feature

Ravin Jesuthasan, Willis Towers Watson and
John Boudreau, Ph.D., University of Southern California

The Future of Work: Can you Answer These Strategic Questions?

The debate about the future of work, and its social and organizational implications is now a constant drumbeat. For years now, economic research and future forecasts have debated questions such as how many regular full-time jobs will be done by non-employees, and how many jobs will replace humans with automation. Many organization leaders acknowledge these questions, but their primary focus is on the specific opportunities and challenges that they face right now. They focus on whether to expand their talent acquisition options to include contractors and gig workers in specific jobs. They focus on how to implement new technologies like artificial intelligence (AI), machine learning, chatbots, robots, etc., how those new technologies may displace their workers, and how best to reskill or humanely transition the workers that are affected.

These operational questions are vitally important, and organization leaders must generally use more sophisticated frameworks to address them. We have described such frameworks in our book, *Lead The Work*, and our forthcoming book, *Reinventing Jobs*. They are certainly valuable for improving specific operational decisions about optimizing new human work arrangements and the combination of human and automated work.

As important as such operational decisions are, leaders who exclusively focus on improving such operational decisions may miss an important emerging challenge and opportunity to address the bigger picture. For example, recent analysis by the McKinsey Global Institute (McKinsey Global Institute, A Future that Works: Automation, Employment and Productivity, January 2017) suggests a coming technological revolution that will eventually automate all economic activity and, most importantly, almost all work. They forecast near complete automation of existing work will occur between the year 2060 and 2100.

No matter what the eventual future holds, there is an emerging contrast between very different scenarios. For example:

Scenario 1: Human Work Becomes Obsolete

- Human work is limited to envisioning demand/innovating and orchestrating automation options.
- Humans become primarily "consumers" of output produced by automation.
- Social and economic support such as universal basic income (UBI) become necessary to ensure continued demand for output and a sustainable society.

In this scenario, organizations will optimize human-automation work in ways that eventually vastly reduce the number of human workers they employ. That would mean that their relationship with labor markets and "employment" in society changes drastically. Their social "license to operate" would be increasingly determined by their ability to show that they treat displaced workers humanely, that they contribute their fair share to social policies that support people's economic viability even in the absence of work, and that they address the inevitable inequities created when work is the province of a dwindling minority of humanity.

Scenario 2: Human Work is Constantly Reinvented

- Work evolves continuously and rapidly as automation substitutes, augments and creates work.
- Work involves many different arrangements beyond regular traditional employment, such as gigs, projects, tasks, etc.
- Human work remains vital and often even more valuable to economic productivity, but workers must constantly evolve to meet changing requirements.
- Reskilling and reinvention are the key determinant of social and economic status

and progress.
- "Frictionless" access to reskilling opportunities becomes a basic social need and expectation.
- Learning increasingly occurs through mechanisms that are just-in-time, bite-sized, consumer-driven, and tech-enabled.

In Scenario 2, automation and human evolution will continue to create demand for "human work," even though it will look radically different from today. As we have suggested in our books, work will be constantly reinvented as technology and automation continue their inexorable march forward. However, that evolution will not make humans obsolete. Indeed, it will often make humans not only more vital, but far more valuable in ways that were impossible without automation.

Of course, any forecast is subject to uncertainty. The evolution will not be evenly distributed, either in terms of its pace or direction. Look around your organization; you can probably already see examples of the emerging patterns. You will need to look beyond simple concepts like "jobs" and "employees." Look within your current jobs and you'll find tasks that now or very soon won't require any human workers. You'll see other tasks that will require human workers, but they will be engaged in ways beyond regular full-time employment. Still other tasks will have work that will change drastically due to automation, often making human workers much more valuable, but that will require significant reskilling. Of course, you will also discover work that is likely to remain traditional for a long time, but that will not be 100 percent of the work.

