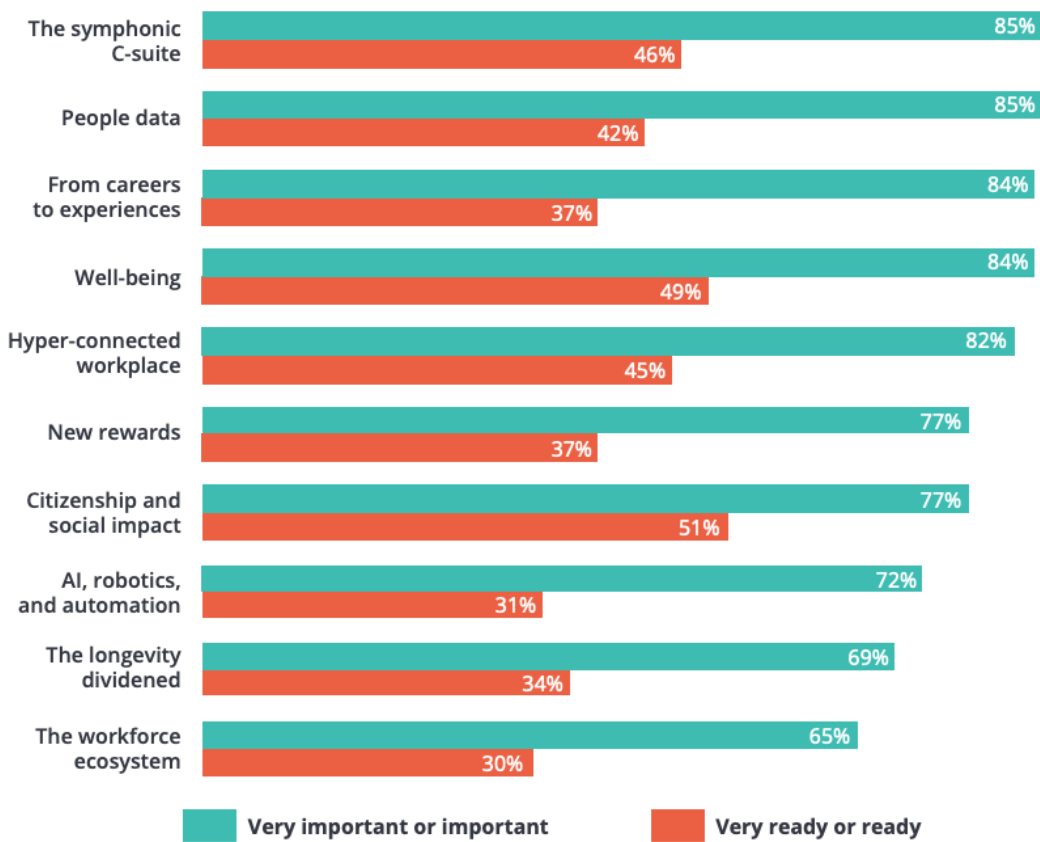*Tips to bring AI & ML innovations to the HR function:*

1. Identify which roles on your team will be transformed by AI or inventing new role.[6]
2. Capitalize on the digitization and datafication of the HR function. Keeping and collecting corrected data are keys in this process of continuous change.
3. Hack HR to identify new HR solutions. Jet.com recently used to a hackathon to improve the candidate experience by bring HR hiring leaders together with software designers and graphic designers to create new candidate process.
4. Every major human capital management cloud provider is now implementing algorithms, making it important for organizations to maintain accurate data and carefully review these tools for accuracy and potential bias.
5. The success of any organization depends on how effectively it combines people, process and technology intelligently to deliver transformational value at optimized cost. AI will help to efficiently automate many back-office functions for reliable HR transactions and service delivery.
6. Increasing the digital IQ and EQ through algorithm's learning themselves enables AI to deeper step into what is referred to as an "unconscious level" of information. By consolidating and comprehensively analyzing people's statements, mood and intentions on social media, along with other public-data sources, human behavior can be simulated by autonomously learning machines. This makes it possible to validate the employee experience on a day-to-day basis. HR performance and succession data provide information on which employees are engaged and challenged. That gives a new dimension to strategic workforce planning to reduce employee attrition. It is a helpful tool to find the right mix of man and machine in the workplace, which skills and talents are key to maintain balance, and the best-fit candidates for the internal or external hiring process.[9]
7. AI helps employees to navigate their careers by creating internal career mobility platform using machine learning based on employees' choice and action. Cisco employee can choose their new adventure and career in the company with AI.
8. Software can now recognize faces and identify gender, listen to voices and identify mood, and decode video interviews to identify education level, lying, and cognitive ability. Analytics tools are intelligently selecting candidates, identifying employees' career options, and coaching managers on improving their leadership skills. And the potential doesn't end there: AI is even being used to create chatbots that can interact with job candidates, identify and score video interviews, and understand the sentiment of engagement surveys.[10]

2018'S 10 HUMAN CAPITAL TRENDS: IMPORTANCE AND RESPONDENT READINESS

Respondents generally agree that, while each of the following trends is important, most organizations are not yet ready to meet expectations.

Figure 2. Trend importance and readiness

Trend	Very important or important	Very ready or ready
The symphonic C-suite	85%	46%
People data	85%	42%
From careers to experiences	84%	37%
Well-being	84%	49%
Hyper-connected workplace	82%	45%
New rewards	77%	37%
Citizenship and social impact	77%	51%
AI, robotics, and automation	72%	31%
The longevity dividend	69%	34%
The workforce ecosystem	65%	30%

n = 11,070
Source: Deloitte *Global Human Capital Trends*, 2018.

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Source : Deloitte Global Human Capital Trends, 2018

Appendix B

In which of the following areas is your organization using artificial intelligence or data analytics to improve workforce management decisions? (check all that apply)

49%
Recruiting and hiring

31%
HR strategy and employee management (e.g. employee performance, promotion decisions, etc.)

24%
Analyze company policies and practices (e.g., identifying wage disparities by gender, race, etc.)

22%
Workforce automation (i.e., automating tasks previously performed by humans via robotics or algorithms)

17%
Corporate compliance and investigations

16%
Analyzing the success of diversity, inclusion or related programs

5%
Litigation strategy

Source : THE LITTLER® ANNUAL EMPLOYER SURVEY MAY 2018 [11]