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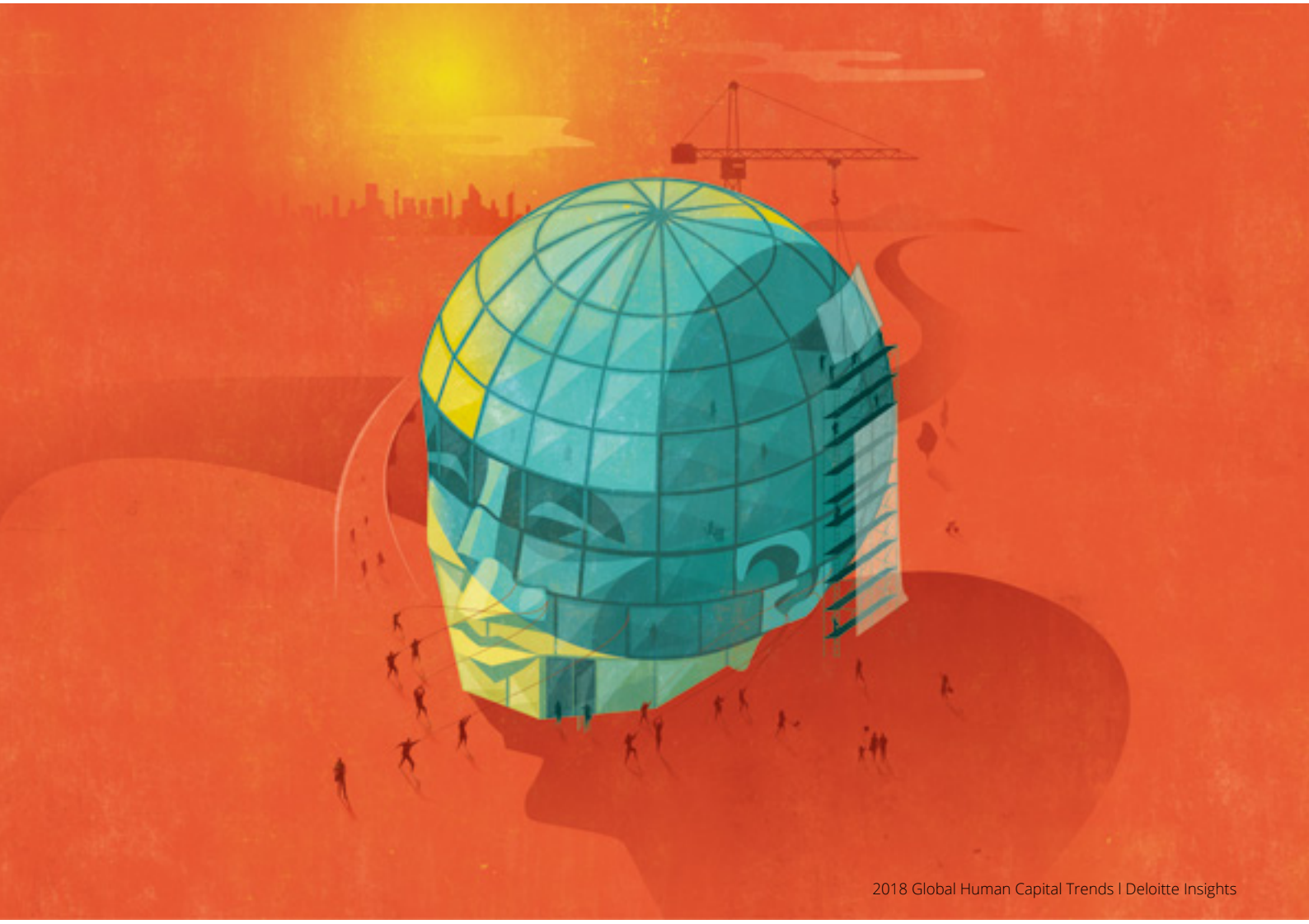

Beyond HR: Rethinking work and operations in the mining industry

An examination of the top findings from the Deloitte 2018 Global Human Capital Trends survey

About the 2018 Human Capital Trends Survey
The 2018 survey is Deloitte's largest and most extensive to date, with input from more than 11,000 businesses and HR leaders around the world, including 952 from the global Energy and Resources industry. 43 percent of respondents were from large companies (more than 10,000 employees), 26 percent from medium sized companies (1,000-10,000), and 31percent from small companies (fewer than 1,000). Respondents were from a broad cross section of the Energy and Resources industry, including Power and Utilities, Oil and Gas, Mining, Shipping and Ports, Alternative energy and Water. 57 percent of respondents were HR professionals, with other business executives accounting for 43 percent .

Introduction

Digitization is not an application, a platform or a system. It is the engine behind perpetual business transformation—a constant state of change that has become the new normal. Through the annual Human Capital Trends survey, Deloitte recently explored how human resource (HR) and business leaders are adapting to this new normal. Now in its sixth year, *Human Capital Trends 2018: The rise of the social enterprise* featured the input of more than 11,000 businesses and HR leaders around the world, including 952 from the global energy and resources (E&R) industry. The findings of this year's report provide greater clarity on what the future of work might look like for E&R companies and how they may need to adjust both their operational and HR strategies to function efficiently and effectively in a context of connected mobility.

