

Redesigning Jobs, Organizations, and Work

The Greatest Business Challenge
of Our Time

the
joshbersin
company



Developed as part of the
Global Workforce Intelligence Project

Introducing The Global Workforce Intelligence Project

Much has been written about the “Great Resignation” and the inability of companies to find workers. These issues are real: almost a third of U.S. workers left their jobs in 2021, nearly one in ten jobs are unfilled, and the number of jobs created continues to grow.¹ In fact, research shows that the talent supply chain is now the number one issue on the minds of CEOs.²

As companies struggle to recruit, develop, and retain people, they face a massive need for entirely new skills, new career pathways, new employment models, new organizational structures, and new HR practices. The Global Workforce Intelligence (GWI) Project will provide the data, information, and guidance to manage this transformation.

But as companies struggle to hire, upskill, and engage their teams, something larger is going on. Driven by digital transformation over the past two decades, industries are converging, companies are changing business models, and organizations are reinventing themselves. And the pandemic, which accelerated the adoption of technology, has fueled this fire.

Telecommunications companies are becoming media businesses. Healthcare organizations are turning into digital-delivery and informatics companies. Oil companies are

migrating to low-carbon, electric, and alternative energy. Retailers are moving into distribution, pharmacy, and information services. And banks are becoming fintechs and ubiquitous financial trainers.

What does this mean for employers? Companies are suffering from a skills crisis. They don't have enough engineers, supply-chain experts, and marketing and sales managers to grow. And the same is true for essential workers: nurses, retail workers, and truck drivers are today's most in-demand human resource.

From Automation to Digital Transformation: New Jobs, Roles, and Structures

First, a little history. Over hundreds of years, technology has reinvented business models, disrupted incumbent companies, and created opportunities for a better life (see Figure 1). In the 1800s, the steam engine and then electricity created a need for factories, integrated manufacturing, and the separation of “management” from “labor.” Such industrialization gave us corporate hierarchy, functional business areas, and eventually the world of multi-industry conglomerates such as GE, IBM, and U.S. Steel.

In the 1960s and 1970s, technology changed again: automation didn't stop, but the information revolution began.

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¹ Bureau of Labor Statistics and Emsi/Burning Glass, December 2021.

² *Winter 2022 Fortune/Deloitte CEO Survey: CEOs eye 2022 with optimism and a dash of uncertainty*, Deloitte, 2022.



Figure 1: Industry Convergence Has Arrived

Electricity and Automation	The Information Revolution	Digital Transformation	Industry Reinvention
Focus: Scale Electric motors Integrated manufacturing Functional hierarchies Management and labor	Focus: Productivity Mainframe and IT departments Databases and SQL ERP, supply-chain management Integrated financial systems	Focus: Customers Big data analytics AI and machine learning Ubiquitous mobile computing Blockchain, Web 3.0	Focus: New Products Industries redefined Agile organization models Education market behind Labor market highly dynamic
Manufacturing Conglomerates	ERP Integrated supply chain	Intelligent systems Customer-centric apps	Companies redesigned New models for work
1800s	1930–80s	1980s–2000s	Today and Forward

Source: The Josh Bersin Company, 2022

Microprocessors and mainframe computers drove the birth of the IT department, ubiquitous information processing, and the role of integrated enterprise resource planning (ERP) systems to integrate and automate the financial parts of business. ERP was as much of an innovation in that era as the internet was in the 1990s: it allowed business leaders to run an entire enterprise with data, transactional integrity, and near-real-time visibility.

In the 1990s and 2000s, the internet changed everything again. Initially seen as a tool to help companies reach customers more quickly, internet technology started to transform every part of the company, giving rise to the idea of a “digital transformation.” Companies that had prospered during the IT revolution were burdened with mainframes and outdated batch systems, forcing them to reengineer. They rebuilt their applications, acquired cloud-based systems, and adopted mobile and distributed computing at scale.

This third wave was seen as being about “becoming a digital business,” and consulting firms created whole new revenue streams teaching companies how to “move to the cloud”

and “digitally enable” their customer solutions, employee experiences, and internal applications. And “doing digital” was not enough—you had to “become digital” and learn to operate in a data-driven, real-time, constantly connected way.

Today, we realize digitalization (which includes mobile, cloud, AI, and now blockchain) does far more than change a company’s way of going to market. It changes the way value is created, increases the need for data and analytics, and shifts a company from one that builds, sells, and services things for its customers to one that is always connected to its customers, partners, and supply chain. It also disrupts our traditional definition of an industry.

