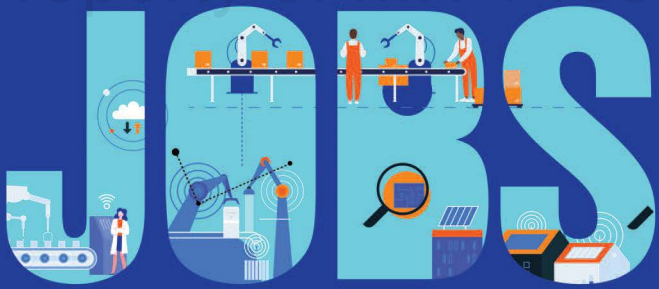
Ravin Jesuthasan and John W. Boudreau

WORK WITHOUT JOBS



How to Reboot Your Organization's Work Operating System

"This timely book will help you radically rethink how to organize work."

Adam Grant
#1 New York Times best-selling author of *Think Again* and host of the TED podcast WorkLife

The material is excerpted from *Work without Jobs* by Ravin Jesuthasan and John W. Boudreau, forthcoming from the MIT Press, Spring 2022.

Introduction excerpt

The Accelerated Need for a New Work Operating System

Leaders need a new operating system for work that better reflects the fluidity of work and workers and better supports organizational agility. Our last two books, *Reinventing Jobs* and *Lead the Work*, revealed that leaders, workers, and work operating systems must increasingly and perpetually deconstruct jobs and workers into more granular units such as tasks and skills/capabilities.[10]

Lead the Work showed how deconstructing work was essential to uncovering new options for sourcing, rewarding, and engaging workers, with some work elements best done by regular full-time employees and others best done by through freelancers, contractors, volunteers, and gamers or through other engagements. *Reinventing Jobs* extended these ideas to encompass work automation. Virtually every scientific

study of work automation shows that only very rarely will the result be "employees in jobs replaced by automation." Instead, work automation can be optimized only by understanding how humans and automation will be *combined*. Again, work and worker deconstruction were essential to the framework that enables leaders to understand and anticipate how automation might augment or reinvent human work. Leaders trapped in the typical framework of jobs and employees will simply be unprepared even to understand work automation, let alone optimize it.

Our previous books showed the effects of work deconstruction and its ability to clarify, reveal, and optimize work solutions that reach beyond employment and incorporate combinations of humans and automation. In this book, we show how organizations can actually implement work deconstruction to reap the benefits that we described in the earlier books.

We first describe this new work operating system's principles and components. Then, we illuminate the new work system using real-world cases, drawn from our extensive fieldwork with many large global enterprises and research with leading organizations like the World Economic Forum and the Global Consortium to Reimagine HR, Employment Alternatives, Talent, and the Enterprise (CHREATE) on the future of HR. These examples will vividly illustrate how the principles and components of the new work operating system provide a unique new framework for addressing vital emerging work dilemmas. The examples also offer tangible "how to" demonstrations that will help leaders envision how the framework of principles and components of the new work operating system can be applied in practice.

Of course, as with any emerging change, "the future is unevenly distributed," to quote William Gibson. Organizations may still see much work that can be well managed using traditional work operating system where an "employee" holds a job. However, that is no excuse for ignoring this future work evolution, nor to ignore the need for work and worker deconstruction. Our fieldwork shows that the work *most* in need of the new operating system often falls at the *tipping point* where new technology arrives or new work arrangements become more optimal. When that

happens, leaders realize that achieving the full potential of work and automation rests not on technological advancements but on optimizing work, and that requires a fundamentally different paradigm. As AI and robotics proliferate, this tipping point increasingly affects more organizations and more of the work within them. This book will focus on these tipping points, which will help leaders diagnose where those tipping points exist or are imminent within their organizations. Thus, this book will prepare leaders in advance for the future of work.

Work Automation Combines Human and Automated Work

Work automation is often framed in simple terms—how many jobs will new technology replace? For example, the number of bank teller jobs *increased* with the number of ATMs. In 1985, the United States had 60,000 ATMs and 485,000 bank tellers. In 2002, there were 352,000 ATMs and 527,000 bank tellers.

