

19

Youth Job Creation and Employer Engagement in U.S. Manufacturing

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Urban areas in the United States and Western Europe face a labor market paradox. Local governments are struggling to develop solutions to high youth unemployment, while at the same time urban manufacturing companies are struggling to fill vacancies and face increasing skills shortages because of their aging workforce (Bryson et al. 2008; Kalafsky 2007; Leitch 2006). How cities respond not only has implications for the location and extent of manufacturing job creation, but will also determine whether economically disadvantaged youth have a critical role to play in shaping the future of manufacturing.

In recent decades, manufacturing has become an important element of urban policy as industrialized nations emphasize the contribution it makes to economic growth. However, the steady decline in manufacturing employment since the late 1960s has meant that manufacturing is less visible in urban centers, and younger generations, as well as their parents and teachers, are often less likely to consider those jobs as an attractive career option (Middleton 2017; Shih 2014). Attempts to reverse this through the promotion of maker-spaces and innovation-oriented DIY manufacturing districts offer some potential, but they often come at the expense of economic inclusion, as most of these efforts focus on highly educated, well-resourced urban youth (Wolf-Powers and Levers 2016). This disconnect is further compounded when we consider that many small and medium-sized incumbent manufacturing facilities have dismantled internal training systems and thus lack organizational capacity to nurture, advance, and retain the next generation of manufacturing workers (Cappelli 2012; Osterman and Weaver 2014).

Rather than investing in skills, some firms have relied extensively on lay-offs from other manufacturers to replenish their workforce (Berger 2014). But with this source of skilled employees declining, incumbent firms now scramble for near-term solutions to an aging workforce, even weighing the option to automate or offshore tasks and processes, or simply close down.

The dual challenge of high youth unemployment and hard-to-fill job openings is an opportunity for experimentation around manufacturing workforce development. Solutions that focus narrowly on education attainment without accompanying labor market interventions are proving less effective, leading practitioners to search for more comprehensive solutions that lie at the intersection of technical education, workplace transformation, and community development (Conway and Giloth 2014). Preemployment interventions can be effective in preparing youth for entering the work environment, especially when aligned with industry skill needs (Hoffman 2011). Also important are strategies of employer engagement that simultaneously shape and improve the work environment itself to create the conditions for the success of the newest generation of workers (Fitzgerald 2004; Lowe 2015). Interventions that address parental concern that manufacturing employment will undermine pathways for economic and career mobility for youth are also important (Beverland, Nielsen, and Pryce 2015).

Chicago's Manufacturing Connect (MC) program is one promising solution to connect younger workers to urban manufacturing.¹ Launched in 2005, MC helps students and graduates of the Austin College and Career Academy (previously called Austin Polytechnical Academy) prepare for and secure job opportunities in small and medium-sized manufacturing firms. A central aim in this high-poverty, historically black urban neighborhood is to educate youth, as well as their parents and guardians, about rewarding careers in manufacturing and provide the foundational skills needed to launch successful manufacturing careers. MC goes well beyond student education—it positions itself as an influential workforce intermediary, engaging employer firms in ways that shift perceptions of inner-city youth and help them recognize the contribution of younger workers for industry innovation and survival. The program helps employer partners—mostly small and medium-sized metal manufacturing firms—identify and resolve gaps in organizational and human resource management. These changes not

only improve the ability of firms to recruit, retain, and advance recent high school graduates, but also lead to the formalization of mentoring and training systems that benefit incumbent and new workers alike.

While MC is a relatively new initiative, it has already been recognized as a potentially transferable model by federal agencies, receiving a \$2.4 million grant in 2014 from the Department of Labor to help shore up and formalize strategies of employer and student engagement. In 2016, Chicago Public Schools approved expansion of the program to two additional urban high schools. This suggests an opportunity to shed light on and learn from MC's innovative strategies for engaging employers collaboratively to generate new pathways for youth to enter and grow into urban manufacturing careers.

