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Turning the Skills Gap into an Opportunity for Collaboration

Case Studies from New York and Puerto Rico

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According to Nobel laureate Gary S. Becker, investing in human capital is comparable to companies investing in equipment to generate higher returns. Researchers define human capital as the measure of productivity and economic value individuals possess as determined by the collective knowledge, skills, and experiences obtained throughout one's life. Societies have relied on traditional educational and vocational systems to increase human capital by providing individuals with the necessary skills to succeed in the workplace.

Private sector employers have also assumed some responsibility in increasing the skills and capabilities of current and potential employees. Employers often cite the skills gap, or talent shortage, when explaining their barriers to filling positions. They report that job seekers lack the skills needed to perform available work, as well as valuable interpersonal skills important in the workplace. While the dearth of qualified potential employees continues to concern employers, labor market experts see ongoing trainings as a response to advancing technologies and the challenge of creating timely training programs in response to labor market needs as contributing factors to this issue (Cappelli 2014). Companies continuously require workers to have the right skills to perform well and help the firm grow. Because of these demands, researchers believe that engaging employers in the development of job training programs or curriculum advisement is an essential strategy for aligning industry needs and increasing job seekers' chances of securing work after completing training. Rather than dismissing employers' frus-

tration with the current workforce supply-and-demand model, tackling the skills gap presents an opportunity for both sides to develop a mutually beneficial partnership. Undoubtedly, employers' efforts to improve the skills of their employees would require greater time and investment in workforce practices. However, the benefits to both employers and employees of such an effort seem to outweigh the costs involved. For example, according to a Lumina Foundation study (2016), Cigna's Education Reimbursement Program shows that investing in employees' learning opportunities helps companies' performance, while also retaining and growing talent from within the company. The program resulted in a 129 percent return on investment as a result of avoided talent management costs and 43 percent higher incremental wage gains over three years for participating employees. When companies invest in programs and partnerships that aim to grow workers' skills, knowledge, and abilities, the programs can have a significant impact on the company, the worker, and communities.

UNDERSTANDING EMPLOYERS' NEEDS

The IBM Institute for Business Value (2015) surveyed over 900 experts from the industry and academic sectors to better understand the effectiveness of the higher education system. Researchers found that about 49 percent of industry and academic leaders believe higher education meets student needs, and 41 percent believe higher education meets industry needs. While most companies and the business sector have transformed quickly in the past few decades due to technological advances and greater global connectivity, educational institutions and the education sector have changed at a slower pace. According to the survey, about 57 percent of industry and academic experts believe that collaboration between the two sectors is necessary to effectively deliver postsecondary and vocational education to students.

Employers should also consider how partnerships with external entities can retain existing talent and attract new workers to the company. According to a report by Kronos and Future Workplace (2016), 87 percent of surveyed employers said that improving retention remains a critical priority for their organization. Not surprisingly, the investment

placed into attracting and onboarding new employees prioritizes worker retention for most employers. Employers need to consider the various incentives employees want to continue working at the company, such as a wage increase, new personal or professional benefits, and educational or training opportunities to learn new skills for socioeconomic mobility. The latter investment can benefit both the worker and the company and would require a committed partnership to work together on planning and designing such a program. Acting together in a greater ecosystem of connectivity will provide greater value to both sectors than acting alone. The benefits would multiply with several partnerships across industries.

Several examples of partnerships between employers and training providers exist in numerous industries and with varying levels of educational systems. In 2011, IBM partnered with the New York City Department of Education and City University of New York to develop a career and technical education model that emphasizes science, technology, engineering, and math (STEM) disciplines. These subjects are found in some of the country's fastest-growing industries and do not require a four-year degree. The innovative model, known as Pathways in Technology Early College High Schools (P-TECH), spans grades 9–14 and began in Brooklyn to help prepare underserved students to acquire the academic, technical, and workplace skills that employers need.¹ During the six years of study and work-based learning, students receive mentoring, job shadowing, and internships with partner employers, and upon completion they graduate with an associate's degree in a STEM discipline. P-TECH graduates are also considered first in line for a job with employers participating in the collaborative program. The model redesigns the high school experience and helps students with individualized support services so they see themselves as college students on a career path. Since 2011, the P-TECH model has expanded to more than 60 schools serving thousands of students in partnership with small and large employers around the world. As of 2016, over 30 of these programs exist in New York State, in addition to recently opened programs in Illinois, Maryland, Colorado, Connecticut, Rhode Island, and Australia.