James Bessen explains why more ATMs spawned more teller jobs.[11] The average bank branch used to employ twenty workers. The spread of ATMs reduced that number to about thirteen, making it cheaper for banks to open branches. Meanwhile, the number of banking transactions soared, and banks began to compete by promising better customer service: more bank employees, at more branches, handling more complex tasks than tellers in the past. More recently, personal devices and cloud-based financial transactions are further changing the work of banks. While more than 8,000 US bank branches have closed over a decade (an average of more than 150 per state) and more than 90 percent of transactions now take place online, the number of US bank employees remained relatively stable at more than two million.[12] Bank branches remain a brick-and-mortar presence, but the tellers may help customers with a smartphone or tablet in hand. Or customers may find a teller online now; it's a role exemplified in Bank of America's new experiment with hybrid banking, small unstaffed mini-branches that offer a direct link to tellers via video conference.[13]

The ATM story is an important parable for business leaders, workers, and policymakers. It vividly shows why simplistic ideas like "technology replaces human jobs" are simultaneously so enticing and misleading. Solving the organizational, social, and strategic challenges of work automation demands a pivotal future capability—optimizing the constantly evolving options that combine human and automated work.

Some bank teller tasks are indeed highly susceptible to automation that replaces the human worker, such as "documenting/recording information" and "interacting with computers." Others are unlikely to be substituted by automation but might be augmented by improved information or algorithmic decision rules, such as "assisting and caring for others," "resolving conflicts and negotiating with others," and "interpreting the meaning of information for others." Still other tasks will likely be reinvented by the combination of humans and automation, such as "making decisions and solving problems," where the automated databases and decision rules would improve the knowledge and judgment of humans in ways not possible without automation. The end result is an evolving bank teller job that today contains few of the traditional repetitive tasks but now includes remote human tellers whose work is systematically enhanced by a collaboration with automation.

Even today, organization leaders are often presented with automation proposals based on a logic of "replacing jobholders with automation," which calculate the returns to automation in terms of reduced employment costs. To be sure, cost efficiency is seldom the only goal, with many organizations investing in automation to improve speed, reliability, insight, and customer value. Yet, even with these goals, the operating model is frequently to shift human work to automation, with little thought nor useful frameworks to tackle the questions of how to combine human workers with automation. Automation efforts frequently crash on the rocks of poorly thought out work design and redesign. A new work operating system that deconstructs and reinvents human work into tasks and capabilities offers the solution to this dilemma.

Boundaryless Ecosystem of Work Arrangements

Increasingly, work is done by workers who are not regular full-time employees. The new work operating system considers the work independently of any particular arrangement. Engaging such workers requires incorporating work arrangements that go beyond the typical assumption that the worker will be an employee who holds a series of jobs within the organization. Examples of these new work arrangements include the following:

- contractors
- freelancers
- volunteers
- gig workers
- internal talent marketplaces—full-time employees working on projects and assignments across the organization and beyond their job

To be sure, regular full-time employment in jobs should also be on this list, but it should not be the only option. Rather, it should be one of several options that are optimized to best engage workers. However, for most organizations, the list includes only employees in jobs. Even if the options include contractors, the management of the contractor workforce is often separated and assigned to the procurement function, with HR and procurement discouraged or even prohibited from sharing their systems, let alone optimizing combinations of contractors and employees.

Workers as a "Whole Person" with Deconstructed Capabilities (e.g., Skills)

How should organizations and society account for the capabilities of individuals, workers, and potential workers? Traditionally, organizations have attached worker capability to their job, with most HR systems focusing on whether or not a person is qualified for an entry-level job or is qualified to move to a new job within the organization. Training

programs are designed to prepare workers for one or another job, and traditional work systems track what jobs individuals have held. The traditional resume lists previous job titles and duties. Traditionally, educational institutions have accounted for learning by conferring degrees, comprised as lists of successfully completed courses that were part of a particular "major." Putting the two together, the traditional work operating system constructs intact jobs with a set of qualifications and then searches for candidates who possess the proper intact degrees that include a set of classes, rejecting those who are not "fully qualified."