INTERMEDIATION AS A STRATEGY FOR LABOR MARKET INTERNALIZATION

Studies of labor market institutions have drawn attention to the role of third-party organizations in mediating exchanges between employers and job seekers. But their role is not inherently beneficial to workers—rather, some intermediary institutions can intensify worker vulnerability by encouraging private firms to outsource key labor market and related management functions (Peck and Theodore 2001). This represents a departure from earlier forms of institutional action—most notably by labor unions—that pushed employers to reinforce and reproduce internal strategies to support worker rights and job quality standards (Doeringer and Piore 1971; Reich, Gordon, and Edwards 1973). Employer-serving institutions have been known to promote precarious employment arrangements and in ways that enable “businesses to externalize the costs of economic fluctuations and regulatory risks” (Peck and Theodore 2007, p. 176). Benner (2003) notes related actions taken by labor market institutions to help employers “reduce their own internal labor force and shift economic risk through a series of more short-term contracts with external agents” (p. 628). While some workers certainly benefit from having access to institutions that facilitate mobility across organizational and labor market boundaries—particularly those in professional occupations or with highly sought after skills—there is grow-

ing concern that strategies of externalization come at the expense of workers in the middle or bottom segments of the economy and through accompanying reductions in wages and benefits and deterioration of other labor standards (Doussard 2013; Weil 2014).

Despite these potential challenges, workforce intermediaries (WI) represent an important institutional alternative in the face of labor market flexibility. WIs adopt a “dual-customer” approach, serving both job seekers and employers in order to enhance economic opportunity through organizational or industry growth. WIs not only seek to reduce sources of worker vulnerability but also offer a potential institutional platform for (re)embedding key labor market functions within firms (Lowe 2015). In this regard, they fill an institutional void created in the wake of precipitous decline in union membership.

Job training is often a key component of workforce intermediation and is offered by many intermediaries as a means to forge stronger connections with local employers (Giloith 1998; Conway and Giloith 2014). WIs use connections to training institutions to enhance the quality of that training support, establishing channels through which employers can provide constructive input based on changing labor processes or shifting skill needs. In essence WIs help create dynamic feedback loops that ensure existing training programs are preparing workers in ways that create value for local employers (Lautsch and Osterman 1998). Current labor market conditions also allow WIs to push firms to make improvements to internal “human resource systems, career ladders, job quality, and overall competitiveness” (Giloith 1998, p. 7).

Fitzgerald (2004) has echoed this recommendation, arguing that it is not enough for workforce intermediaries to simply take a “dual customer” approach—that is, treating both job seekers and employers equally as beneficiaries of their efforts to match job seekers with and train them for specific openings. As she suggests, WIs should evaluate how successfully they can leverage this support for “jobs-driven training” as an opening to *also* improve employers’ human resource practices from within. This strategy is potentially more resonant with employers in tight labor markets.

WIs have made gains on this front by deploying strategies of skill reinterpretation to engage employers in a process around how *skill* is defined. Skill-reinterpretation processes frequently open up employment and advancement opportunities for less-educated workers who

might otherwise be overlooked or undervalued when *skill* is narrowly defined in terms of educational attainment rather than competency (Lowe 2015). With these strategies, WIs have encouraged employers to take a more critical look at how they frame and fulfill their skill needs and in the process formalize and strengthen internal training and mentoring systems. Strategies of skill reinterpretation have enabled employers to recognize opportunities to relax restrictive hiring criteria and in the process broaden the pool of qualified candidates to include job seekers with lower levels of formal education or a less-complete skills portfolio.

As an example, New York City's Garment Industry Development Corporation (GIDC) has used strategies of skill reinterpretation to influence internal employment practices by pairing job training for workers with technical assistance for business owners. In that role, GIDC helped garment firms acquire new technology and also access new export markets and industry supply chains (Conway and Loker 1999, p. 26). They combined technology and marketing support with workplace improvements, helping firms introduce cross-training and team-based production models to increase flexibility and decision making of shop-floor workers. GIDC framed these changes as necessary to enhance overall industry competitiveness. Wisconsin's Regional Training Partnership and Chicago's ManufacturingWorks program also provide technical assistance to small and medium-sized firms in order to help improve internal employment practices (Lowe 2015; Schrock 2013).

Despite these well-publicized successes, many other WIs struggle to influence employer behavior. Admittedly, it is a significant strategic undertaking for a WI to shape both employer hiring *and* internal human resource practices. Most WIs can influence who gets a job but often struggle to gain traction beyond the hiring point.