Most companies initially saw digital as a way to reduce the cost of sales, reach more and different customers, and help employees interact, design, and work with one another. We now know it does much more. With the creation of new digital business models, nearly every company is being disrupted by an adjacent industry, forcing companies to think differently about what they do for a living.



From Digital Disruption to Industry Reinvention

We hear about industry disruption every day. And while it may seem subtle, it is happening to every company, changing our talent models, skills, HR practices, and organizational structures.

Colgate, for example, has long been successful selling toothpaste and dental products. Now, the company is building a digital business to evaluate, diagnose, and improve oral health. This new service—which has been in development for several years—leads the company into the digital-health arena. Should Colgate become a healthcare informatics company? Or sell its data to others?

Healthcare companies such as Bon Secours Mercy Health and Kaiser Permanente are going in the other direction. They set up operations to diagnose, treat, serve, and help patients on a face-to-face basis. Now empowered with enormous streams of data on digital health, genetics, and drugs, they are rapidly moving to telemedicine, informatics, and analytics (as well as cybersecurity).

Retailers are similarly disrupted. Seeing massive demand for health and fitness offerings, Walmart and other retailers are setting up in-store pharmacies, testing labs, and healthcare services. Are they becoming hospitals and clinics? If so, what do healthcare providers do next?

The list goes on (see Figure 2). Insurance companies want to manage costs, diagnose risk, and help employees stay

Figure 2: How Every Industry Is Being Reinvented

Current Industry	New Industry or Business Models
Banking	Fintech, crypto, online commerce, global finance, consulting, financial wellness, insurance
Oil and gas	Low carbon energy, batteries, mining, chemicals, sustainable operations
Retail	Distribution, omnichannel, pharmacies, drug distribution, e-commerce, analytics, subscription services
Telecommunications	5G, distributed networking, media, entertainment, social networking
Healthcare	Telemedicine, informatics, self-service, wellbeing, cybersecurity, elder care, expanded nursing, insurance services, health software and hardware
Pharmaceuticals	Health sciences, genetics, testing, global distribution, supply-chain integration, consumer health products
Consumer packaged goods	Healthy foods, pet food and care, informatics, digital marketing, social media advertising, digital distribution, micropackaging
Semiconductors	Chip design expertise now complemented by software expertise, AI, manufacturing, and automated supply-chain systems
Every industry	Remote and hybrid work, wellbeing, agile and design-oriented HR, human-centered leadership, employee experience, employee self-service, people analytics, internal career development, sustainability, diversity, women in the workplace, productivity and innovation

Source: The Josh Bersin Company, 2022



healthier. Should they also get into healthcare delivery? What about telecommunications and media companies, which are now content creators? Oil and gas companies are buying and partnering with pipeline companies and seeing demand for low-carbon energy, lithium mining, and even solar and hydrogen power. Electric cars are pushing automakers and manufacturers to become software, service, and information companies.

Everywhere we go, we hear a similar story. In the new world of “digital everything,” an industry’s definition starts to disappear—which means that your employees, your job architecture, your organization structure, your skills, and even your management disciplines are under attack.

Today’s Talent Challenges Are Symptoms, Not Problems

There’s certainly a need to address the “war for skills,” or talent shortage. But our research shows the underlying problem facing companies is that their job models, skill requirements, and fundamental capability models have evolved, spurred by the pandemic-fueled digital acceleration.

Consider, for example, the disruption of a retail bank by a fintech company. Retail banks are filled with customer service agents, salespeople, branch managers, IT staff, IT operations teams, and lots of back-office operations to keep transactions and books balanced. They develop new products, such as credit cards, bank accounts, loans, and other derivative services, through a traditional product-development process.

Fintech companies, by contrast, are essentially product and technology companies. They have huge engineering teams, sophisticated product management and marketing, and deep

skills in user-interface design, AI, and personalization. The talent models, skill requirements, and organizational models of a bank are totally different from those of a fintech (see Figure 3). If a bank wants to get into the fintech model, what should it do? Slowly build or acquire these skills?