As outlined in the Deloitte report, *Intelligent Mining: Delivering Real Value*, digital transformation has profound implications for work, the workforce, and the workplace.[1] A limited understanding of these implications, along with underestimating organizational barriers and bureaucracy, often prevents organizations from driving radical change, which is required to capitalize on the digital revolution. The findings of Deloitte's report shed light on how organizations can prepare for intelligent mining, including how far they have come in redefining their workforce strategies and talent models, and which areas will likely need more attention if they are to reap the rewards of automation, remote operating centers, analytics, mobility, and other digital advancements.

That said, it is important to note that the report is global; therefore, not everything contained in this analysis of the E&R findings will be applicable to every geography or to every type of mine. The composite view presented herein gives a general sense of how the nature of work is changing amidst the fourth industrial revolution (i.e., Industry 4.0) and how some mining companies are adapting their operations to take advantage of these shifts.

Top observations

The findings of the survey generated several sector-specific insights of relevance to E&R companies. They include:

- **E&R leads the way in the importance of wellbeing.** E&R organizations rated well-being as the most important trend across the sector this year, with 85 percent rating it important or very important. Readiness, however, was a different matter with only 53 percent feeling they were ready to deliver effectively in this space. Though E&R companies understand that well-being is important, they are still trying to define what it means and how to address it. For instance, safety remains the core cultural value and main component of well-being; however, well-being is a broad concept that goes beyond safety to encompass an array of physical, mental, financial, and even spiritual concerns. Thus, well-being initiatives can reach into areas such as maintaining a healthy work/life balance; avoiding fatigue from 24/7 work cycles; monitoring workers' physical health; providing fitness and stress-management programs; and creating a culture of diversity and inclusion.

- **The leadership discussion continues to evolve—this time around teamwork**. "The Symphonic C-suite" was rated first globally, and third by the E&R sector. This is the next stage in the ongoing evolution of leadership models, in which the organization's top executives play together as one team, while also leading their own functional teams, all in harmony, to drive more responsive, coordinated and agile organizations.

- **Artificial intelligence (AI), robotics and automation are making inroads in the field, but are not capturing the mindshare one might think.** These technologies are still rated relatively low by the industry, even though they increased from eleventh position last year to seventh this year. Many companies across the industry are automating processes but they won't necessarily reap the full rewards until they redefine how work can be delivered in a fundamentally different way to drive greater productivity.

- **Corporate citizenship and social impact, which ranked fifth, may be a blind-spot, considering that it de facto constitutes mining companies' social license to operate in some regions**. Societal expectations are rising, and the mining sector is being challenged to respond to them. Nonetheless, nearly half (47 percent) of E&R respondents said social responsibility is not well-developed or invested in; however, more than half (53 percent) said it is either high or top of their list of strategies.

Rethinking work and operations

These findings collectively point to a growing need to redefine how work is done. Going beyond talent models, the future of work is fundamentally an operational discussion. Amid a complex environment with diverse and increasingly demanding stakeholders, mining companies are being challenged to rethink their operating strategies, including how technology can be practically applied to change long-standing practices that no longer support their agendas for growth, efficiency and social license to operate. Here are some examples of how a change in operating strategy, enabled by technology, can address the key topics identified in the report:

- **Well-being** – Opportunities abound for companies to enhance the well-being of workers by updating their operational strategies with the help of digital technologies. For example, companies could use a follow-the-sun approach in establishing and running their remote operating centers, so nobody has to work night shifts. At the same time, the industry has barely scratched the surface in deploying wearables to enhance safety. For instance, these digital sensors could be used to track workers' whereabouts and monitor their vital signs while underground. The potential of wearables, however, depends largely on access to internet connectivity, which may not be practical for certain types of mines.

- **Leadership** – Compared to the preceding industrial age, leadership in the digital era looks quite different. As noted in Intelligent Mining: Delivering Real Value, operational decision-making models are becoming more integrated and holistic. For example, a decision in relation to an unplanned event such as, "do I move my mining equipment or use the opportunity to do maintenance?" becomes transparent, collaborative and fact-based in the digital era—potentially being aided by historical analysis and pattern recognition, made possible by AI and machine learning. This implies that new qualities are needed in order for leaders to operate effectively in a rapidly changing, highly agile, digitally-enabled environment. These qualities generally include visibility, responsiveness, and flexibility, among others, and organizations shouldn't assume that their current leaders possess them. Mining companies today should assess their leaders for digital readiness at both executive and operational levels. Otherwise, a disconnect can occur where a proposed digitally-enabled strategy becomes impractical to execute. Why? Because corporate executives often don't fully understand the operational implications; and operational leaders don't always buy into the plans for digitization; or all too often both.