Furthermore, WIs are often hesitant to push employers to make significant internal changes out of fear that this requirement might jeopardize their relationships with employers and in the process undermine their ability to place job seekers. One intermediary that we interviewed in 2013 noted that when WIs become aware of problems on the shop floor of a partner firm, they respond by coaching the job seeker—rather than the employer—on how to handle the situation. The only leverage this intermediary felt they had with partner firms was to threaten to stop sending the firm new candidates if too many workers reported negative

experiences. Reiterating this, another intermediary explained that it is often easier to adapt the services you offer a given company than try to get that company to adapt their own human resource practices to more successfully leverage the job seekers you support. As many intermediaries depend on sustained goodwill of local employers, they may be especially hesitant to undermine that employment connection by trying to impose changes to established organizational practices and routines.

A major question then is, How can workforce intermediaries work with employers to improve human resource practices and other key decisions made after the point of hiring? And how can they influence change in ways that employers perceive as value creating and thus worth sustaining over time? The MC case illustrates how one sector-based workforce intermediary in urban manufacturing has made headway on this challenge, but equally points to a pressing need for a well-articulated and replicable framework for helping small manufacturers build internal structures to attract, nurture, develop, and reward younger talent.

CHICAGO AND THE MANUFACTURING CONNECT PROGRAM²

MC is one element of a larger planning effort to stem manufacturing job loss in the greater Chicago area. In the early 1980s, Chicago faced a significant industrial crisis: manufacturing employment in the city once known as the “city of factories” had dropped by nearly two-thirds from its height in the late 1940s (Clavel and Giloth 2015, p. 20). Numerous commentators, including those within Richard Daley’s mayoral regime of the 1970s, presumed manufacturing in Chicago was dead. The city government invested in downtown redevelopment and the service economy, envisioning “the replacement of formerly downtown industrial functions by residences for professional and managerial workers” (Clavel and Giloth 2015, p. 20). But while this “corporate center” approach may have offered a solution for growing the city’s tax base, it failed to replicate a critical function of Chicago’s former industrial base: offering an accessible pathway into the middle class for Chicago’s less-educated workers (Rast 2005).

The election of Mayor Harold Washington in 1983 brought significant changes to economic development strategy in Chicago, including explicit emphasis on retaining manufacturing jobs that were key to the economic welfare of the city's poorer neighborhoods (Clavel and Giloth 2015). A key legacy of the Washington administration was the Local Industrial Retention Initiative (LIRI), which initially served as an early warning system for potential plant closings and relocations (Fitzgerald and Green Leigh 2002). The work of LIRI was delegated to community development organizations throughout Chicago, creating a critical opportunity for these organizations—which in many peer cities focused narrowly on housing—to build new relationships with the small factories that were vital to the economic health of their neighborhoods. Empowerment from the city also came with financial resources, with up to \$3 million flowing from City Hall to neighborhood organizations (Clavel and Giloth 2015, p. 25).

Elements of Washington's original industrial retention effort have been modified or weakened in recent years, but the formation of new coalitions in support of urban manufacturing remains a lasting legacy of this period. These coalitions have enabled neighborhood organizations, labor activists, and small manufacturers to reinforce their shared interest in the future of manufacturing in Chicago. They provided a resilient platform for continued experimentation, including the development of newer initiatives like MC.

The MC program at the Austin College and Career Academy (ACCA) was developed by the Chicago Manufacturing Renaissance Council (CMRC), a coalition of organized labor, manufacturing firms, local government, community leaders, and educational institutions. The CMRC was initially founded by labor organizer Dan Swinney and has direct links to Washington's original LIRI network (Swinney 2000). Swinney and other Chicago labor and manufacturing leaders became convinced that the manufacturing job losses they were witnessing were not inevitable, but were a result of locally specific structural barriers, including loss of industrial land availability, that might be addressed through collective action. They formed the CMRC in 2001, with active participation from the Illinois Manufacturers Association and the Chicago Federation of Labor.³

In the early 2000s, the CMRC began to work toward an ambitious vision to transform the relations of industrial production in Chicago

through the implementation of new career development pipelines. CMRC leaders came to believe that innovation in manufacturing techniques had to be paired with institutional innovation, and set about developing a concept for new educational infrastructure to support manufacturing leadership and skill development. In 2005, they began to develop plans for the establishment of a manufacturing-oriented high school.