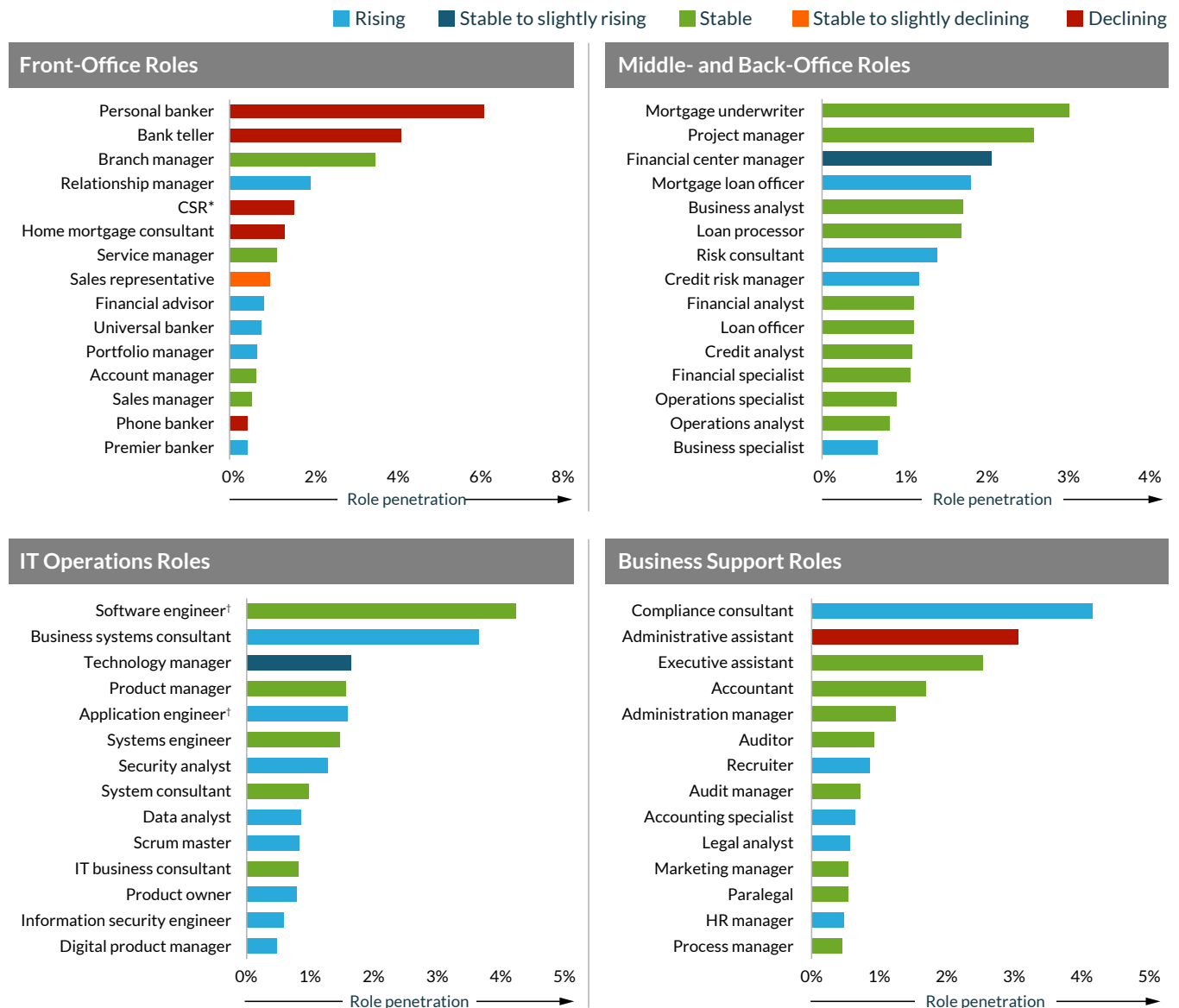
Looking at their own organization as a whole, the bank’s leaders may decide they need a “digital upskilling” program. They would probably invest in a lot of training, create an internal marketplace, and build a digital academy. And they’d spend a lot of money on recruiting. With luck, over time, the bank would add digital capabilities and start to behave more like a tech company.

But the banking industry would likely encounter some problems. For example, fintech companies have agile product teams developing products and services in an iterative and continuous way, and they build deep skills in cyber, blockchain, and other emerging technologies. They are driven by marketing and may have extensive AI expertise for product development, customer service, and business analytics. They recruit from tech companies, have leaders with years of experience in digital product development, and may pay senior engineers \$500,000 a year or more. They also offer stock options and elaborate employee perks and often brand themselves as innovative employers.

Would a bank know how to compete? Probably not. So it’s more likely to buy a fintech company and then try to shoehorn it into the organization. This is a logical approach, but it also poses risks. Many of these kinds of acquisitions fail: key employees leave, the acquired organization struggles to scale, and the legacy retail business forces many decision-making processes to slow down and avoid risk.