IBM and its partners created an online toolkit showing how this model can be widely replicated as part of its national effort to reform career and technical education.² In June 2017, IBM announced that approximately 100 students in P-TECH Schools in Brooklyn and Chi-

cago were expected to complete the program by the end of summer 2017, with the Brooklyn school's first cohort achieving an on-time completion rate four times greater than the national average for all community college students (IBM 2017). MDRC, a nonprofit, nonpartisan education and social policy research organization dedicated to learning what works to improve program and policies that affect the poor, has undertaken an impact study between students in NYC DOE-operated P-TECH schools and those that did not gain admission to the P-TECH program.³

Employers working closely with higher education partners may minimize the economic pitfalls of potential brain drain in communities and the labor force. According to the U.S. Department of Labor, the workforce is aging, and by 2024, nearly 25 percent of workers are projected to be age 55 or over (Morisi 2016). By contrast, this same group made up only 12 percent of the workforce in 1994. Employers have justified concerns about the projected effect this group of retirement-eligible workers will have on business due to the loss of knowledge, skills, and experience. Northeastern University and the World Class Cities Partnership (WCCP) initiative, now known as Leading Cities, seek to understand cooperative partnerships that address common challenges and opportunities around different cities, such as attraction and retention of locally grown talent. A research report by WCCP (2014) finds that cities' retention of graduates is about 50 percent on average, and these cities face emigration of their college-educated workforce due to a variety of reasons, such as skills mismatch, job availability, and integration into the community. Because businesses are already combatting a skills shortage, this potential issue of brain drain may negatively affect businesses' productivity and job growth in communities. Developing a talent pipeline for new workers would help balance the pipeline of exiting workers from the local labor force.

Businesses also face roadblocks to hiring skilled workers without their involvement in the development or training of workers. A relevant workforce model to fill open positions requires greater collaboration between employers and those seeking to support the development and placement of job seekers. Three private sector employers located in New York State and Puerto Rico shared their current workforce efforts to develop and hire local talent for their businesses. We interviewed executive and middle-level management staff from these private sector employers located in New York State and the Commonwealth of Puerto

Rico. Through these interviews, along with reviews of program-related reports, we learned about their current workforce efforts to develop and hire local talent for their businesses. By understanding some of the factors that contributed to these employers joining forces with higher education partners to develop a talent pipeline toward employment, we aim to provide insight for employers seeking to engage with higher education partners and understand some of the lessons learned through these existing collaborations.

ECONOMIC CONDITIONS IN PUERTO RICO AND UPSTATE NEW YORK

In 2016 the Commonwealth of Puerto Rico had an estimated population of 3.5 million people. In 2006, the island's estimated population was 3.8 million. Ongoing economic conditions on the island have led to the significant decline in total population.⁴ Since 2006, Puerto Rico has experienced a deep recession and the economy has not yet recovered, nor followed the usual track of the U.S. economy. In 2016, the Congressional Task Force on Economic Growth in Puerto Rico reported, using 2015 Census data, that 46.1 percent of Puerto Rico residents live at or below the federal poverty level, compared to the U.S. national average of 14.7 percent. Additionally, median household income in Puerto Rico is \$18,626, while the national median household income average is \$56,515 (U.S. Congress 2016). In March 2015, the Government Development Bank for Puerto Rico (2015) reported Puerto Rico's gross public debt at \$72.2 billion. The island's debt and compounding population decline have impacted business development and workforce opportunities for residents, and have limited other areas of economic growth. While the island's public sector continues to seek alternative solutions to ongoing economic challenges, the private and education sectors also aim to reverse the direction of the economy and turn things around.