The CMRC selected Chicago's Austin neighborhood as the site for a pilot manufacturing-oriented high school. Austin is a predominantly African American neighborhood, where approximately one-quarter of households and 40 percent of households with children live below the federal poverty line (Census Bureau 2013). In selecting Austin, the goal was to bring large-scale economic opportunity to older industrial neighborhoods by building the community's capacity to reengage the manufacturing economy and by leveraging the manufacturing activity in areas surrounding the neighborhood.

Austin College and Career Academy's Program and Curriculum

ACCA opened in 2006 as a traditional public high school governed by the Chicago Public School System and graduated its first four-year cohort in 2011. The majority of ACCA students are African American and live in the Austin neighborhood. The MC program was created the same year as a set of optional manufacturing electives for ACCA students; each year, up to 65 percent of ACCA students participate in the MC program. From 2011 to 2016, more than 185 ACCA graduates completed the MC program and have received services ranging from technical and soft skills training, short-term experiences with employers, and job placement assistance.

MC's manufacturing and engineering elective courses start in students' second year at ACCA. Through this classroom training, students have the opportunity to earn up to five nationally recognized credentials from the National Institute of Metalworking Skills (NIMS). The NIMS credential, developed in the mid-1990s with support and funding from metalworking trade associations, was selected because it offers portable credentials that are known to many U.S. metal manufacturers. The school's manufacturing curriculum is co-taught by an MC staff member and an ACCA teacher, and the machine shop is funded and designed by

MC's employer partners. MC and its employer partners select machines most commonly used by partner firms, thereby giving students a realistic shop-floor experience. MC staff also work with ACCA teachers to incorporate manufacturing and engineering concepts into their daily lesson plans. In 2015, 93 percent of MC participants received at least one NIMS credential.

The MC curriculum has evolved to provide leadership training, designed to prime students to step into management roles later in their careers. Those skills were initially developed through extracurricular activities like MECH Creations, a student-run cooperative business that manufactures and sells trumpet mouthpieces designed by MC's machining instructor. As Swinney (2014) notes, "We regularly have to clarify that (ACCA) is not a trade or vocational school but one geared to all careers related to manufacturing, including all positions within the firm as well as positions outside the firm. Our career range includes skilled production technicians, marketing and management, ownership, a PhD researcher in nanotechnology, or a leader in industrial policy" (p. 5). Students buy into this message about training for diverse positions along the entire manufacturing career ladder (AFL-CIO 2014).

In addition to academic and technical education, most students participating in MC also gain some form of paid manufacturing work experience, often through internships.⁴ The goal is for students to use internship placements to learn about the internal culture of manufacturing firms and observe and practice behaviors that are valued in the manufacturing workplace.⁵ MC works to "build cultural bridges" between students and manufacturing firms through additional training that takes place in the school environment, where MC staff facilitate explicit discussions with students about soft skills and behavioral expectations in the manufacturing workplace. This is particularly important given that many of the workplaces that students visit have an older white labor force, which can add a racialized dimension to the issue of "cultural" interpretation and fit (Moss and Tilly 2001). The staff member who leads these discussions has a background in community organizing and serves as a trusted resource to students both during their time in the school and after they have been placed in full-time employment.

MC Impact⁶

As of August 2017, 46 out of 185 students who graduated from the MC program between 2011 and 2016 secured permanent postgraduation employment in manufacturing facilities in the greater Chicago area—all placements have involved African American students. The average starting salary for a graduating MC student securing entry-level job placement in manufacturing is around US\$12/hour plus benefits, although graduate salaries range widely; one MC graduate earns more than US\$70,000 annually only a few years postgraduation. In 2016, the program added a postsecondary counselor to its staff with the goal of supporting the college application process. As part of this expanding support, MC now tracks postsecondary education—100 percent of MC participants graduating in 2016 applied for a college degree program. All 32 of these students received at least one college acceptance letter and completed their FAFSA forms. Approximately one-third received a formal scholarship offer.

Although only a quarter of ACCA's graduates have pursued postgraduation careers in manufacturing, a growing number of those exploring interim options have returned one to two years after graduation to seek manufacturing jobs. To further encourage this, MC's placement and mentorship services remain available on an open-ended basis after graduation. Additionally, MC staff continue to remain involved with supporting successful relationships between former students and employers after students have joined the manufacturing workforce. Ultimately, this extended support means that placement numbers for recent graduating classes are likely to rise in the coming years and must be factored in to proposed program evaluations.