Figure 3: Banks Are Quickly Evolving into Fintech Companies



* Customer service representative.

† Software engineer includes software engineer and software developer, while application engineer includes application engineer and application developer.

Source: [Eightfold Talent Intelligence Platform](#)



Data and Intelligence: How Do Organizations Understand and Adapt?

We at The Josh Bersin Company are experts in all aspects of HR, recruiting, development, and organization design. And our research shows that competitors in these different industries are not just “adjacent businesses” that can be combined or acquired like a conglomerate. Their people practices, cultures, organization models, and rewards are totally different by design.

Leveraging [Eightfold](#)’s deep-learning AI, which uses neural networks to learn from billions of global data points, we are studying the skills, job architectures, organization models, and talent strategies of leading companies in each industry. This information, captured in the form of models, best practices, and case studies, will be critical to organizational growth.

How are we doing this? We are studying the talent profiles of the world’s largest and most successful companies in each industry and using that data to identify which job models, skills, and organization structures are most important. We’re also looking at companies that perform well in three areas:

- Financial growth and profitability
- Human capital excellence (retention and engagement)
- Innovation and market leadership

We then show you what the top companies do and how you should adapt.

We believe Eightfold’s talent intelligence platform has the largest and most intelligent global data set of jobs, skills,

organization structures, and industry information. [Eightfold](#) is our data provider, not our technology partner—so while the GWI Project is powered by Eightfold, our data and learning tools are available to any organization, regardless of your technology infrastructure.

How will we build this research? Specifically, we focus on five dimensions within companies:

1. The Skills Profile

The first and most obvious challenge companies face is a lack of critical skills. Business and technology skills are constantly changing: most taxonomies encompass more than 50,000 such skills, ranging from technical skills such as “Java programming” to broad skills like “design thinking” or “financial analysis.”

Our research uses the intelligence of the Eightfold platform to identify the inventory of required skills across each industry segment, focusing on the skills that are growing in volume and importance, those that are declining or becoming obsolete, and new skills that seem to be emerging from nowhere.

Telecommunications companies, for example, face a huge upskilling challenge caused by the emergence of 5G. But 5G is not just a stack of technologies: it also brings new business models, new service-delivery models, and hundreds of new industry and business applications for the industry. We have decoded many of the 5G skills needed to succeed and mapped them against skills required for 4G, LTE, and other older telecommunications systems (see Figure 4).

Banks need skills in digital-product design and cybersecurity in addition to the core skills of sales, marketing, customer service, and support. Financial-services companies are also steeped in back-office operations teams focusing on project management and data analytics, and they face an emerging need for skills



Figure 4: As Telecommunications Technology Evolves, So Do the Skills Required

	2G	3G	4G	5G	Findings
New	<ul style="list-style-type: none"> • GPRS • GSM • CDMA • Ethernet • PHY (physical) • DSP • Embedded systems • Mobile devices • Mobile comm • Tech troubleshooting 	<ul style="list-style-type: none"> • UMTS • WCDMA • HSPA • Network optimization • 3GPP • RAN • EVDO • Wi-Fi • EDGE 	<ul style="list-style-type: none"> • MIMO • LTE • Beamforming • SDN 	<ul style="list-style-type: none"> • Smart antennae • Massive MIMO • Micro cells • Network function virtualization • Cloud computing • Cognitive radio • Network slicing 	<ul style="list-style-type: none"> • 5G skills build on all prior generation skills • Some older skills wind down slowly; others remain critical
Core	<ul style="list-style-type: none"> • Linux • Java • Strategy • Program management • Project management • VoIP • RF engineering • Cellular comm • Network integration • Base substation • Wireless comm • Microwaves 	<ul style="list-style-type: none"> • Algorithms • TCP/IP • MATLAB • Strategic planning • Network design 	<ul style="list-style-type: none"> • Software development life cycle • SQL • C/C++ • Python • R • Testing 	<ul style="list-style-type: none"> • Machine learning • Spark • Hive 	<ul style="list-style-type: none"> • New skills emerge from other domains and enter 5G from their core technologies • 5G skills depend on science and tech outside of telecom industry

Source: The Josh Bersin Company, 2022

in machine learning and AI. And, of course, they must be savvy in financial analysis, economics, actuarial science, and accounting. Figure 5 shows the evolution in the skills required to be a credit risk manager—just one of thousands of roles within financial institutions.