Responsible organization leaders should not ignore this potentially tectonic shift in the very nature of work, particularly because the eventual outcomes are already being shaped by those daily operational decisions that you make. It's easy for organization leaders to think that it's not their job to prepare for a future that is 40 to 60 years ahead, but the work and automation decisions your leaders are making now are already creating the patterns that will define your organization's future position as this revolution evolves. Are those patterns setting your organization on a sustainable and defensible strategic path? Or, are they being made on an ad hoc or random basis, risking that their cumulative effect will position your organization poorly for the future?

Responsible constituents like boards, investors, and regulators are unlikely to wait much longer before they expect answers to questions like these:

- What is the specific trajectory of the work in your organization?
- Where will your organization likely make existing workers obsolete, and should you be staking out strategic and social positions that support large populations of displaced workers, such as UBI?
- Where will your organization likely augment human value and contribution through automation that will require better-skilled and constantly evolving human workers, and should you be staking out strategic and social positions that support frictionless reskilling?
- Where will your organization employ human workers, but through non-employment relationships? And, should you be staking out strategic and social positions that support making alternative work arrangements more available, lucrative and less exploitive, such as portable health and pension benefits, and task-based or skill-based employment platforms?

Today, the questions are often unasked. When they are asked, the answers are often cobbled together from the daily ad hoc decisions about work and automation, often with little guiding logic, nor even a consistent framework to describe and evaluate them. We believe that leaders will be increasingly called on to offer answers that are more systematic, using common frameworks that reveal the nuanced patterns and their evolution.

Two Frameworks to See and Measure Work Evolution

We have proposed two frameworks to help leaders describe the evolution of work in their organizations. By using these frameworks consistently, they can better describe that evolution in consistent terms over time. Both frameworks rely on two fundamental principles:

1. The patterns can only be seen at a more granular level than "jobs" and "employees," using deconstructed elements such as tasks and capabilities.
2. The optimal reinvention of the work depends on how the individual work tasks and worker capabilities create payoff

for the organization, something we have termed "return on improved performance (ROIP)." Using new work arrangements, technology, digitalization and artificial intelligence, the relationships between performance and value become more complex. Return on improved performance[1] – similar to return on investment – measures the value of improved performance in a given position, i.e., not just the value of average performance in a job. Let's see how these frameworks might apply.

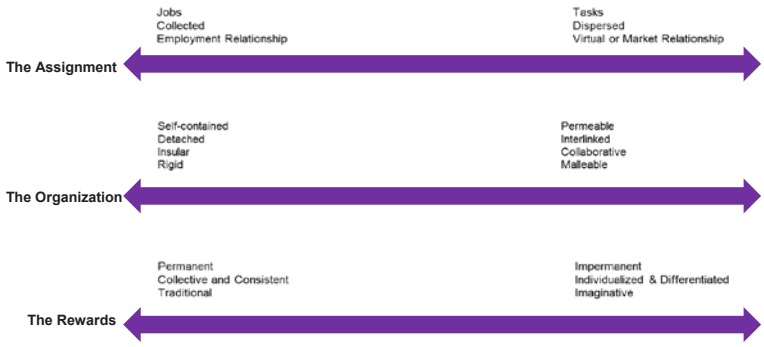
The first framework is from our book, *Lead The Work: Navigating a World Beyond Employment* (co-authored with David Creelman):

In the first graphic, we see traditional employment and where we have been for 150 years. Work is constructed into jobs, collected in one time and a singular space, and executed through an employment relationship. The organization is self-contained, detached, insular, protective, and has a rigid shape. The reward package is permanent, collectively consistent, and uses traditional elements, i.e., money, hours, working conditions, etc.

On the right, we see a world beyond employment and, arguably, the fundamental underpinnings for a world where work is constantly reinvented. Work is deconstructed into tasks, dispersed in time and space, and executed through many virtual and market relationships other than traditional employment. The organization is permeable, interconnected, collaborative and can change in shape. The reward is impermanent, individually defined, and uses imaginative elements such as game points, reputation, mission, etc.

The second framework is from our forthcoming book *Reinventing Jobs*. There, we suggest that optimizing the combination of human and automated work also starts with the same two steps: deconstructing the work and evaluating ROIP. While *Lead the Work: Navigating a World Beyond Employment* shows how to construct optimal ways to engage human workers, the framework from *Reinventing Jobs* shows how to optimize human and automated work by considering the types of available automation, and whether automation will replace, augment or reinvent the human worker.

