

Reskilling Programs: Giving Lower-Income Adults the Opportunity to Thrive in an Ever-Increasing Digital Skills Labor Market

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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Introduction

America flourished due to the idea of the American dream, the notion that with hard work and determination, anyone can overcome hardship and make something for themselves. This idea prospered during America's Second Industrial Revolution, when the U.S. economy experienced a symbiotic rise between technological advancement and job opportunities. Today, we are facing a new revolution, and rapid influx in computing technology during the past few decades that has come to be identified as the digital revolution. This shift is characterized by the growth of computerized automation in the labor force that has consequently caused a shift in what it means to have marketable skills in today's economy. Jobs that used to be considered blue collar or labor-wage trades are being replaced by things like artificial intelligence and robotics – which can perform these tasks at a far more efficient rate. While this efficiency-increase typically rewards large corporations, these same companies' working-class citizens are now being tasked to compete against technology for a means to make a stable income. People may not be able to “beat out” automation technology. However, economies can still allow these laborers to compete by retraining them to adapt to skills that allow them to work alongside new technology in coprosperity. Several forms of reskilling programs have arisen to teach modern job skills to workers who face the possibility of unemployment in the wake of companies installing new technology to optimize efficiency. With inevitable technological growth beginning to pervade the labor market, it is ethically imperative to maintain a distribution of wealth by not allowing big companies to prosper at the expense of lower income workers. Through job reskilling programs backed by education systems, large corporations, and government bodies, economies can hopefully unify to adapt to technology growth in a way that allows the benefits to trickle down throughout the entire labor force. Focusing on Boston, Massachusetts, I explore how

lower-income adults can gain the skills needed to compete in an ever-increasing digital skills job market.

Literature Review

The journal article titled, *The Role of Skills and Jobs in Transforming Communities*, by Harry J. Holzer, discusses obstacles and potential solutions to achieving widely shared prosperity in the labor markets of lower-income communities in the United States (Holzer, 2017). The method it does so is threefold: first the demand side of the labor market is investigated. Holzer talks about how corporations will partner with community colleges and universities to increase job opportunities by fostering a stream of newly skilled workers. He also touches upon on-the job training of workers to improve quality of the workers' skills. Secondly, the supply side of the labor market is analyzed by investigating the shortcomings of associate degree programs in translating education into actual labor market skills that can lead to success for graduating students. The author here also discusses the potential to improve vocational education and apprenticeship programs to provide valuable labor market training and skills to students who do not attend college. Finally, the article discusses how access to the aforementioned jobs and skill-building opportunities is far more difficult for lower-income and disadvantaged students and workers, due to factors such as racial segregation, geographical location, and lack of access to good public-school systems. Holzer's article describes some of the key reasons why lower-income people frequently lack access to the skills necessary to participate in the labor market of today's modern economy.

While Holzer focuses on how lower-income workers can overcome innate disadvantages, the book *Facing the Challenges of a Multi-Age Workforce: A Use-Inspired Approach* explores the use of retraining programs as a means to combat similar labor market disadvantages for aging workers (Finkelstein et al., 2015). In the section, "Implications of Workplace Changes for Older

Workers,” Finkelstein et al. highlight the effects of rapidly changing technology on adult workers. As new technologies are implemented to increase efficiency within companies, adult workers – who may not have been introduced to these modern technologies during their education – face a severe disadvantage. This technology creates a need for these workers to be retrained in order to remain relevant in the modern labor market and avoid unemployment. The book focuses on government sponsored programs, community college initiatives, and the development of skilled retraining advisors as a framework for how to provide long-term skill retraining allowing older workers to remain competent among the modern digital labor force. Both aforementioned articles highlight major disadvantages faced among lower-income and aging populations to maintain relevant job market skills in a rapidly advancing technological economy.

Both articles highlight an existent prevalence of job retraining programs, but in a way that is not serving people with the greatest needs. As Escobari et. al. highlight in their report *Realism about Reskilling*, “Reskilling alone is not enough” (*Realism-About-Reskilling-Final-Report.pdf*, n.d.) Retroactive job retraining programs are chasing an ever-changing digitalized labor market, and are falling farther and farther behind. A March 2019 Government Accountability Office (GAO) report found that the number of people served by U.S. federal education and training programs since 2011 declined by about 56% (Office, U. S. G. A., 2019). Escobari et. al. attribute this dramatic drop-off to decreased federal funding, lack of organization among existing workforce development agencies, and a lack of cooperation and compatibility between such programs and the potential employers who would ultimately be hiring the programs’ graduates. While the programs exist, they fail to cater to those who could benefit the most, and tend to provide short-term training skills that do not necessarily lead to long-term, future success. As technology progresses, reskilling programs are actually faltering and failing to proactively adjust their training

regimens. In the wake of this trend, lies low-wage workers, ageing workers, and others who are left behind without the skills needed to keep up with the modern job market.