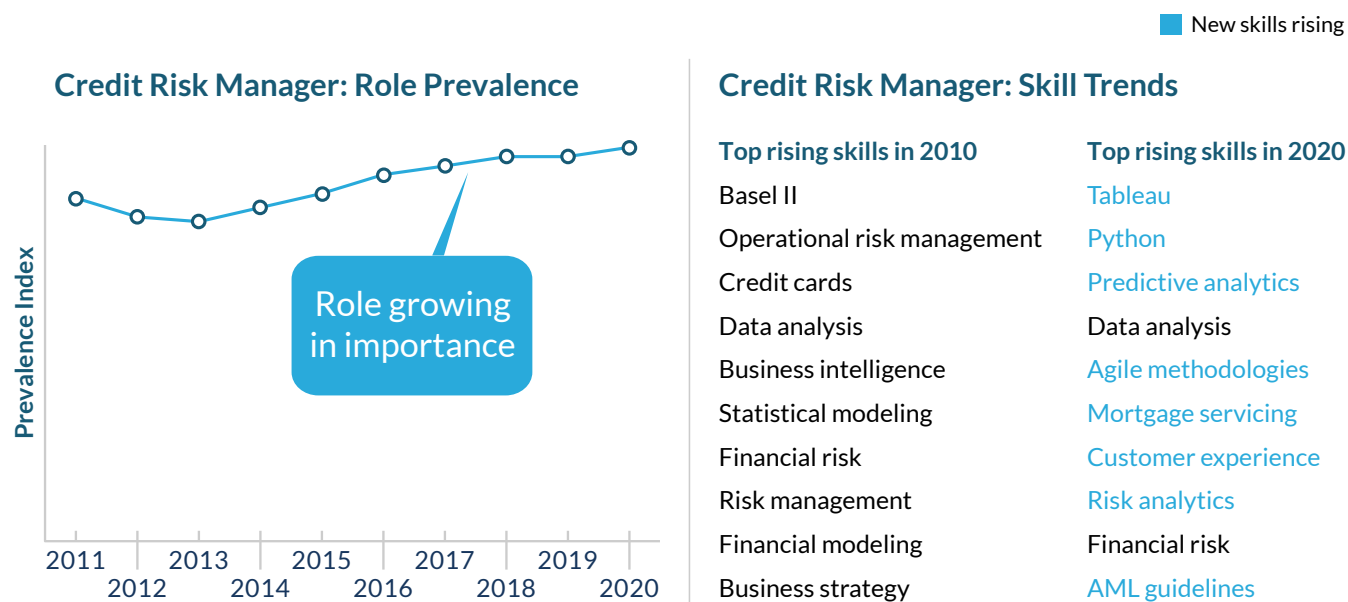
As we looked at these skills in traditional banks, we were struck by how different they are from the skill profiles of their fintech competitors. Fintech companies look more like

software-development organizations, with deep expertise in software engineering, product management, crypto, and blockchain. Our research clearly underscores this, giving banks and traditional financial-services companies a new view of their aspirations.

Our research will identify the skills that are rising, declining, and emerging in each industry. And through our AI-enabled database, we will show how existing skills are adjacent to and



Figure 5: New Decade, New Skills: How the Role of Credit Risk Managers Has Changed



Source: Eightfold Talent Intelligence Platform

enable new and emerging skills. This leads to our research on new career pathways.

2. Career Pathways for Critical Skills

As companies struggle to recruit or develop people to meet new skill needs and job models, we see enormous capability gaps in all industries. A large pharmaceutical company, for example, no longer recruits for scientists based on their job title or prior employer, instead looking at scientific expertise by scanning PhD publications, research reports, and other sources. Software companies do the same for top-level machine-learning engineers.

This process is often too slow or too expensive, so some companies build what we call capability academies to develop these skills. Capital One built its own cloud-engineering academy in the past five years, primarily to avoid having to recruit engineers from Google or Facebook. Bloomberg and

financial institutions have done similar things in data science and analytics, and many healthcare companies are now building academies and even colleges to teach nursing.

But once you build this infrastructure, how do you find the right people for these roles? Our second step in the Global Workforce Intelligence Project is to build what we call career pathways for these skills.

A career pathway is not a traditional career path through which someone may move from “junior engineer” to “engineer” to “senior engineer” to “engineering manager.” Instead, it’s a series of developmental steps that help employees progress from one career to another; for example, a financial audit manager might become a cybersecurity specialist and go on to manage a cybersecurity team.