These frameworks offer leaders a system not only for understanding work evolution at a deeper level, but also for detecting the patterns



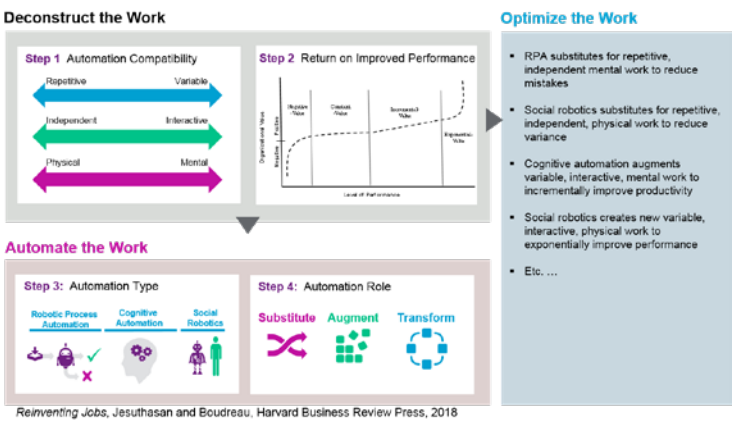
Source: *John Boudreau, Ravin Jesuthasan and David Creelman*

of work evolution that are embedded in the decisions they make. They give leaders a common language to describe their decisions, and then to consider if the pattern of those decisions is sustainable and consistent with strategic and social priorities.

Applying the Frameworks to Airline Pilots and Flight Attendants

Let's look at an example from the airline industry, and two prominent jobs that are evolving in some surprising ways. How should airline leaders answer questions about the strategic evolution in the work of pilots and flight attendants? What does that evolution portend for the workers that occupy those jobs now, and the workers of the future? Finally, how should airlines be preparing for these evolved work roles, both internally and through their external relationships and influence?

Pilots are a critical pool of talent for an airline; there must be a sufficient supply with appropriate skills to operate the airline. But, this is a segment where "good enough" suffices. As the chart below illustrates, beyond a certain standard, having higher performing airline pilots will not yield additional business value (defined as customer loyalty) to the organization; although having even one pilot "below minimum standards" can have a significantly

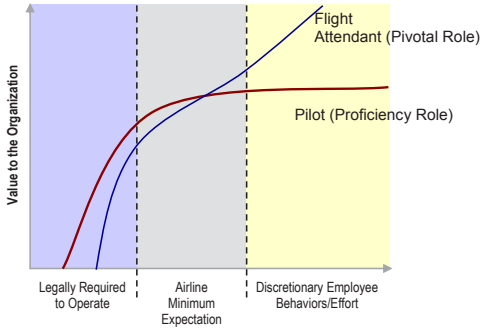


Reinventing Jobs, Jesuthasan and Boudreau, Harvard Business Review Press, 2018

negative impact on the performance and reputation of the organization, as well as compromise the integrity of the business model. This is the reason airlines invest in elongated career paths for pilots. For instance, it takes 20 years to move from the "right seat" of an Embraer 175 doing a short haul flight to the "left seat" of a Boeing 747 going across the Pacific Ocean. Significant investment also takes place in cockpit technology as well as in training and development, e.g., minimum simulator hours required, among other things; in order to take the left side of the curve out of play. This is a classic proficiency role: though the skills are high level, beyond a certain standard, higher performance won't yield more value.

Nevertheless, as airlines increasingly pursue competitive advantage by differentiating the customer experience – particularly for premium passengers – flight attendants become a pivotal workforce segment. Often they are the only "face of the organization" to most passengers, which suggests that higher levels of performance, particularly when it comes to delivering an experience that truly delights a passenger, can yield significantly greater customer loyalty, as the work of the flight attendant steadily shifts from the transactional to the relational. This is a classic pivotal role: higher performance yields more value. The diagram below depicts these relationships by plotting a curve showing the payoff from improved performance in the work of pilots and flight attendants.