Seeing work and workers in this way is a recipe for suboptimization. First, when a worker's qualifications are embedded in a school degree, or in the job titles they have held, their capabilities unrelated to the degree or the job become invisible. A common example happens in retail organizations that are automating elements of the customer experience, such as store checkout. If you only know that the workers have held the job of "cashier," it's tempting to think that your organization must lay off all the cashiers and hire new workers to maintain and program the automated checkout system. The traditional work system tells nothing about the workers beyond their qualifications to be cashiers.

Yet, it is common that the workers holding the cashier jobs may have completed online or community college courses that provide qualifications for tasks such as computer coding and systems analysis. The workers often have adjacent capabilities that partially qualify them for the new work. A traditional work system based on jobs and jobholders will miss the possibility that the cashiers could become systems analysts or coders because that work operating system cannot see the adjacent skills held by the "cashiers." This is often called "seeing the whole person" in organizations that adopt systems to map the full array of worker qualifications. Only some of those qualifications will be used in any job, but any one of which might become relevant as the work changes.

Second, the traditional work operating system, based on work as a job and worker as a jobholder, offers little opportunity to look beyond whether a worker is fully qualified for a job. If a worker hasn't held a

job like the one being filled, then they can easily be categorized among the "unqualified." Yet, optimizing work increasingly requires a more nuanced approach. Particularly in times of labor shortages or rapid change, the right question is not "is a worker fully qualified for this job" but rather "which potential workers are "mostly qualified", and what would it take to make them fully qualified?" Identifying the mostly qualified requires a work system capable of seeing workers as an array of capabilities rather than as a holder of a "degree" or a job. Identifying what it would take to bring the mostly qualified up to fully qualified similarly requires a system that can see the worker's array of capabilities and identify how adding a few particular new capabilities would produce full qualifications.

Of course, actual systems are already a bit more nuanced. Most organizations track not only the jobs workers have held but also some system of more granular work capabilities, often called skills or competencies. Educational institutions are increasingly called upon to deconstruct their educational offerings, allowing students to drop in and out of the institution between employment periods and offering "stackable credentials"[14] that can add up to a degree over time but do not require a continuous stint at the college to achieve the degree. We see the start of systems that deconstruct individual capabilities in the same way that jobs are deconstructed into task elements.

The New Work Operating System Principles

The four principles of the new work operating system are the following:

1. Start with the work (current and future tasks) and not the existing jobs.
2. Combine humans and automation.
3. Consider the full array of human work engagements (e.g., employment, gig, freelance, alliances, projects, other alternative work arrangements).
4. Allow talent to "flow" to work versus being limited to fixed, traditional jobs.

Each of these principles offers a useful contrast between the new and the traditional work operating system. Next, we'll describe each principle in turn.

Start with the Work, Not the Current or Future Jobs

The traditional work operating system starts with jobs and employees within the organization, creating several major challenges. Consider the challenge of implementing new process automation. The typical operating system must frame the work design through questions like "What jobs will be eliminated due to automation?" and "What training will keep my existing employees relevant?" and "What do I need to pay to get the needed skilled employees?"

These questions take a myopic view of work and therefore overlook important opportunities and challenges. The new work operating system starts with different questions:

- "What are the current and future work tasks (regardless of current jobs)?"
- "What are the capabilities to perform these tasks?"
- "What current and potential workers have or might develop those capabilities (regardless of their current job)?"
- "What are the best work arrangements to engage those capabilities (including options beyond regular full-time employment)?"

Combine Humans and Automation

The traditional work operating system assumes automation substitutes for human workers. The actual relationship is far more nuanced, and this is captured by the new work operating system. Depending on the characteristics of the tasks and objectives, automation can either substitute, augment, or transform human work. The new work operating system offers better questions for organizations to ask the following:

- What are the elemental tasks within the process?
- What are the characteristics of each task (repetitive versus variable, mental versus physical, independent versus interactive)?

- What is the objective we are trying to solve for each task?
- Does automation substitute for the human, augment the human, or create new work?
- What are the available types of automation (robotic process automation, cognitive automation, or social or collaborative robotics)?
- What is the optimal way to combine human and automated work across jobs and processes?