  Accordingly, leadership development programs need to reflect the new collaborative, cross-functional ways of working, and be designed to cultivate capabilities such as visionary thinking, a willingness to challenge the status quo, and the ability to foster diversity and inclusiveness. Research shows that diversity is linked to better decision-making and performance, which suggests that a big part of leadership today involves championing diversity and inclusion strategies. This may include tactics such as:

  - Implementing programs where experienced executives sponsor and mentor diverse employees.
  - Redesigning mining equipment so that it can be operated by people with various physical characteristics.
  - Collaborating with local universities to promote the sector and make it more appealing to diverse candidates.

- **AI, robotics and process automation** – Over the past 12-18 months, robotics has gained a significant foothold in the industry, and in many ways, the mining sector is far ahead of others in implementing these next-generation technologies. For instance, the sector has driverless trucks and uses augmented reality to conduct maintenance. However, making the most of these digital advancements demands new ways of operating supported by a whole new range of skill sets, and on these fronts, the industry doesn't appear to be keeping pace. While 76 percent of E&R respondents see AI, robotics, and automation as important, only 31 percent feel ready to navigate associated changes. The sector's reticence to make the necessary shifts may lie in a poor understanding of how these next-generation technologies can deliver operational value. The increasingly popular concept of "the digital twin" illustrates how significant their value

contribution can be.
A digital twin is a near-real-time digital image of a physical object or process that helps optimize business performance.[2] It is often powered by a digital nerve center that enables data-driven decision-making by accumulating, integrating and simplifying information from across the organization in an environment that simulates the physical mine. Establishing this nerve center and creating a digital twin paves the way for using AI, robotics and automation to:

- Enable data-driven planning, decision-making and short interval control
- Introduce gamified performance management
- Deploy wearables
- Utilize smart predictive maintenance
- Leverage augmented reality to troubleshoot equipment remotely.

By blurring the lines between physical locations and the place where work happens, the digital twin provides opportunities not only to transform how work is done but also to diversify and reshape the workforce, since proximity to the mine site becomes less of a factor in recruitment and retention strategies.

As more and more use cases around the digital twin are developed, the path to value regarding AI, robotics and automation is becoming clearer. The greatest opportunity is not just to redesign jobs or automate routine work, but to fundamentally rethink how work is done to benefit employers, teams and individuals, with just six percent of E&R respondents saying they are doing this currently.

- **Citizenship and social impact** – Under the premise of shared value, the competitiveness of a business and the health of the community in which it operates are intertwined. Mobile platforms, such as smart phones or cell phones with advanced text capabilities, open up numerous possibilities for mining companies to create more shared value and to have greater socio-economic impact. Potential use cases for mobile platforms include providing ongoing communication with seasonal and temporary workers; informing communities on locally relevant issues such as HIV/AIDS, tuberculosis, alcohol abuse, etc.; breaking down economic barriers to education through online learning; driving productivity and upward mobility through valuable and useable skills development, including personalized rewards programs; and reskilling communities in alternative industries, such as agricultural production on mine-owned lands, etc.

  Cloud-based platforms can similarly be used to enable global organizations to engage more effectively in the communities in which they operate. Among the benefits are enhanced ability to address time-sensitive complaints and grievances, and transparent and more effective stakeholder engagement.

  While the potential uses of online and/or mobile engagement platforms are vast, open communication is key to creating value with them. The platform should be agile and available to everybody, providing a means of clear and candid messaging among all stakeholders—both from the bottom-up and the top-down.

Conclusion

As illustrated by these examples, the findings of the Deloitte 2018 Global Human Capital Trends report have wide implications, extending well beyond HR. These trends must be considered from an operational standpoint if organizations are to derive optimum value from their digitization efforts. How can operational strategies and processes be redesigned to support well-being, leadership, and societal impact? What skills and capabilities will be needed to operate in an AI-enabled, digitally connected context? These are the types of questions that should increasingly be included in operating discussions. Delve deeper into the top E&R findings here or view the full global 2018 Deloitte Global Human Capital Trends report via the interactive app here.

2018 Global Human Capital Trends

The symphonic C-suite: Teams leading teams

Citizenship and social impact: Society holds the mirror

The workforce ecosystem: Managing beyond the enterprise

Well-being: A strategy and a responsibility

New rewards: Personalized, agile, and holistic

AI, robotics, and automation: Put humans in the loop

From careers to experiences: New pathways

The hyper-connected workplace: Will productivity reign

The longevity dividend: Work in an era of 100-year lives

People data: How far is too far?

End Notes

1. "Intelligent Mining: Delivering Real Value," Deloitte, March 2018, https://www2.deloitte.com/global/en/pages/energy-and-resources/articles/intelligent-mining-deloitte.html, accessed September 2, 2018.
2. Aaron Parrott and Lane Warshaw, "Industry 4.0 and the Digital Twin," Deloitte Insights, May 12, 2017, https://www2.deloitte.com/insights/us/en/focus/industry-4-0/digital-twin-technology-smart-factory.html, accessed September 3, 2018.

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