So, armed with this insight about the differential relationship between work performance and value to the company, how can we apply the rapid advances in artificial intelligence to further enhance the impact of these roles? Indeed, how can we ensure that task automation does not merely reduce labor cost, but also delivers increased performance for the human workers? To answer these questions, we need to begin deconstructing work and understand how AI can differentially handle various aspects of work.



Let's go back to our flight attendants and think specifically about how cognitive automation might enable them to take the work of delivering the optimal customer experience to a whole new level, in this case, with augmented reality powered by cognitive computing, to deliver an unprecedented level of insight. If we deconstruct the job into the three categories defined above, you would ensure that the legally required and airline minimum elements of work were highly standardized and performed to the minimum acceptable standard, while empowering and enabling the flight attendant to unleash all of his or her discretionary effort on a highly personalized level of service. Imagine flight attendants wearing a version of Google Glass, through which they can access customer data and personalized preferences. No nut dishes served to Charles in 3C given his allergy, but black coffee and a predisposition for onboard duty free; early seating meal for Sarah in 2A so she can get to sleep quickly, and so on. In scenarios such as these, machine intelligence overlaid on augmented reality further increases the steepness of the curve for the discretionary portion of this pivotal role's work. For the flight attendant using this technology, a unit improvement in individual performance provides even greater increases in organizational value, as premium passengers are treated with a level of personalized service that would be otherwise unfathomable.

Conversely, consider how social robotics can change the left side of the curve for a pilot, (i.e., the legally required element). Instead of investing the aforementioned resources to minimize the possibility of human error, AI (in this case, robot pilots or autonomous airplanes) can replace the routine and repetitive elements of the pilot role, replacing human pilots with automation in the flatter portion of the ROIP curve. That means that many traditional pilot jobs might be eliminated, for example, by allowing flights to have one less officer in the cockpit. However, it also creates new work for pilots, because it enables highly-skilled pilots to act as overseers from a distance for multiple flights. The high payoff for skilled pilots is the part of the job when unforeseen events occur, such as mechanical failures, flocks of birds that disable engines, etc. Then, the work moves beyond the routine, and requires expertise of very highly

Endnotes

[1] Boudreau and Jesuthasan, *Transformative HR: How Great Companies Use Evidence-Based Change for Sustainable Advantage*, John Wiley & Sons, Aug 24, 2011.

https://books.google.com/books?id=dPgB6KIGSlsC&pg=PT39&lpg=PT39&dq=Return+on+Improved+Performance&source=bl&ots=Y34nmXQSHm&sig=dU2L3lgb6sjilEsfhJW_4MaZa0c&hl=en&sa=X&ved=0ahUKEwjjv_mC3dzOAhWml8AKHYmeBK0Q6AEIQzAF#v=onepage&q=Return%20on%20Improved%20Performance&f=false

skilled pilots like Chesley "Sully" Sullenberger. Imagine having such pilots available to remotely take over the flight because they are monitoring many flights from a remote center. The organization can leverage the experience and insight of skilled pilots in a much more efficient way. The net effect is both a reduction in labor cost (as less pilots are required) and a reduction in the risk of an accident.

Answering the Strategic Work Evolution Questions

Now, recall the questions we posed earlier.

- What is the specific trajectory of the work in your organization?
- Where will your organization likely make existing workers obsolete, and should you be staking out strategic and social positions that support large populations of displaced workers, such as UBI?
- Where will your organization likely augment human value and contribution through automation that will require better-skilled and constantly evolving human workers, and should you be staking out strategic and social positions that support frictionless reskilling?
- Where will your organization employ human workers, but through non-employment relationships, and should you be staking out strategic and social positions that support making alternative work arrangements more available, lucrative and less exploitive, such as portable health and pension benefits, and task-based or skill-based employment platforms?