New York State's job growth has varied between and within the upstate and downstate regions between 2009 and 2016. According to a 2016 report from the New York State Comptroller (DiNapoli 2016), job growth in upstate New York between 2009 and 2016 was largest in the

Capital Region (2.2 percent), followed by the Finger Lakes (1.7 percent) and the western New York (1.4 percent) regions. The Mohawk Valley, Southern Tier, North Country, upper Hudson Valley, and central New York regions reported job loss during this time. Overall, upstate New York's job growth rose 0.3 percent during this time period but lagged behind downstate New York and the nation as a whole (DiNapoli 2016). Between western New York, Capital Region, and central New York, there are over 45 public and private universities, colleges, and community colleges in the regions.⁵ While economic conditions in upstate New York are not as strong as downstate, employers are partnering with several educational institutions to develop and attract a skilled workforce for the region.

CASE STUDY 1—BDO PUERTO RICO

BDO Puerto Rico/U.S. Virgin Islands (BDO PR/USVI), a full-service accounting and consulting firm that provides assurance, tax advisory and compliance, business advisory, and outsourcing services, is a member of BDO International Limited, the world's fifth-largest accounting and consulting network. Fernando Scherrer and Gabriel Hernández founded Scherrer Hernández & Co. in 2000 before changing the name to BDO PR/USVI and joining the BDO International network in 2012. As of September 2016, BDO International employs over 67,000 workers in 1,401 offices and operates in over 158 countries and territories with total revenues over \$7.6 billion. BDO PR/USVI has offices in San Juan, Puerto Rico, and St. Thomas, U.S. Virgin Islands, and employs over 240 professional staff and 12 partners in the firm.

Recognizing the importance of the business and staff, BDO PR/USVI aims to inspire and foster success for its people and their clients, while maintaining the right environment for its staff and the right people for their clients. By focusing the mission and vision of the firm on its staff and clients, the company places importance on both groups to keep the firm moving forward. The company is highly regarded in the local market in terms of customer satisfaction and offers diverse services in multiple industries, such as energy and natural resources, financial services and assurance, government and public sector, hospitality,

manufacturing, and real estate, while serving a large client population. While diversifying its portfolio has served the company well during uneasy economic times, a challenge for the company has been developing local talent that specializes in multiple industries. Understanding the impact that the local economy has on the workforce and the specific skill sets needed for the company to provide value-added to its clients, BDO PR/USVI developed a partnership with the University of Puerto Rico and other postsecondary educational institutions to create the BDO University (BDO U) internship program.

Participants in the program are usually junior- or senior-year college students with a strong background in accounting, finance, law, or a STEM discipline, who have advanced computer skills, who are fluent in written and spoken English and Spanish, and who commit a minimum of 20 hours per week to the program. While students may not have all the sought-after skill sets, BDO PR/USVI will work with students who demonstrate leadership and teamwork to hone their skills and develop into professionals who will represent the company.

BDO PR/USVI first assesses students by attending campus career fairs or speaking to classes and seeing how students communicate and articulate interest in the industry and company. After résumés are received, the company establishes a review committee of different partners and business area leaders to look for different elements, such as extracurricular activities and educational interests. After identifying several promising applicants, the company can meet up to 100 students in several roundtable interviews. Depending on how many people the company expects to hire that year, it will try to interview three times as many people. After meeting business leads, students are ranked by service area and offered an internship position in that order. Participants in the program complete 100 hours of training and about a minimum of 400 additional hours in on-site fieldwork.

In any given year, 30–40 students participate in the program, which runs eight months out of the year. Approximately 30 percent of the firm's new workforce each year is sourced directly from this program. The program provides working experience for students and supports the development of the firm through active engagement across the different departments of the firm. At the University of Puerto Rico, the dean of accounting supports the recruitment of potential interns. BDO PR/USVI dedicates time, financial resources, space, and technology to

the program. Through the internship program, students gain excellent learning opportunities in various industries, build professional qualifications and responsibilities, receive mentorship and support from staff, get exposure to senior management leaders and BDO clients, and earn a competitive salary while fulfilling the work experience needed for certain certification requirements.