The talent intelligence platform demonstrates that many skills are “adjacent” to higher-paying jobs (see Figure 6). You may have studied mathematics and statistics as an undergraduate,



Figure 6: How Adjacent Skills Can Fuel a New Career

Potential alternative career paths (based on role and skills adjacencies)

Reduction in skills adjacency >>

■ Rising role ■ Declining role

Roles at Risk	Career Path 1	Career Path 2	Career Path 3	Career Path 4	Career Path 5
Bank teller	Universal banker	Premier banker	Relationship manager	Service manager	Loan processor
Systems administrator	Business systems consultant	Cloud engineer	Network engineer	Technology manager	DevOps engineer
Network support technician	Network engineer	Cybersecurity engineer	Network architect	IT support specialist	-
Administrative assistant	Executive assistant	Office manager	Business support analyst	Reporting analyst	-
Home mortgage consultant	Sales manager	Risk consultant	Account executive	-	-

Source: Eightfold Talent Intelligence Platform

drifted into learning about psychology in graduate school, and then landed a job as an industrial-organizational psychologist in HR. While that's a great job, there could be a much bigger career for you in data science. We are finding these pathways.

When one of our clients, a large financial-services company, was searching for data science and machine-learning specialists, it discovered that many of its marketing managers had degrees in math, science, or statistics. The company built career pathways for those managers and, over the next 18 months, offered them new careers in data science—nearly doubling their salaries.

Today, many retailers are scrambling to hire or train technicians and pharmacists for their fast-growing pharmacy businesses. We have developed a series of career pathways

for these jobs, modeled after what large healthcare providers do, to guide these organizations. In many cases, people require additional education, job experience, and a few years of development to succeed—but the results are astounding, and this type of program builds employee engagement, brand, and a strong culture of growth.

3. Job Architecture and Job Titles

The third element we study is the “job architecture” of a changing industry. In most companies, job titles and job descriptions are artifacts of days gone by. Companies tend to copy or guess at a job title (and description), often letting line managers make it up as they see fit. In fact, our study on organization design shows only one in five companies write future-focused job descriptions.³

³ Organization Design research, The Josh Bersin Company, 2022.



The result at most companies is a hodgepodge of job titles with many people doing the same type of work with vastly different titles, levels, and pay. For example, we recently worked with a large financial-services company that listed more than 12 different “project manager” jobs across different groups, 14 different “data analytics” jobs, and more than 10 different “product manager” positions.

These roles had similar responsibilities and required skills but were housed in different departments, had different training processes, and were paid and recruited on different bases. This approach not only is inefficient but also prevents the company from building strong disciplines and clear learning curves. And it can have a negative impact on pay equity. Our work with Eightfold will help companies identify these anomalies and develop an architecture for the future.

But it goes much further. As we look at job titles and structures in each industry, we see vast differences between high performers and their peers. For example, some banks have very large employee populations in branch operations, branch sales, and IT service delivery. Other banks have a much higher percentage of employees in functions such as product management, marketing, engineering, and analytics. One could guess the former are older, more retail-oriented banks rather than newer, more digital banks.

You can look at our studies and see these differences, and then benchmark yourself for change. No company can transform itself into a “new organization” overnight, but if you don’t know where you’re going, it’s very hard to focus.

Finally, we see new job titles emerging every day. Marketing, for example, has seen an explosion in jobs such as “growth marketing manager,” “marketing experience manager,” “social-media marketer,” and “digital-marketing manager.” These newer titles often start as experiments for some companies but become institutionalized as functions grow and flourish. Our research identifies these changes so you can see around the corner and plan where to go next.

4. Organization Structures

The fourth part of our research looks at organization design as a whole. While every company is different—whether organized by product, geography, industry, or function—innovators are always pioneering groundbreaking solutions.

For example, Southwest Airlines was the first airline to designate aircraft as an organizational unit, empowering pilots and flight attendants to essentially run their own businesses and make critical decisions independently. This, in turn, forced other functional areas in the company to follow and support the plane, making each plane the “accountability center” for safety, on-time departure, and other measures. As our research on organization design has established, clearly identifying who is accountable is the most important thing you can do to drive business outcomes and innovation success.⁴

Many companies are moving to agile models in which people work on project teams, switching projects from one period to the next. In this model, general managers lead product or

As our research on organization design has established, clearly identifying who is accountable is the most important thing you can do to drive business outcomes and innovation success.

