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The Business of Business

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The Challenge of Finding, Hiring, Developing And Retaining Skilled Employees

Job Shock: Solving the Pandemic & 2030 Employment Meltdown

Why Read This?

Welcome to the Fourth Industrial Revolution in a COVID-19 challenged world economy. Their combined impact on the U.S. job market will stretch to 2030 and beyond. Say hello to “Job Shock!” This is a condensation of a series of papers put forward by Ed Gordon in 2021.

“Job Shock” presents our most up-to-date research on the future of the U.S. labor market over the coming decade. We will review both long-term and short-term problems and solutions to them that are now under way across the United States. “Job Shock’s” premise is that America’s students and workers are as much in need of knowledge injections as they are of vaccine injections against COVID-19.

Defining the Realities of Job Shock

Technologies that have transformed American workplaces now require higher skills. The United States is not creating more high-pay, low-skilled jobs; it is creating more high-pay, higher-skilled jobs. Unless we confront the reality of this talent mismatch, we face a decade in which there will be too many unskilled people without jobs who run a high risk for lives in poverty and too many skilled jobs without people. This potentially threatens to undermine the broader economy and increase the social disruption that has already begun.

In today’s job market at least 50 percent of today’s “good jobs” (those with higher pay and benefits) do not require four-year college degrees. These jobs need students who graduate from high school with a good general educational foundation - strong reading/math comprehension, good written and verbal communication abilities, problem-solving and teamwork skills. Students then need to obtain a career certificate, apprenticeship, or a two-year degree from a technical or community college. We are not preparing enough students for the talent realities of the current U.S. job market.

The United States has millions of well-educated, talented workers. But the unrelenting demands of Job Shock tells us that we will need to double their numbers over this decade to run our high-tech economy.

Job Shock from COVID-19

The on-going COVID-19 pandemic has only exacerbated this skills gap and sped up employment meltdowns. It caused the sharpest increase in the official U.S. unemployment rate ever recorded, rising from 3.5 percent in February 2020 to a peak of 14.7 percent in April. At the close of 2020, 12 million of the 22 million jobs lost at the start of the pandemic had been regained. The December unemployment rate of 6.7 percent reflects the number of workers permanently laid off because of the pandemic. The labor force participation rate also remains low.

But the effect of COVID upon different industries and jobs has been very uneven. The leisure and hospitality sector has been particularly hard hit with its low-wage workers experiencing the greatest job loss. Payrolls for couriers and messengers have increased by over 20 percent.

While many businesses lay off workers, others are struggling to fill job vacancies. Overall U.S. businesses continue to cut job training programs, further widening the skills gap. Businesses are increasing investments in automation and technologies that facilitate remote work. The continuing Fourth Industrial Revolution will further raise demands for workers with the skills needed to invent, use, maintain, or repair advanced technologies.

The COVID-19 pandemic is illustrating that skill shortages can have lethal results. COVID-19 vaccine manufacturers have hundreds of vacant jobs in such areas as engineering and quality control. There are acute shortages of critical-care doctors and nurses as well as lab technicians to process COVID tests. How many of the over 400,000 dead (greater than the death toll of the U.S. armed forces in World War II) could have been saved if we had fewer shortages of medical personnel in COVID hot spots?

Also, the skilled people we take for granted to meet our daily needs are in short supply. As computer systems have become more and more central to our daily lives, breakdowns and threats to the security of our private information proliferate. Finding a qualified plumber, carpenter, electrician or medical technologist has become more difficult in many communities. If more effective talent development efforts are not initiated, there is a real danger that the world will not end in a big bang, but that it will come to a slow grinding halt due to a lack of workers with the skills needed to maintain advanced technologies. Welcome to Job Shock!

Job Shock Objectives

The goal of the “Job Shock White Paper” is to raise awareness of the broad scope of the changes needed to equip students with the education and skills needed for 21st-century jobs and careers. And we must retrain workers with the specific skills needed by employers. There are solutions already under way in communities across the United States that can help your local area. But these solutions are not easily available to all.

We see the most promising responses to Job Shock coming from regional cross-sector partnerships

composed of business owners and managers, educators, parents, government officials, union leaders, non-profit associations, and others. These partnerships have begun regionalized initiatives to rebuild their outdated education-to-employment systems.

“Job Shock” is a call to action. We need to work together in initiating the systemic changes needed to prepare more people for better paying jobs and thus create a more equitable and prosperous economy over this decade.