For BDO PR/USVI, migration of people and skills out of the country remains a challenge. Puerto Ricans are U.S. citizens at birth, so they can work anywhere in the United States. Because of the current economic climate, new graduates continue to move to the United States. Additionally, to combat the stereotype that working at an accounting firm entails a work-life imbalance, BDO PR/USVI works to assure its staff that they can have a rewarding life outside work. Since Puerto Ricans are leaving the island to study in the United States, the company investigates how they can attract and bring back students to the island through its internship program.

In September 2017, Hurricanes Irma and Maria hit Puerto Rico and several surrounding Caribbean nations. These hurricanes caused extensive and lasting damage to Puerto Rico's infrastructure and business environment. While it is too soon to know for sure the economic impact caused by the hurricanes, recent labor market data from the U.S. Department of Labor showed that employers on the island reduced payrolls by 3.6 percent—the greatest drop in 21 years (Philip 2017). As of one year after the hurricanes, almost 200,000 residents have left the island (Center for Puerto Rican Studies 2018). For now, the primary focus for all stakeholders is managing relief efforts on the island.

CASE STUDY 2—NATIONAL GRID

National Grid is an electricity and natural gas delivery company that employs about 4,000 workers and connects 1.6 million electricity customers and 600,000 natural gas customers in vital energy sources through its networks in upstate New York. National Grid also operates the systems that deliver gas and electricity across Great Britain, Massachusetts, Rhode Island, Long Island, and New York City. National Grid continues to transform its electricity and natural gas networks to

support the twenty-first-century digital economy with smarter, cleaner, and more resilient energy solutions. National Grid invests in workforce programs to employ energetic, positive workers that maintain and grow skill sets in several areas critical to the company's success, including a labor force in the professional/managerial track, journey fieldworkers, and call centers.

National Grid's journey fieldworkers actively work on field infrastructure and remain highly visible to customers, therefore needing both technical and mechanical skills as well as excellent public relations and communications skills. The job categories that these employees work in include line and gas mechanics, service and meter technicians, and designers and planners. National Grid's Collections and Customer Service and Meter employees interact directly with customers to address specific customer inquiries. These representatives need to understand the entire customer experience and must have great listening and problem-solving skills. In the professional track, National Grid depends on professional skills at the graduate or higher level, critical to operating the transmission and distribution networks in the natural gas and electric industry. These skills rely heavily on the analytical and managerial areas. National Grid's Talent Acquisition teams, part of the Human Resources Department, work with local colleges to recruit these graduates directly into these fields. Once the firm hires graduates, many participate in a graduate development program (GDP). This program provides an aggressive planned experience in which new employees work for six months in a training experience to learn about other areas of the business and are assigned a capstone project that reinforces both the classroom and field experience. Graduates present the results of their findings to managers who sponsor the program, and successful employees work in areas such as the stakeholder and community/customer account executives, electrical and mechanical engineering, project management, commercial credit analysis, finance, human resources, and supply chain management departments.

In addition to encouraging existing employees to be life-long learners, National Grid works strategically with education partners to build a future workforce for the company and industry. Based on the company's strategic business plans, teams discuss its ability to deliver on the capability and capacity and work to proactively identify gaps that, if not addressed, would impact its ability to achieve business goals. In

one of its first community college partnerships, the company's senior operational vice-presidents, directors, and managers, together with the human resources, recruitment, and legal teams, worked together to develop a 12-month certificate program that focused on a hands-on, practical electrical line mechanic program. National Grid worked with Erie Community College to develop a course syllabus, course outline, and materials, and build an internal lab at an existing facility in the region. A memorandum of understanding was written with the assistance of the director of human resources, in-house attorney, and with the support and guidance from senior operations executives.

Soon after, National Grid's vice president of electric operations for upstate New York heard about the program and asked an internal team to develop a similar program for Hudson Valley Community College (HVCC) to help support the workforce in the Capital Region. National Grid approached HVCC, which expressed interest in the joint partnership, and created a similar program that resulted in an Associates of Occupational Science (AOS) degree. Most recently, National Grid's Western Division is working with Onondaga Community College to create workforce training programs that will focus on trade programs in order to develop electricians, welders, machinists, line mechanics, and meter workers for the company.