Notice how the first question immediately reframes the analysis to focus on the deconstructed tasks rather than on the entire job. With that fundamental reframing, the rest of the analysis is more optimal.

We have noted the recent significant increase in work automation in a variety of domains, often accelerated by the COVID-19 pandemic. Robots in hospitals can now remotely monitor patients and take their temperatures, and robots in buildings can remotely clean and fog surfaces. We have also observed the growing interest and experiments with "dark" warehouses and manufacturing operations as a way to reduce the risk and danger to human workers as well as to reduce the risk of downtime when humans become ill. However, such innovations seldom remove all human work. Rather, the role of human talent evolves toward primarily solving problems and maintaining an almost completely automated facility, something we will explore later in the book. In all such cases, the work outcomes should be the result of a thoughtful application of a process like the one we just described versus merely looking to substitute a person in a job for a machine.

Let's take the example of robots in hospitals to illustrate the value of the questions above:

1. What are the elemental tasks within the process?

   Rather than ask "will robots replace nurses?" we deconstruct the nursing job and notice that some nursing time is spent checking patients and doing very routine things like taking temperatures, while other time is spent on tasks that more fully use nursing credentials, such as attending to patient crises and administering medicine.

2. What are the characteristics of each task (repetitive versus variable, mental versus physical, independent versus interactive)?

   Now we can see that the tasks of checking to see if a patient responds to a greeting and taking their temperature are repetitive, physical, and only slightly interactive, making these tasks ripe for automation. On the other hand, tasks such as attending to patient crises and administering medicine are more variable, mental, and interactive, making them appropriate for human nurses and more fitting with nurse qualifications.

3. What is the objective we are trying to solve for each task?

   Tasks such as taking a temperature and getting a response to a greeting add value mostly by being done to a minimum standard and avoiding obvious mistakes. On the other hand, tasks such as attending to patient crises and administering medicine must meet a very high standard, where the quality of performance makes a very large difference to the outcome. Of course, having nurses take patients' temperatures might help a patient's recovery through the positive effects of human social interactions. This is a good example of how job deconstruction clarifies how the work serves the objective. Separating the tasks of "human interaction" from "taking temperatures" allows us to see that if nurses are routinely administering medications to patients, the human interaction will still take place.

4. Does automation substitute for the human, augment the human, or create new work?

   Now that we have isolated the deconstructed tasks, we can see that the robots can indeed substitute for the human nurse in taking temperatures and checking on patients. In some ways, this automation has augmented the human nurse by freeing them up to focus on tasks where their capabilities are far more pivotal.

5. What are the available types of automation (robotic process automation, cognitive automation, or social or collaborative robotics)?

   Automating the task of taking temperatures and checking on patients might be done with robotic process automation, where a

patient monitor might feed the data directly into a database. The solution might also use cognitive automation (or AI) if the patient monitors are programmed to alert nurses when a patient demonstrates a pattern of unresponsiveness or has a series of consecutive high temperature readings. Finally, the solution might use "social" robotics, where robots physically move among patients and interact with the nurses.

6. What is the optimal way to combine human and automated work across jobs and processes?

   By deconstructing the nurse's job, we can now see that it is a careful combination of a human nurse and a robotic assistant that optimizes the work process. This redefines the work beyond the nurse job description. It also means that nurses are now likely to collaborate closely with robotics designers, technicians, and maintenance persons.

Consider the Full Array of Human Work Engagements

Even when automation is not an issue, or in addition to work automation, the future of work will embody alternative work arrangements. That means work arrangements that are different from, and go beyond, regular full-time employment in jobs. Optimal solutions seldom directly substitute an alternative work arrangement for an entire job. Rather, the optimum solution is apparent only if we deconstruct the job and examine how each task is best accomplished.

Three fundamental dimensions and questions define and suggest how to optimize alternative work arrangements:[15]

1. The assignment (or the work to be done)
   a. How small can it be deconstructed?
   b. How widely can it be dispersed?
   c. How far from employment can it be detached?
2. The organization (the boundary containing the work)
   a. How easily can the organization boundary be permeated?
   b. How strongly should the organization link with others?

c. How deeply should the task involve collaboration?
d. How extensively should the boundary be flexed to include others?