Airline industry leaders can give much better answers using these frameworks. They can describe the trajectory of work, not in terms of broad generalizations or simplistic attempts to estimate how many people will be displaced, but instead by deconstructing the work to describe the patterns. Work that has a flat ROIP will likely be automated, making it obsolete for humans to do that work, or at least vastly reducing the number of workers. However, within the jobs of both flight attendant and pilot are also tasks that will be significantly augmented, making the humans that do such work far more valuable. Here, reskilling is needed, such as flight attendants who evolve to be adept at working with AI and augmented reality, perhaps even teaching AI better customer service rules, and highly-skilled remote pilots that monitor many routine flights and are prepared to step in to deal with unforeseen events. Industry and company leaders are now much better equipped to focus their efforts at reskilling and humane worker reductions to the areas where they are most valuable and appropriate. They are also better prepared to work with governments, regulators, and social advocacy groups to map the implications of work evolution and encourage changes in local, national and industry policies and rules.

About the Authors

Ravin Jesuthasan is the global leader of Willis Towers Watson's Talent and Rewards portfolio of data, software and advisory assets. He is a managing director of the firm and is based in the Chicago office. He is a recognized global thought leader and author on the future of work and human capital, and has led numerous research efforts on the global workforce, the emerging digital economy, the rise of artificial intelligence and the transformation of work. He has led numerous research projects for the World Economic Forum, including its ground-breaking study, "Shaping the Future Implications of Digital Media for Society," and the recently launched "Creating a Shared Vision for Talent in the 4th Industrial Revolution." He is a regular participant and presenter at the World Economic Forum's annual meetings in Davos and Dalian/Tianjin and is a member of the forum's Steering Committee on Work and Employment. He has been a featured speaker on the aforementioned topics at conferences in North America, Europe, Asia Pacific, the Middle East and Latin America, and quoted by leading national and international business media. He is a frequent guest lecturer at universities around the world, and has authored over 70 articles including 7 for the *Harvard Business Review* and his article in the *HR People and Strategy Journal* titled "Performance Management as a Business Discipline" received the 2014 Walker Award for the most original and valuable contribution to the HR profession. He holds a BBA (Finance) and an MBA (Finance) and is a Chartered Financial Analyst and can be reached at ***ravin.jesuthasan@willistowerswatson.com.***

John W. Boudreau, Ph.D., professor and research director at the University of Southern California's Marshall School of Business and Center for Effective Organizations is recognized worldwide for breakthrough research on the bridge between superior human capital, talent, and sustainable competitive advantage. Dr. Boudreau consults and conducts executive development with companies worldwide that seek to maximize their employees' effectiveness by discovering the specific strategic bottom-line impact of superior people and human capital strategies. He has more than 200 publications including books such as the *Reinventing Jobs: A 4-Step Approach to Applying Automation to Work* (Harvard Business, 2018); *Lead The Work: Navigating a World Beyond Employment*, with Ravin Jesuthasan and David Creelman (Wiley, 2015); *Retooling HR: Using Proven Business Tools to Make Better Decisions about Talent*, (Harvard Business, 2010); *Beyond HR: The New Science of Human Capital*, with Peter M. Ramstad (Harvard Business, 2007); S*hort Introduction to Strategic Human Resources* with Wayne Cascio (Cambridge University Press, 2012); *Transformative HR*, with Ravin Jesuthasan (John Wiley and Sons, 2011); *Global Trends in Human Resource Management: A Twenty-Year Analysis*, with Edward Lawler (Stanford University Press, 2015); and *Investing in People*, with Wayne F. Cascio, now in its second edition (Pearson, 2011). Dr. Boudreau's large-scale research studies and focused field research has been featured in *Harvard Business Review, The Wall Street Journal, Fortune, Fast Company*, *Business Week, Talent Management,* CFO.com, and NPR, among others. His scholarly research is published in *Management Science, Academy of Management Executive, Journal of Applied Psychology, Personnel Psychology, Asia-Pacific Human Resource Management, Human Resource Management,* and many others. He holds an undergraduate degree in Business from New Mexico State University, a master's degree in Management, and Ph.D. in Industrial Relations from Purdue University's Krannert School of Management. For more information, visit ***http://www.drjohnboudreau.com/*** .