Let’s not forget how technology has dramatically transformed workplaces and occupational requirements over the last 50 years. Unfortunately, other parts of American society have failed to adapt to these labor market changes thus contributing to the social unrest the United States is now experiencing.

So, What Has Changed?

Would You Use a Videotape in a Blu-ray Disc Player?

The days of semi-skilled, blue-collar factory jobs are fast disappearing. These jobs once provided a 19-year-old high school graduate or drop-out with the wages and benefits needed to support a family with a middle-class standard of living. Thinking that working in low-skill manufacturing or service occupations will propel you into the middle-class today is as sensible as buying a videotape for a Blu-ray disc player.

The decline of many types of U.S. manufacturing jobs was a hot political issue in both the 2016 and 2020 Presidential elections. The economic consequences of the closing of large manufacturing plants, particularly those making automobiles and large household appliances, has been especially severe. Many of these factories were located in smaller cities in which they were the central economic engines of their communities since the 1950s. They provided large numbers of assembly-line workers with well-paying, lower-skill blue-collar jobs. The growing prominence of electric vehicles has made such auto plants obsolete. The new technologies used in these vehicles mean that robotics are a central feature of their assembly lines. Such assembly lines depend on higher-skill workers who control, maintain, and repair the automated equipment. Manufacturing in general is undergoing a similar transition with jobs that support automated equipment growing dramatically.

The December 2020 survey of the National Association of Manufacturers illustrates the rapid escalation of skills demanded in manufacturing. Even

in the midst of the COVID-19 pandemic, respondents reported the “inability to attract and retain talent” as their top business challenge. The Manufacturing Institute has projected that 2.4 million manufacturing jobs will likely be unfilled over the next decade due to skill deficits.

The Fourth Industrial Revolution is wiping out many types of middle-skill jobs. The COVID-19 pandemic has more severely affected middle-skill and low-skill workers. More individuals see both their financial well-being and social status threatened. This has helped to fuel the growth of populist movements that are latching on to conspiracy theories or finding other scapegoats to blame for their current jobless or low-paying job situations. They are placing the blame on the wrong targets. They should be directing their anger at inadequate or outmoded training and education systems that do not provide the skills needed for the jobs that are currently in demand.

Demographic Time Bomb

The United States and the world are facing a structural labor-market race between advancing technology, on the one hand, and demographics and education on the other. In the United States alone, 79 million baby-boomers are retiring between 2010 and 2030. The U.S. Census Bureau projects that one in five Americans will be 65 or older in 2030 and by 2025 the number of retirees will be enough to populate 27 Florida's. While the US population is projected to grow to over 355 million in 2030, an increase of about 6 percent, the working age population 18 to 64 is only projected to increase by 2 percent.

Similar demographic shifts are also occurring in other nations in Europe and Asia. Birthrates are falling significantly in Italy, Germany, China, Japan, and South Korea to name a few. In these nations as in the United States, the working age population is supporting an ever-growing number of retirees. This demographic shift increases the importance of raising worker productivity. In most nations, the current pace of education reform and worker retraining will be too little, too late. For example, in China, about 70 percent of the labor force remains unskilled as its huge rural population is relegated to inferior schools where most students receive no more than a junior high education. (Rozelle, Invisible China)

The central premise of this "Job Shock" White Paper is that radical improvements in educational and training programs are needed to obtain a global labor force that meets the Fourth Industrial Revolution's technological

demands. American businesses have become over-reliant on importing foreign talent. However, as the world-wide war for talent heats up, it will be virtually impossible for the United States to use this strategy to compensate for our chronic domestic talent shortages. This situation is likely to become more acute between 2020 and 2030.

Lessons from the Past

This is not the first time the United States has struggled with job shock. Beginning in the 1890s, the spread of electric power led to mass production methods in factories and population shifting from farms to cities. Factory technologies required workers with basic reading and math skills. To meet these expanded educational needs, compulsory tax-supported education gradually spread across the nation.

The launch of Sputnik in 1957 triggered the Space Race between the United States and the Soviet Union. This spurred the growth of the American aeronautic and defense industries with a consequent rise of jobs and careers in STEM (science, technology, engineering and mathematics) areas. Encouraged by federal funding, many initiatives sought to improve and expand STEM education and interest more students in pursuing careers in these areas. The 1970s saw the introduction of personal computers (PCs) in homes and businesses across the United States further expanding technical employment growth.