Framework

In order to examine the root of this problem, I examine the specific entities in charge of creating reskilling programs, the people whom they actively serve, and how exactly these services directly translate to job opportunities in the modern economy. In *The Role of Skills and Jobs in Transforming Communities*, Holzer's framework analyzes both the supply and demand side of the labor market, pinpointing how job retraining programs need to reform the way they collaborate with education systems and corporate employers. He then examines how this disconnect affects a third stakeholder – lower-income workers who are struggling to benefit from this disjointed system. Finkelstein expands on this by drawing sensitivity to similar hardships faced by aging adult workers. Similarly, I explore the content of education systems and skill training programs, identifying what skills they provide and how these skills prepare their graduates to be marketable in today's economy. I also explore how corporations approach retraining their employees, as well as the role of government programs to promote modern technical skill training. Focusing on Boston, Massachusetts, a diverse city with a rapidly growing technical economy (*4 emerging, "techified" industries defining Boston's economy*, n.d.), I examine what specific jobs are at the forefront of this reskilling process, and what skills should be prioritized for one to be defined as marketable within the Boston economy.

In the report *Realism about Reskilling*, Escobar focuses the issues of current job retraining program themselves, highlighting a ubiquitous lack of funding and proactivity. His framework explores how these intrinsic problems fail to translate skills into actual labor market viability; emphasizing the negative effects that this ultimately has on certain marginalized groups of people.

Following this framework, and staying attune to Holzer’s notion of achieving “widely shared prosperity” despite systemic disadvantages, I investigate opportunities and obstacles that lower-income communities have to get involved in these programs. Through research of Boston’s demographics, I explore workers’ geographical, educational and racial backgrounds to pinpoint any bias that may prevent the inclusion of lower-income workers in a proposed reskilling program. Finally, I research empirical evidence pertaining to the substantive outcomes of existent retraining programs, investigating the long-term benefits reaped by participants. Analyzing how newly-learned skills have translated to direct job proficiency in previous reskilling programs allows for the framing of a pipeline defining the concrete steps needed to be taken by stakeholder entities to maximize the success of their proposed retraining.

Analysis

Case Study – Job Reskilling Programs in Boston, Massachusetts

For my research, I have analyzed the efficacy of job reskilling programs specifically in Boston Massachusetts, as Boston’s economic diversity and recent growth makes the city a large contributor to the growing technical economy. On the demand side of the labor market, Boston is a growing center for medicine, finance, and research and development – industries that have been at the forefront of the recent technological revolution (*Boston: Economy—Major Industries and Commercial Activity, Incentive Programs New and Existing Companies*, n.d.). On the supply side, Boston is a very diverse area, with a range of different races, wealth classes, and skillsets spread out among the city’s various neighborhoods. In my case study, I focus on specific entities in Boston, including government programs, corporate strategies, and education systems, in order to analyze the successes and shortcomings of reskilling programs and their effects on the lower-income community.

Stakeholder Analysis – Supply and Demand of Boston’s Labor Market

In 2018, the World Economic Forum (WEF) reported that “by 2030, 210 million people are expected to change occupations,” (“Who Will Pay the \$34 Bn to Reskill America’s Workforce?,” 2019). Due to its large prevalence of universities and technology companies, Boston, Massachusetts has been on the forefront of this largescale occupation shift. With this change, employers, non-profits, colleges and government programs are changing the way the hire, and train people to be prepared for this new technological labor market.

At the forefront of this occupational shift is a stark rise in demand for employees with computer science skills. According to a 2017 report by Achieve and Burning Glass technologies, “nearly one in four jobs (23 percent) in Massachusetts involve computer science skills,” (*Technology Jobs in Massachusetts*, 2017). This is significantly higher than the national average of under 18%. Wayfair, a Boston-based online retailer, is beginning to adjust to this shift by expanding their job recruiting to people without college degrees. A 2019 Boston Globe article reported that Wayfair “no longer requires software developers to have a bachelor’s degree and has started partnering with boot camps and training programs to recruit entry-level hires in that field,” (Staff et al., n.d.). Their reasoning for this change is that many people without four-year degrees possess a number of the same technical skills needed for entry-level positions. While Wayfair does have a profit motive for this initiative, they are emphasizing a push to diversify their workforce by seeking job candidates from computer science boot camps that have gained lots of traction in the Boston area. By targeting graduates of these skill training programs, they are hoping to pilot a push for other companies to seek employees from community colleges and nonprofit programs, as a means of filling their vast openings for computer science positions.