3. The rewards (the elements of exchange for the work)
   a. How small or immediate the time frame?
   b. How specifically to individualize?
   c. How creatively to imagine beyond traditional pay and benefits?

For example, organizations contain the job of product designer, which includes many tasks. One of those tasks is generating ideas for new products or features, combined with other tasks such as evaluating those ideas to fit with existing production or marketing strategies and selling the ideas to key organization constituents. If we deconstruct the job, then the task of generating new product ideas emerges as one "assignment" that can be deconstructed from the rest of the job. That task can be undertaken by volunteer focus groups, perhaps comprised of regular customers, dispersed to a wide array of volunteers and detached from an employment contract. The "organization" boundary must be permeated but only enough to allow the volunteers to interact with product design teams. The "rewards" consist of free products or even just the fun of participating and can be offered on an immediate time frame.

Notice, however, that if the question is framed as "can volunteer focus groups do the job of product designer?" the answer is simply "no," and this alternative does not present itself. Similarly, if the question is framed as "how can we design a job that consists only of suggesting new products and features?" the answer is "impossible" because the organization does not have enough of such work to fill a regular job.

Once work is deconstructed, the individual tasks present a much wider range of human work options. The options might include employees in full- or part-time jobs at your location, employees in full- or part-time jobs at other locations, employees in other parts of your organization who you could tap for a project or assignment, independent contractors (either engaged directly or through gig platforms like Upwork and Toptal), the talent of an outsourcer, or the talent of an alliance partner.

Allow Talent to Flow to Work versus Being Dedicated to Fixed, Permanent Jobs

Talent should flow to work. Sometimes that can involve regular full-time employees in jobs, but even those jobs should be considered fungible. Flowing often requires that workers look beyond their strict job descriptions to apply their capabilities where they are most pivotal, such as when business analysts, data scientists, and software developers flow to a project to develop new functionality for a customer-facing application.

The key is to optimally and perpetually reinvent work by combining options such as the following:

1. Talent in fixed roles with regular full-time employees, perhaps due to a convenient volume of work that fits a regular job or unique or difficult-to-acquire skills that justify offering a fixed full-time assignment
2. Talent who flows to tasks and assignments or projects, perhaps because their enabling capabilities are required in short-term specific bursts, by several different work processes (such as a freelancer or project-based data scientist who moves between projects in marketing, HR, and operations as needed)
3. Talent who are in hybrid roles that are partially fixed because of work volume or skills dedicated to a job but can also flow to specific challenges as needed (such roles often emerge from internal talent marketplaces where regular jobholders take on additional project work)

The guiding questions for determining how to optimize fixed, flow, and hybrid work arrangements are like those listed above that refer to alternative work arrangements. Now, the questions would be applied to workers who are employees, so the question of detaching tasks from employment doesn't apply. When it comes to "boundary" questions, the focus is now not on the organization boundary but on the boundary between different organization units or jobs within the organization boundary.

Deconstruction Is Vital to Organizational Agility

How do organizations, workers, and societies pivot from this legacy work operating system? The principle of agility both motivates this pivot and reveals how to implement it.

The notion of Agile processes is well established in the arena of software development. It is supplanting the legacy system of the "waterfall," which requires that each stage of software development be completed and then sent "down the waterfall" to the next stage, with little opportunity to move backward to earlier steps. The Agile approach, in contrast, approaches a project as a simultaneous collaboration between the different stages, with the software being continually tested against user behaviors and requirements and updated versions rolled out on an ongoing basis.

Many organizations have adopted the Agile approach to transform their mindset and work processes beyond software development, guided by Agile's three relevant core values:

1. Prioritize individuals and interactions over processes and tools.
2. Prioritize customer collaboration over contract negotiation.
3. Prioritize responding to change over following a plan.