Prior to working strategically with education partners, National Grid used traditional forms of outreach to hire workers, such as employee referrals, classified ads, radio announcements, and college fairs. National Grid assessed the changing business environment and needed to reassess its approach to hiring workers and filling positions, such as line workers, where the aging workforce may soon impact these jobs. National Grid developed the National Grid Academy to support training for existing workers, but relied on partnering with colleges and universities in the upstate New York region to create a resource pool for hiring new workers. National Grid currently has eight active employer-education partnerships, which leverage the expertise and knowledge of its academy instructors, and is developing seven new programs with public community colleges and public and private four-year colleges across electric, gas, and general utility specializations. The State University of New York system has multiple campuses across the upstate New York region, and its colleges have been extremely collaborative

with National Grid, in addition to its campuses being strategically located across the company's business areas.

For National Grid in the upstate New York region, the company anticipates a growing number of workers retiring over the next 10 years. The pace of retirements presents a challenge in developing journey-level fieldworkers to meet the existing and changing demands of the business. This aging workforce also presents challenges, since the upstate New York area is not replacing the aging population with a net migration of younger people.

CASE STUDY 3—ARNOFF MOVING & STORAGE

Arnoff Moving & Storage (AMS), founded in 1924, is a fast-growing moving, storage, and logistics provider in New York State's Hudson Valley and Capital Region. AMS, a family-owned and -operated full-service moving and storage company, currently employs about 200 workers and began operating with one truck and an office and warehouse facility in Lakeville, Connecticut. Throughout its 93-year history, the company expanded to other markets across the country, such as Connecticut, Massachusetts, and Florida. In 2017, the company's flagship business location moved from Albany to Malta, New York, to a new 100,000-square-foot warehouse and state-of-the-art distribution facility in a 40-acre site. The company has five offices with management teams and support staff at each location. AMS not only operates a truck fleet with drivers and helpers performing moving tasks, but also provides warehousing services coordinated with its transportation division. AMS attributes the supportive business environment and manufacturing economy along the capital district and neighboring regions as partially responsible for its recent business expansion.

AMS previously partnered with two community colleges in the Capital and Hudson Valley regions to offer several incumbent worker training programs. AMS originally partnered with higher education in college career fairs, but the partnerships were limited beyond that. A substantial strategic partnership began when a community college representative approached AMS and provided a brief overview of the services and trainings they provide to employers. Initial conversa-

tions started between AMS's vice president of human resources and the community college representative about the types of trainings the company needed for the upcoming year. The college then proposed several training options, which could have been done either solely for the company's employees or with a group of other employees in similar industries. Training topics varied among staff. For example, managers learned how to perform proper appraisals and took basic computer skill courses, drivers took defensive driving classes, and all employees took courses on working in a safe and healthy environment. Through these initial experiences with the community colleges, and seeing how valuable and useful the training materials were in terms of improving the quality of the company and its staff, AMS continued to find opportunities for greater collaboration with the colleges.

Another benefit for AMS was that the colleges have many amenities, such as classroom space, computer labs, parking, and a cafeteria, making it easy for the company's staff to spend their day learning about different topics in a convenient and all-encompassing location. AMS contributes a financial component to the trainings, but it is manageable with support from grants received by the community college and a grant provided by Workforce Development Institute, a statewide nonprofit that supports keeping good jobs in New York state. While community colleges have been supportive partners, AMS understands that not all of the trainings can be uniquely tailored for AMS's needs, and colleges communicate that trainings may sometimes require greater employer participation. When appropriate, AMS works with other employers to partner with community colleges to develop a training program that would benefit their industry collectively.

According to the American Trucking Association, the trucking industry was short 38,000 drivers in 2014 and could have shortages of almost 175,000 drivers by 2024 (Costello and Suarez 2015). Rising interest in the automation of vehicles, particularly trucking, is being carefully studied by industry experts, but the infrastructure and legislation approving self-driving cars is not expected for some time (Rushe 2017). As an industry that prioritizes safety due to the nature of the work, the quality of drivers is valued much more than the quantity of drivers. Trucking companies are vigilant about the hiring criteria for eligible candidates because of the potential negative impact on their bottom line by hiring poorly qualified drivers who get into accidents and increase