Amidst this large increase in employer demand for technical positions, new non-profit programs have arisen in attempt to get Boston's diverse citizens more involved in the increasingly technical workforce. One of the educational programs where Wayfair has sought new computer science talent is Resilient Coders. Resilient Coders runs three competitive, completely free boot camps per year with the goal of training people of color to be software engineers (*Resilient Coders*, n.d.). Because of Resilient Coders' focus on training underprivileged students of color, Wayfair has implemented a partnership with non-profit that provides two weeks of additional training specific to the technical-skill requirements and programming languages needed for a job at the company (*Wayfair taps Resilient Coders to find qualified women and men of color in Dorchester, Roxbury, and Mattapan*, n.d.). Partnerships like these not only train young adults who may not have had the opportunity to attend college, but they create a direct pipeline to achieve employment.

Another style of teaching technical skill involves associate degrees and certificate programs. The Boston area is currently home to 118 colleges (*U.S. Cities with the Most Colleges/ Plexuss.com*, n.d.). Although Massachusetts is not even among the top 10 populated U.S. states, its capital ranks fourth in number of college institutions (*The 50 US States Ranked By Population*, n.d.). This being said, less than 50% of Massachusetts residents hold a bachelor's degree, according to 2019 American Community Survey (*Massachusetts Education data, statistics and attainment*, n.d.). In order to combat this disparity, the Massachusetts Department of Higher Education has created the Go Higher program. The program has banded a cohort of community colleges to ensure that Massachusetts citizens can earn an associate's degree costing \$30,000 or less (Education, n.d.). While this still may be too costly for some lower-income residents, it creates a good option for working-class people who have saved up some money, but are looking to gain new technical skills in order to remain employable in the modern job market. Similarly, Boston

offers many certificate degree program, which allow people without college degrees to become trained in a specific trade (*Graduate Certificate Programs in Boston, MA*, n.d.). These programs, typically run by local colleges and universities, provide people a way to learn marketable skills specific to a certain trade in a quick and efficient manner.

Finally, the government has enacted several programs that support people who need to become reskilled to remain competitively viable within the job market. Massachusetts's Department of Unemployment Assistance offers a Training Opportunities Program (TOP) which allows participants to collect unemployment benefits while they attend full-time, approved training for new job skills (*Training Opportunities Program (TOP)*, n.d.). This program was created to incentivize workers to engage with local job reskilling programs, since the growth of technology in the workforce has continued to make many jobs obsolete. Another program the Massachusetts government offers is MassHire Career Centers which work closely and personally with participants in order to find a specific training program that will suit their needs (*MassHire Career Centers*, n.d.). The program recognizes that laid-off workers may need help to navigate an ever so technical job market, and they serve as a vital link between workers and employers to bring about economic opportunity.

Obstacles Preventing Long-term Success for Lower-Income Workers

Boston has seen many recent successes of programs that allow underprivileged and lower-income workers to become well-versed in technical skills in various non-traditional ways. While the city has placed a clear emphasis on adapting its residents to the newly digitalized workplace, there are still several obstacles that prevent certain groups of people from reaping the potential benefits that reskilling programs claim to offer.

Despite the abundance of university systems and the large recent influx of technology companies in Boston, the city is actually the 10th poorest in the United States (*America's 11 poorest cities*, n.d.). This disparity is evidently due to a drastically unequal distribution of wealth throughout the city. In 2015, Boston was ranked the third most unequal city in the nation (*The City of Boston and the State of Poverty*, 2018). The result of this wealth imbalance is a number of reskilling programs that are catered toward those with money. For-profit universities and degree programs typically prioritize retraining workers who can pay them for their services. Additionally, shorter degree certificate programs often have many entrance requirements including things like resumes and letters of recommendations. For people who have faced long-term unemployment these hurdles can often prevent them from being admitted to these programs. This leads to a large number of reskilling programs that neglect the lower-class, a group that could potentially benefit the most from such programs.

Secondly, while Boston's large number of universities give the city an attractive sense of prosperity, the abundance of degree holding graduates entering the city's labor market each year actually poses a huge threat to those on the lower end of the city's wealth distribution. The 20% of Boston citizens living below the poverty line (*Boston, MA / Data USA*, n.d.) are forced to compete with a massive pool of degree-holding graduates from the 118 universities within the city's span. Many of the jobs left to uneducated Boston residents are the same jobs that are rapidly being replaced by automated technology. This tends to lead to a cyclic pattern of short-term work opportunities, and a lack of long-term stability for those below the poverty line. Without the means to pay for a college education, poor Boston residents face an extreme systemic disadvantage in achieving viable employment.