MC EMPLOYER PARTNERS AND ESTABLISHED EMPLOYMENT PRACTICES

Classroom training and short-term work-based learning facilitated by MC staff play an important role in generating employment opportunities in manufacturing for graduates. Still, transforming this first job experience into a lasting career opportunity also requires a level

of employer commitment that is often difficult for workforce intermediaries to secure. Preparing employers to work with youth employees requires improvements in human resource systems. To contextualize these changes, it is useful to provide an overview of the typical established hiring and career development practices at MC partner firms. These practices, intentionally or otherwise, obscure pathways for skill development and career advancement for newer employees. Formalizing more accessible and transparent pathways requires that employers recognize not only the immediate benefits for MC graduates, but also the inherent value of new pathways and practices for their entire workforce.

MC's current employer network consists of more than 60 small and medium-sized manufacturing businesses. The median size of an MC partner firm is 40 employees, with the largest partner employing more than 800 workers. Most partner firms are metal manufacturers, and the products they make range from custom small parts like springs and gears to large finished goods like industrial ovens, transit seating, and high-end airbrushes. Many are family run, and most have an aging white workforce—most hired through informal word-of-mouth networks.

The tendency of employers to hire on the basis of loyalty, cultural fit, and personality more than specific skills or educational preparation presents both opportunities and barriers for a workforce intermediary like MC. On one hand, it implies a degree of flexibility around hiring—to some extent, employers are willing to take a chance on any job seeker that comes recommended by a trusted source. On the other hand, this emphasis can make it harder for both students and MC staff to decode what they need to do to demonstrate value to partner firms.

For most employers, the informality around hiring has carried over to their advancement practices. Admittedly, many MC partner firms entered the program with some elements of an internal career ladder, with shop-floor job functions that progress in skill. Workers have been able to move up these implicit ladders; each firm we interviewed offered examples of top-level supervisors who had progressed through the ranks from entry-level positions, and several even said that given a choice, they preferred to “grow their own” talent.⁷

Still, few firms have entered the MC partnership with a consistent policy around advancement that they communicate to workers. In most cases, worker advancement has been based on management identifi-

cation of desirable characteristics. These characteristics often have been highly subjective, with advancement depending less on demonstrated skill and competency and more on observed personality traits. For example, one employer said the most important characteristic they have used for advancement was follow-up—“simply doing what you say you’re going to do.” Another employer said that workers who have advanced in his firm often share an innate curiosity and desire for continued learning about manufacturing.

More often than not, the onus has been placed on the employee, with the expectation that they will make their interest in advancement known to management. This practice creates potential risk for workers who might have the requisite skill to advance, but might lack awareness of this expectation or even self-confidence to put themselves forward as prospective candidates.

One employer directly addressed the existing communication gaps around advancement within his firm: “We recognize that some people view their positions as dead ends, and it doesn’t have to be that way, if the person is willing to progressively work at it—and we want those people to do that. We don’t do a great job of communicating that, but that’s what we want.” In other words, these firms don’t lack a career ladder per se, or even a desire to advance employees along that ladder; rather, they lack a formal and consistent system for making those expectations clear and transparent to all employees, especially those entering their firm.

Another missing piece for many MC partner firms has been an explicit training protocol that workers can use to ascend career ladders. Although many of the firms interviewed have traditionally offered employees some form of training, that “training” has often encompassed a broad range of activities, only some of which provided long-term value to the employee. Training at most firms has taken the form of short-term fixes, mostly occurring on an as-needed basis. While this spot training has helped prepare workers to meet the firm’s more immediate needs, it has done less to support longer-term career planning.

Firms acknowledged a desire to strengthen their human resource infrastructure, and that their involvement in MC had increased their awareness of this need. But they also recognized constraints that can make it difficult to implement significant changes without this additional assistance.

MC partner employers have traditionally lacked clear internal mechanisms for and transparent communication about advancement, which in turn has hampered their ability to promote from within. Many also acknowledge that their past sources of workers will likely be less available in the future, both because they have already tapped the limit of “friends and family” hiring sources, and because the children and younger relatives of current employees seem less interested in manufacturing careers than in past decades. Finding ways to recruit a younger workforce and providing clear pathways for them to advance to fill roles at all levels of the firm is therefore critical to firms’ medium- to long-term survival. It is here that MC has been focusing its strategies of employer engagement.