⁴ The Definitive Guide to Organization Design: The Journey to Agile, Josh Bersin and Kathi Enderes, PhD/The Josh Bersin Company, 2022.

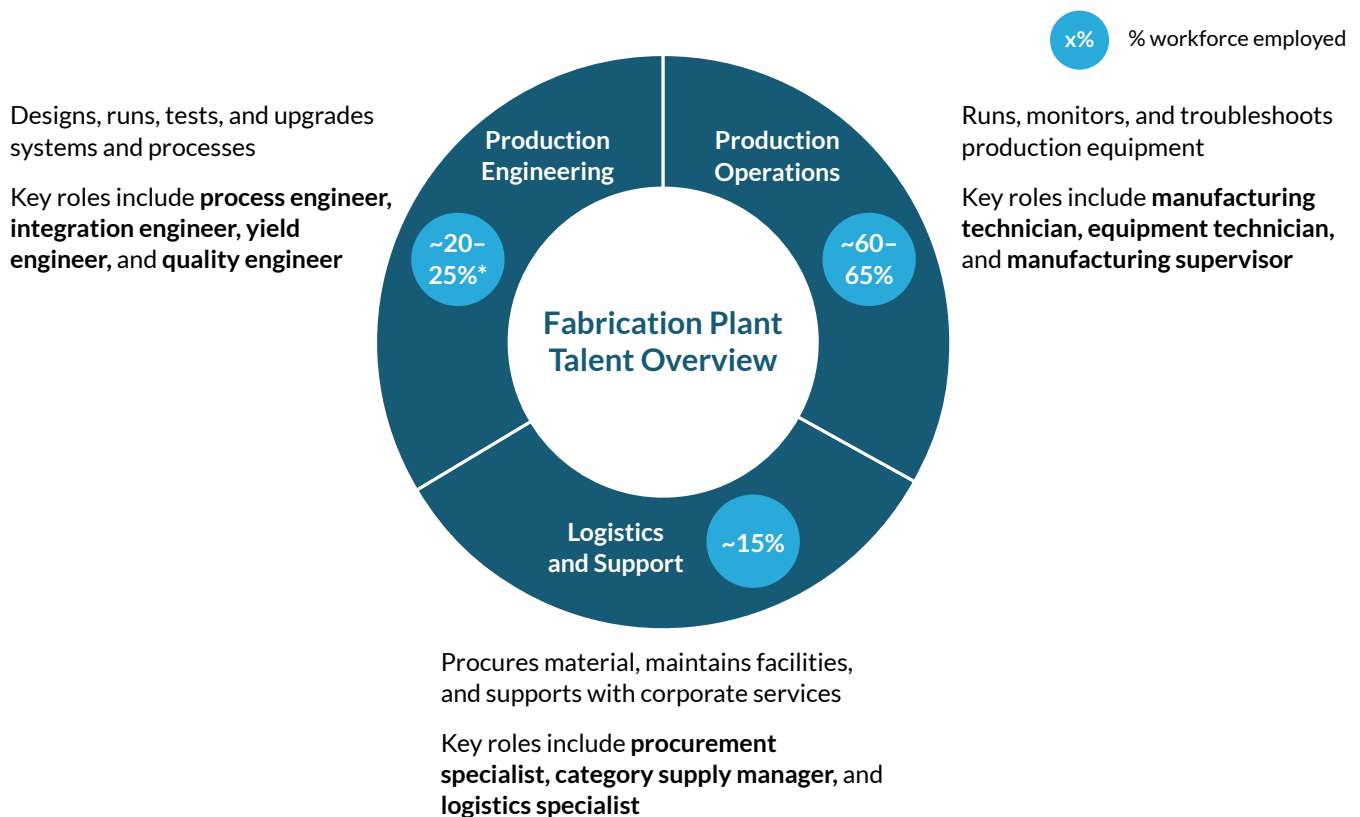


customer teams (often called “tribes” made up of “squads”). Individuals report to both project leaders and career advisers (often called “guilds,” in agile lexicon).

What if your company is organized by geography but your biggest competitor is organized by industry? Does that company see something in the market that you don’t? Or are you identifying geographic needs the other company is missing?

Consider the supply problem in semiconductor manufacturing, one of the most pressing topics in today’s economy. Is it enough for a company such as Intel to build more fabrication plants? Or does it also need to reskill and reorganize to succeed? Our research discovered more than a lack of skills—the industry needs a shift in roles and structure. Many plants used to be staffed with workers and operators, but today they need designers, production engineers, operations experts, and logistics experts (see Figure 7).