The good news is that there is not a fixed number of jobs in the U.S. economy. These past disruptive job transitions provide evidence that personal attitudes toward jobs do change and that the American labor market is very elastic. The new job requirements of the 1970s sparked a nationwide impetus for improving reading, math, and science instruction in elementary and secondary schools. There also was tremendous growth in educational options at the college level, and U.S. businesses developed in-house training and education programs for new and incumbent workers.

Today's Job Demands

The Space Race and computer technology revolution produced islands of educational excellence but did not lead to the general development and expansion of education programs across the United States. The current education-to-employment system lags far behind the rate of change in the skill demands of the U.S. labor economy. Two-thirds of occupations now require post-secondary education, while a high school

education or less suffices for only about one-third of jobs.

The challenge we now face is that only about one-third of our high school graduates leave school with reading and math comprehension at the twelfth-grade level. These skill levels are needed for the successful completion of post-secondary certificates, apprenticeships, community college two-year degrees, or four-year degrees.

Today's technologies are increasing the importance of the ability to work in teams that often include workers in a variety of skill and job classifications. This in turn is heightening the importance of so-called "soft skills," such as effective communication, problem-solving, self-motivation, time management, leadership, and ethical workplace standards.

The COVID-19 crisis has abruptly changed workplaces and skill demands worldwide. It is increasing the adoption of automation, robotics, and technologies that facilitate remote-work options. In this changed environment, adaptability has become a vital skill. A key to adaptability is the cognitive ability of learning how to learn as it enables workers to quickly gain new knowledge and analyze how to implement it to meet new workforce challenges.

We are now in the throes of Job Shock. Too many Americans, both young and old, cannot find a good job and many have given up even looking for one. The U.S. labor market participation rate began a downward slide after the 2010 recession and has dived by two percentage points over the past year as the COVID-19 pandemic has decimated some sectors of the U.S. economy. (U.S. Bureau of Labor Statistics, January 2021) This makes the official unemployment rate an inaccurate barometer of workforce conditions.

The United States is now facing a need to provide updated education and training to two expanding sectors of the adult population – those who are not currently employed and those who need to transition to other occupations due to the impact of the COVID pandemic. In addition, the talent development needs of the current workforce must be addressed. In next month's Gordon Report, the "Job Shock" White Paper will examine the current education and skills profiles of different segments of the U.S. population and what consequences we can expect over the next decade if changes are not made.

The Kids & Workers Are Not "All Right"

Many students and workers cannot accept the new reality that they are undereducated for many jobs in this decade's labor market, let alone future ones!

KNAPP has created a robot for warehouses with the dexterity to recognize and sort random items with 99 percent accuracy. Once such robots are put into operation, humans would continue to work alongside them, but the catch is that these workers will need a whole set of additional skills.

"If this happens 50 years from now," stated Pieter Abbeel, an artificial intelligence professor at University of California, Berkeley, "there is plenty of time for the educational system to catch up to the job market." The trouble with his prediction is that the COVID-19 pandemic has sped up companies' plans to further automate workplaces today!

Throughout the course of the COVID-19 pandemic, small business owners have consistently reported that the quality of labor was an important business problem. In a February 2021 National Federation of Independent Business survey, 56 percent of the respondents were trying to hire and 91 percent of these employers reported few or no qualified applicants for their job openings.

This situation is the result of outdated regional education-to-employment systems across the United States. They have largely become broken pipelines with an inadequate flow of people qualified to fill local jobs. Unfortunately, this skills-jobs gap has persisted throughout the last two decades. As labor economist, Kevin Hollenbeck wrote in 2013, "I am reminded of the adage about the frog in the pot. If you put a frog into a pot of boiling water, it will jump out. But if you put a frog in a pot of water and then slowly boil it, the consequences will be dire for the frog. We (workers, employers, policymakers, and politicians) like that frog, have not been alarmed enough by the signals of a widening skills-jobs gap....to jump to action, and now we face the dire consequences in the form of a "talent cliff."

The COVID-19 pandemic has made this talent cliff steeper. The switch to remote schooling has meant that many students may be behind as much as a full grade level. Jobs go unfilled due to the lack of qualified applicants while more workers remain unemployed for six months or more and the labor-force participation decreases. Clearly the kids and

workers are not “all right.” Denial or wishful thinking will not change this job shock reality.