INITIATING EMPLOYER ENGAGEMENT WITH THE PHILANTHROPIC PITCH

Employer engagement starts with efforts to recruit firms to become MC partners. MC staff initially recruit employer partners by appealing to their intrinsic desire to be good philanthropic organizations and give something back to their community. As Bill Vogel, former MC outreach coordinator, explained: “There is something that’s inherently valuable to any organization when you’re helping a young person. We feel it’s in our bones, it’s in our DNA, to want to share our experience with a young person, hopefully that we can influence that young person’s life.”

This philanthropic lens not only facilitates initial employer recruitment, it also gives partner firms a basis for a more flexible interpretation of the actions of younger-aged, low-income students upon entering their workplace. One MC employer partner illustrated this by describing a situation in which a high school student, recruited through a different program, was caught stealing lunches during a summer internship placement. Because the employer in question was aware of the socioeconomic background of this student and the specific challenges this implied, they opted to not dismiss him outright. Rather, they used this as a conversational moment to uncover the underlying circumstances that might lead him to act in this way. Through these discussions, it became clear that the theft stemmed from the student’s basic need for

food, which in turn resulted in further employer action to provide the student additional resources and assistance.

Similarly, another employer noted initial concern when discovering that summer employees hired through MC had not yet deposited their paychecks. Upon further review, the employer learned that these students did not have their own bank accounts. This motivated the employer to accompany them to the Social Security office to help them secure proper identification and to a local bank branch to create individual savings accounts.

MC staff build out from this philanthropic base, helping employers deepen their investment in and commitment to the program and ACCA students. Indeed, a key distinction between MC and many other workforce intermediaries is that MC staff explicitly ask for employers' help. When employers join MC as partners, they are expected to contribute between \$500 and \$750 and sign a letter of commitment promising to participate in prehire activities, including hosting job shadows and internships, participating in advisory committees, and contributing to external presentations of the program. MC staff consistently communicate that employers are true partners in creating socioeconomic change and, because of that, are expected to coinvest in the program, not just receive its benefits.

Reinforcing that, one employer indicated that because of MC's primary mission to improve socioeconomic outcomes for low-income students, they "don't expect Austin to tailor a program for us." Consequently, many employers in MC believe the onus is on them to bend toward the needs of these younger job seekers, rather than expect youth to seamlessly plug in to existing human resource practices.

These examples illustrate the benefits for younger, less-experienced job seekers when potential employers interpret their actions more sympathetically and are less likely to respond punitively. Yet, simply relying on the charitable leanings of company executives has potential limits. For example, MC partner firms have been known to accommodate certain actions and behaviors from students that they will not tolerate from their permanent workforce. Some MC students may not learn expected workplace practices, and in turn increase the risk of conflict with other workers at the facility. MC staff are cognizant of this risk, as are U.S. labor scholars. School-to-work programs that are structured as charitable endeavors reduce their impact on youth employment, train-

ing, and career development by encouraging employers to view their role narrowly as a form of social welfare (Bailey 1995; Bailey, Hughes, and Barr 2000). MC staff instead aim for a blended or nested approach by encouraging an employers' philanthropic leaning to support youth employment, and by helping employers realize this is only achievable if they also adopt significant structural changes to support worker mobility throughout the firm.

STRENGTHENING INTERNAL INFRASTRUCTURE WITH STUDENTS (AND EVENTUALLY ALL WORKERS) IN MIND

MC staff have used three interrelated strategies to extend beyond goodwill and influence firms' internal human resource practices. First, they use the internship placement process to encourage new partner firms to critically assess how their internal organizational structures constrain or limit worker mobility. This includes helping firm owners and managers identify and resolve sources of workplace conflict between new and incumbent employees and, in response, experiment with solutions in anticipation of hiring MC students upon graduation and other students. Second, MC staff use their ongoing mentoring—which includes regularly scheduled meetings with both student interns and those securing postgraduation jobs—to draw out information that can then help employers better anticipate and interpret workplace conflicts. Third, they use formal MC events to promote peer learning among firms, creating channels for formal and informal dialogue during which recommendations can be shared and assessed.