Figure 7: Making Semiconductors Takes Three Major Talent Groups



If you just look at skills gaps and hire people to fill them, your operating model won't scale. The largest furniture manufacturer in the United States, for example, typically hired strong men to lift wood and handle manufacturing at plants all over the world. Today these plants are automated, so the company needs centralized operations staff, operators, and digital monitoring—coupled with supply-chain experts to keep the plants running.

This operating model has a huge impact on internal teams. Operating models are critical for internal business functions such as finance, HR, and IT, yet they're often designed on the fly. We are starting with a deep dive into HR operating models and will then turn our attention to IT and other models. Our goal is to identify the patterns of leaders in the field to help you build the right operating model for your company.

5. Talent, Learning, Pay, Retention, and HR Practices

Finally, we will rely on our 25-plus years of experience to look at the talent, HR, and rewards practices of leading companies—for example, performance management design, pay practices, internal mobility, and methods of building leaders, career structures, and culture for growth.

For example, tech and pharma companies often pay 50% to 100% more per role than other industries, making it difficult or almost impossible for a telecommunications company or manufacturer to hire from these sources. Companies will have to redefine their rewards strategies to fit the new industry models.

Our Definitive Guides cover these practices in great detail. We will also provide industry models and industry assessments to show where you fit into maturity models in these areas.

The Solution: The Global Workforce Intelligence Project

We've outlined some of the challenges facing global organizations. Now it's time to start solving those problems. We call our program the Global Workforce Intelligence Project for a reason: it's a living, breathing strategy. This type of project is too much for anyone to accomplish on their own, and it requires perspectives from leaders across industries. Combining data, research, learning tools, and community input, this project is available for anyone interested in solving these problems and advancing the future of work. Visit us [online](#) to learn more, ask a question, or register for the program.



About the Authors



Josh Bersin

Josh founded Bersin & Associates in 2001 to provide research and advisory services focused on corporate learning. He expanded the company's coverage to encompass HR, talent management, talent acquisition, and leadership and became a recognized expert in the talent market. Josh sold the company to Deloitte in 2012 and was a partner in Bersin by Deloitte up until 2018.

In 2019, Josh founded the Josh Bersin Academy, a professional development academy that has become the "home for HR." In 2020, he put together a team of analysts and advisors who are now working with him to support and guide HR organizations from around the world under the umbrella of The Josh Bersin Company. He is frequently featured in publications such as *Forbes*, *Harvard Business Review*, *HR Executive*, *The Wall Street Journal*, and *CLO Magazine*. He is a popular blogger and has more than 800,000 followers on LinkedIn.



Kathi Enderes, PhD

Kathi is the senior vice president of research at The Josh Bersin Company; she leads research for all areas of HR, learning, talent, and HR technology. Kathi has more than 20 years of experience in management consulting with IBM, PwC, and EY and as a talent leader at McKesson and Kaiser Permanente. Most recently, Kathi led talent and workforce research at Deloitte, where she directed many research studies on various topics of HR and talent and frequently spoke at industry conferences. Originally from Austria, Kathi has worked in Vienna, London, and Spain and now lives in San Francisco. Kathi holds a doctoral degree and a master's degree in mathematics from the University of Vienna.



About The Josh Bersin Company

The Josh Bersin Company provides a wide range of research and advisory services to help HR leaders and professionals tackle the ever-evolving challenges and needs of today's workforce. We cover all topics in HR, talent, and L&D, including diversity, equity, and inclusion; employee experience; remote and hybrid work; wellbeing; HR strategy and capabilities; learning and career mobility; HR technology; organization design and development; and talent acquisition and mobility. With the GWI Project, The Josh Bersin Company expands its support of market-leading businesses by helping them navigate the challenges of industry convergence while remaining future-focused.

Corporate Membership

Corporate membership provides senior business leaders and their teams with research, tools, support, and special events that translate The Josh Bersin Company's cutting-edge insights into actionable, transformative organizational strategies. Members have exclusive access to research reports, case studies, definitive guides, playbooks, tech market studies, and a robust toolkit featuring assessments, strategy guides, maturity models, and frameworks. Through executive briefings, thought leadership sessions, and personalized advisory support, members can better apply lessons learned within their own corporate environment. To facilitate collaboration and networking, membership also includes community events, interactive discussions, exclusive webinars, conferences, and interactive learning opportunities.

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