Knowledge Shock

The 2017 film “Hidden Figures” focuses on the lives of three African-American women who NASA hired because of their advanced math attainments. Through making important contributions to NASA’s space mission, these women overcame race and gender discrimination, earned the respect of their co-workers, and secured career advancement. These three women are unsung heroes of the U.S. space race against the Soviet Union.

What was a major reason for their success? With the long-term help of their parents, each of the women overcame formidable barriers to obtaining the educational preparation that developed their mathematical talents. Education is a shared responsibility between parents and schools. Education should begin at home. Habits of learning should be instilled there. Parents can help a child learn-how-to-learn by fostering each child’s personal talents and interests.

Unfortunately, America’s popular culture does not esteem educators or link educational attainment to success in life. Parents are the primary motivators of their children. If parents do not believe that doing well in school is very important, neither will their children.

Many parents also believe that their local school is providing a good education to their children. Regretfully, this is often not the case. Education levels have not kept pace with skill demands in workplaces.

There is ample evidence that K-12 education in the United States is not providing many students with the educational foundations needed for their future development. Every two years, nationwide achievement tests are given to students in grades 4, 8, and 12. The National Assessment of Educational Progress commonly called the “Nation’s Report Card” is conducted by the U.S. Department of Education. Recent results have been nothing short of alarming.

Students are ranked at four levels: below basic, basic, proficient (at grade level), and advanced (above grade level). The Grade 4 test results in 2019 were: 65 percent read below grade level, 26 percent were at grade level, and 9 percent were above grade level. Fourth grade is a crucial point for reading attainment because in the first three grades’ students are taught how to read, but by the fourth grade they should have

attained a level of reading proficiency that enables them to learn how to learn.

At grade 12 in 2019, 37 percent received NAEP reading scores of proficient or above. However, 30 percent were at the below basic level which was larger than in any previous assessment year. In math only 24 percent of high school seniors were at the proficient or above levels.

Yet paradoxically, the U.S. high school graduation rate has been rising. How can this be explained? Grade-level standards are being downgraded or bypassed. For instance, failing students are enrolled in special “credit recovery programs” that allow them to move on to the next grade or graduate with no or minimal academic standards for a passing grade. Clearly all high school degrees are not equal!

The NAEP scores indicate that a large proportion of U.S. students are not equipped with the basic educational foundation needed for success in post-secondary programs. About 67 percent of high school graduates attend higher educational institutions. After six years only about one-third complete a degree, certificate or apprenticeship.

Many of these students take either the SAT or ACT exams that are designed to assess their readiness for higher learning. Between 1967 and 2017 overall test scores on these exams have declined. In 2019 only 37 percent of ACT takers and 45 percent of SAT takers tested fully ready for post-secondary programs.

Higher-educational institutions are compelled to offer remedial education for entering students. About 40 percent of entering freshmen are now enrolled in non-college credit reading, math, or written communication classes. At some institutions over 90 percent of entering students need remedial education. Poor student preparation is also leading to declining quality in higher education.

America does have excellent schools and universities. On the 2020 Social Progress Index, the United States ranked first in the world in the quality of its universities. But on this same index, the United States ranked 91st in student access to a quality elementary/secondary education. Over the past decade, the decline of the U.S. rank on this indicator has been greater than that any other nation. Unless widespread systemic reform of U.S. K-12 education becomes a national priority, a significant proportion of the next generation of American workers will be under-skilled for employment in the workplaces of the future.

Learning Without Scars



As a third-generation educator, it is easy to say that teaching and training are in the blood for Ron Slee. From his beginnings as a coach, through his time at McGill University, Ron developed a foundation for the work he does today.

Learning Without Scars provides comprehensive online learning programs for employees starting with an individualized skills assessment. These assessments allow us to then create a personalized employee development program. From their assessed skills, the employee is asked to select from classes designed for their skill level which allow them to address the gaps in their knowledge level. This allows the employees to move through four progressive categories of learning: Basic, Intermediate, Advanced and Expert.

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Do You Know The Answer?

Which heavy equipment manufacturer supplied transmissions and gun carriages for tanks in WWII?

Educational Resources

All of the resources listed below can be found on our website : www.LearningWithoutScars.com under the Resources menu.



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We created a list of recommended books that have come across our table and that we thought you would enjoy reading. They are sorted by category and cover a wide range of topics to enhance your knowledge.



In collaboration with Reedz, we are offering educational audio tracks in multiple languages! We hope that you find the content engaging and beneficial to your work.



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