Those values are particularly vital to pivot to the new work operating system, yet the Agile process redesign alone cannot overcome the constraints imposed by traditional ways of thinking about jobs. A major consumer goods organization implemented Agile, but despite its thoughtful approach to redesigning its processes, and even upskilling its employees, the company faced major difficulty in getting its employees to flow to work and actively engage with challenges that spanned job titles or departments. For example, customer complaints received by call center employees revealed needed product improvements that had to be implemented by product designers/developers. The Agile process design revealed an obvious solution: the call center representatives and the designers/developers would flow to this challenge, working together. However, in reality the call center representatives who

received customer complaints did not see it as their job to convey them to product designers and developers. Similarly, the product designers/developers did not see it as their job to ask or even listen to the call center employees' experience with customer complaints. The legacy work system relied on job descriptions to represent the work and jobholders to represent the workers' capabilities. Thus, much of the pivotal value of the Agile process design was squandered because the workers were trapped in a system of jobs that offered no mechanism to flow to the goal of product improvement.

The organization lacked the capacity to deconstruct the jobs into discrete tasks that clearly supported its goals, so its workers struggled with work that reached beyond their jobs. They were challenged to understand how projects fit with their day jobs, how to find space to contribute, and how to respond to direct supervisors who felt that projects were unrelated to the employees' functional areas.

Seven Elements Distinguish the New from the Traditional Work Operating System

The new work operating system contrasts sharply with the traditional work operating system, as summarized in the following table, and is illustrated in the next chapters.

The new work operating system	The traditional work operating system
Work as deconstructed job elements (tasks)	Work as intact and mostly stable jobs
Work automation as optimizing task-level combinations of human and automated work	Work automation as replacing employees in jobs
Work arrangements including a boundaryless and democratized work ecosystem	Full-time employees inside a fixed organization boundary
Workers as a whole person with an array of deconstructed capabilities (e.g., skills)	Workers as jobholders with capability to fill "job requirements"
Perpetually reinvented task/project combinations and work arrangements beyond traditional employment	Stable system of jobs and employment contracts
Management and work coordination as collaborative hubs of teams and projects, aligned goals/purpose, and integrated through human/AI platforms and HR systems	Management and work coordination through hierarchy, structure, and stable reporting relationships
Social values and policies that enable and rely on fluid work arrangements and holistic worker capability to achieve worker sustainability, voice, equity, and inclusion	Social values and policies that rely on traditional jobs and employment to achieve worker sustainability, voice, equity, and inclusion

“Work without Jobs is about how work is changing, inexorably, in ways that will eventually transform every aspect of society. Deeply researched and compelling, this is the book to read this year if you want to gain a deep understanding of how work is changing and what it might mean for your organization. Full of history, data, research, and ideas, it will be an invaluable resource for academics and practitioners alike.”

Amy C. Edmondson

Novartis Professor of Leadership and Management at the Harvard Business School

“The world of work is changing, purpose and social impact are becoming more important than ever, and employees are demanding more from their employers.
It is time we reinvent the world of work as we know it.
Work without Jobs provides the radical framework needed to completely rethink the working models we use to ensure work works for everyone.”

Leena Nair

Global Chief Executive Officer, CHANEL

“How can an organization evolve in an ever-changing world?
This book is essential reading for any business leader who wants to understand the future of work, jobs, and skills.”

Saadia Zahidi

Managing Director, Centre for the New Economy and Society, World Economic Forum

“The world is changing fast but the way we work is, in many crucial ways, stuck in the past. Ravin Jesuthasan and John Boudreau lay out a powerful argument for moving beyond the staid and outdated assumptions and toward a reimagined work system. This engaging book will help both individuals and organizations become more agile, resilient, and inclusive.”

Daniel H. Pink

#1 New York Times bestselling author of *When*, *Drive*, and *To Sell is Human*

“Work and jobs are changing fast and in this fascinating book the authors provide a masterful guide that will help every manager make the most of the extraordinary opportunities to rethink jobs and boost productivity.”

Lynda Gratton

Professor of Management Practice, London Business School;
author of Redesigning Work

“Work Without Jobs should be required reading for the leader and HR manager of the future! Masterfully written, Ravin and John guide readers in understanding the changing landscape of technology in the workplace and how to approach some of today’s toughest questions and fears for employees. Become versed in a profound, new understanding of your team and company’s jobs with this incredible new book!”

Marshall Goldsmith

New York Times #1 bestselling author of *Triggers*, *Mojo*,
and *What Got You Here Won’t Get You There*