Another major issue in Boston is the geographical disparity in unemployment rates throughout the city. Between 1974 and 1978, the city of Boston implemented a desegregation program involving the bussing of public-school students between predominantly white and black areas of the city. The program, referred to as Boston Busing, ultimately failed and ensued in large demographic shift within the city (*Busing Left Deep Scars On Boston, Its Students*, n.d.). Many wealthier white families fled to the suburbs, leaving pockets of destitute, predominantly black neighborhoods that still exist to this day. The effects of Boston's segregation are glaringly conspicuous when examining the city's unemployment rates. The affluent North End neighborhood currently boasts a 1.9% unemployment rate, while Roxbury, a neighborhood less than 5 miles away, suffers from 14.3% unemployment (*Research Publications / Boston Planning & Development Agency*, n.d.). The existing reskilling programs need to do a more equitable job in targeting these poorer communities, as increasing employment in these areas will help alleviate the Boston's geographical wealth divide.

A final issue of job reskilling in Boston lies in the failure of many programs to place its graduates in work opportunities that guarantee long-term financial success. This is seen especially in for-profit certificate programs. According to a Brookings Institution research report, "for-profit graduates are less likely to find work than comparable graduates of public certificate programs, and if they are able to get jobs, they earn less," (*Research Publications / Boston Planning & Development Agency*, n.d.). While educational alternatives to a traditional four-year bachelor's degree program are present throughout the Boston area, they are often not feasible options for lower-income workers attempting to rebrand their career skills. Creating a direct pipeline between unemployed workers and job success is a major battle that has yet to be resolved among most existing job training programs.

Discussion

As outlined in the Stakeholder Analysis section, job retraining in Boston is provided by a wide range of sponsors, including corporations and non-profits, associate and certificate degree programs, and government sponsored initiatives. These separate entities each have different sets of values and differing motivations for skill-training. Businesses are largely profit-focused. Government programs seek the greater good of their citizens, but are limited in scope due to a decline in budgeted spending. Degree programs teach marketable job skills, but tend to be expensive and thus inaccessible to impoverished people. Due to these differences, there exists no perfect solution to retraining today's labor force. However, businesses continue to trend towards using automotive technology to increase efficiency. While this has the potential to create opportunity for new careers and lines of work, the city of Boston is failing to find a solution that will allow the labor force to keep up with technology.

A potential solution for keeping the labor market competitive in Boston's digitalized economy is to begin at the root of education. Many Boston-area secondary education schools offer supplementary programs to teach kids technical skills, specifically in computer science. There is a need for this supplemental education to be directly integrated into school curriculums. As the types of jobs on the market continue to evolve, Boston's education systems need to follow suit, by beginning to teach kids applicable skills such as coding at a young age. This will hopefully influence a shift from "reskilling" to simply "skilling". If secondary education systems continue to proactively update their curriculums based upon the labor market, Boston could potentially put an end to the need for retroactive job reskilling programs altogether.

While invigorating the emphasis of technical education in secondary school systems can hopefully provide long-term job success for future generations, current working-class citizens are

still desperate to remain viable in today's job market. The best way Boston can deal with this is by increasing collaboration between both the supply and demand side of the labor market, as Holzer touches upon in *The Role of Skills and Jobs in Transforming Communities*. The partnership between Wayfair and Resilient Coders is an epitomic example of skill training programs and employers collaborating to streamline the method by which struggling Bostonians are able to achieve long-term job security, in a way that is beneficial for all parties involved. Unfortunately, this is not the case with many current retraining programs, as seen by lower earnings among graduates of certificate degree programs, and the trend for companies to exclusively hire employees who had the luxury of attending a four-year bachelor's program. Government programs such as Massachusetts's Training Opportunities Program and MassHire Career Centers should be tasked with the responsibility of creating stronger relationships between skill-training education systems and local employers. Instead of operating as three separate entities, I would propose a method by which new government programs can collaborate with corporations and educational institutions in order create a cohesive pipeline that adequately allows lower-income and unemployed citizens of the Boston community to engage in the ever-growing corporate demand for technically-skilled employees. This could be implemented through a matchmaking platform that places graduates of job training programs with positions in companies who have become aware of the value in not exclusively hiring employees a bachelor's degree accreditation. The Massachusetts government should also be actively encouraging employers to create their own training programs, so that job candidates of all educational backgrounds can share an equal opportunity for achieving success within the company. By incentivizing companies to broaden their employee training programs, updating secondary education to cater towards current job market opportunities and implementing government initiatives that build cohesiveness between

employers and skill retraining programs, Boston, Massachusetts has a chance to pioneer an innovative job reskilling system that allows lower-income and struggling workers to become marketable – and stay marketable – in today’s rapidly evolving technological labor market.

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