insurance premiums. Similar to the utilities industry, the trucking industry is facing the prospect of replacing a significant percentage of its drivers due to retirement, while still needing to meet increasing demand for services across the industry. Additionally, females comprise about 6 percent of drivers in this industry, while making up about 47 percent of all U.S. workers (Rushe 2017). Another challenge is changing the perception of drivers' lifestyle and being on the road for extended durations of time. AMS is a regional and local company with drivers and staff who live in the areas they serve, so this is not a significant issue compared to other companies in this industry. Workers in both moving and storage areas are expected to have professional and customer-facing skill sets, since they may be performing tasks involving client engagement. AMS seeks the development of these types of skill sets through training as a result of its importance in the business.

LESSONS LEARNED/NEXT STEPS

BDO PR/USVI has dedicated much of its workforce efforts and resources in Puerto Rico. The company plans to extend the BDO U model to the U.S. Virgin Islands (USVI) and anticipates restructuring it because the work and personal life environment is different in each place. BDO PR/USVI plans on conducting an extensive assessment to determine the feasibility of working with educational institutions in USVI and the size of such a workforce program there. The company will continue to refine its workforce program year after year as its business areas grow and its needs evolve according to clientele and business environment.

National Grid has an extensive service area. The company has learned from all different regions to help support its networks. In downstate New York, potential candidates in National Grid's Customer Experience Management program learn how to interact with customers on service questions, billing, payments, and account processing with the goal of developing professional communication and problem-solving skills. Kingsborough Community College, located in Brooklyn, currently works with multilingual candidates to develop awareness of the root cause of customer questions and assists students with personal

finance and résumé-writing skills. National Grid is assessing a partnership with a community college in the upstate region to determine the viability and replicability of the downstate New York model. National Grid will continue to invest in these workforce programs in order to hire successful candidates and serve a critical need: providing a solid foundation of common language, knowledge, and practical skills in the utilities industry. Responding to an increasing interest from military graduates with technical experience in electrical or plumbing looking for opportunities in the utilities industry, National Grid is partnering with a consortium of other utilities and aims to expand a Troops to Energy program with an upstate New York community college partner. A strong partnership with local colleges, universities, and community partners will allow National Grid to meet the changing needs of a digital economy and reinforce its commitment to the communities they serve.

AMS continues to focus on developing a grassroots recruitment effort by connecting with local veterans organizations in the communities it serves. The company has numerous positions, such as management, supervisory, and staff and driving, where veterans have skill sets that work well for the company culture. In several instances, AMS has reached out to local American Legion chapters and Veterans Administration organizations to introduce the company to this unique population group and make known the opportunities that exist at the company.

In these three cases, employers' strategic investment in workforce development efforts originated from a combination of industry- and economic-related concerns, as well as difficulty with finding skilled workers. In addition to being a learning hub for the future workforce, education institutions can be a valuable workforce partner for employers seeking to develop critical and in-demand skills. The latter opportunity requires active engagement and involvement from employers and industry experts to transform existing teaching and instructional classroom-based models into relevant work-based learning models. When companies' senior management is aware of the workforce issue and attuned to possible partnership efforts, the potential of taking an active role in the development of training programs or projects can lead to a successful long-term impact for the company.

Employers compete in a much larger and globally connected world than ever before, so the current system and resources dedicated to build-

ing the future workforce requires greater and strategic partnerships between employers and the education sector. However, companies' contributions to workforce development and engagement strategies should not be limited to the education sector; collaborations should be extended to the local chamber of commerce, community-based organizations, nontraditional workforce training providers, local and state workforce development boards, and financial institutions.

Notes

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1. See <http://www.ptech.org/model> (accessed February 20, 2018).
2. See <http://www.ptech.org/> (accessed February 20, 2018).
3. See <http://www.mdc.org/project/pathways-technology-early-college-high-school-p-tech#overview> (accessed February 20, 2018).
4. See https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml (accessed February 20, 2018).
5. See https://www.wnycollegeconnection.com/application-college-list.100004.content;https://en.wikipedia.org/wiki/List_of_colleges_and_universities_in_New_York_percent27s_Capital_District (accessed February 20, 2018).

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