The internship period is especially helpful in bringing to light problems within the company that require changes and improvements to entrenched human resource practices. During the internship period, MC staff visit partner employers and solicit input on the internship experience. MC, for its part, uses this information exchange to make changes to its internship curriculum and classroom activities that support work placements. Still, as much as these exchanges help create stronger relationships between MC staff and employers, they encourage employers to initiate an honest review of their own internal human resource prac-

tices. Ultimately, these exchanges create a sense of joint responsibility for youth employment and enable employers to see MC staff as a resource for guiding strategies in support of organizational change.

Several employers we interviewed described feeling “underprepared” when hosting their first cohort of summer or spring break MC interns and subsequently requested additional help from MC staff in improving their ability to give students a more successful initial work experience. One employer, reflecting on early exchanges with Austin students, stressed “the bottom line is that we need to be prepared just as much as the students are when they come in to work.” Employers have been able to overcome many of these challenges. Through better communication, company leaders were able to impress upon shop-floor supervisors the need to implement strategies that would improve the internship experience of future MC students.

Employer partners have also used the internship experience to engage supervisors in a conversation about the company’s need to build a robust workforce pipeline. One employer, for example, initiated conversations with incumbent shop-floor supervisors about the learning expectations of MC interns and stressed during these exchanges that some of these students could eventually be the supervisors’ mentees or coworkers in the future. They also emphasized that in supporting these younger job seekers, these supervisors were contributing to the lasting legacy of the firm and also Chicago’s manufacturing industry.

Still, motivational messages by company owners are sometimes not enough to resolve deeper frictions that emerge when employers bring on MC graduates full time. This is why MC staff maintain strong relationships with both partner employers and MC graduates and use those frequent exchanges to help partner employers devise better workforce structures and systems. Firms have reported that incumbent workers may disagree with advancement of some MC graduates and see it as unearned preferential treatment.

Ultimately, tensions like these require more substantial changes to workplace practices and routines. They also represent an opportunity for MC staff to help employers recognize deeper structural changes that are needed to benefit younger workers, including MC graduates—changes that could also improve the overall work environment and experience for older, incumbent workers.

With this in mind, one MC employer took steps to formalize internal mentoring strategies, not only as a means to better communicate expectations to newly hired MC graduates, but equally to empower their incumbent workforce. This intervention was brought on by a situation involving an MC graduate who introduced an innovative yet unauthorized change to an established shop-floor process without first communicating to his assigned supervisor. Rather than engaging directly with this newly hired MC graduate and risk magnifying tension within the workforce, the manager empowered her supervisor to review the standard protocol for sharing new ideas. From that point on, all supervisors were encouraged to convey these procedures to new hires. The experience with this younger employee highlighted areas where internal mentorship could be strengthened to reinforce the knowledge contribution of more senior and experienced workers. MC has helped with this messaging as well.

One employer stressed that as a result of MC-inspired improvements to employee mentoring, his incumbent supervisors were now more proactive in preparing for MC graduates to enter the organization, even taking the initiative to independently develop additional supports of four 2016 MC graduates entering later that year. This company also relied on input from supervisors and MC staff to design a brand-new system for new employee training. This includes introducing an official buddy system, where new employees are paired up with one or two existing employees that can help them navigate the new work environment. Thanks to the option to request buddy reassignment, MC graduates can access a mix of perspectives and support.

In consultation with MC staff, this same firm has taken additional steps to establish a more transparent protocol for “on-boarding” younger interns and better preparing them to meet the expectations of daily work life. For example, student interns, along with their assigned supervisors, must now sign a formal contract that clearly outlines company expectations, but also explains the consequences students will face if they violate the terms of that agreement—this includes specifying the number of warnings they will receive before a notice of final termination.

Other structural changes are worth noting and stem from continued employer engagement by MC staff and with it widening opportunities for workforce intermediation. One employer acknowledged drawing

inspiration from his continued experience hiring MC graduates to introduce companywide strategies for better integration of *all* new employees. As a result of his MC experience, he has become especially sensitive to potential frictions between his existing workforce and newly hired “skilled” (as opposed to entry-level) workers. In this case, tensions arose when the company recruited skilled welders, who in turn were able to demand significantly higher starting wages than that of the incumbent workforce. This wage difference was mostly due to differences in skills and qualifications, including knowledge of specialized welding techniques. Still, the conflict this pay differential created made it much harder for the company to retain newly hired welders, especially given high regional demand for their skills. To solve this problem, the employer approached another regional workforce intermediary in Chicago—one with extensive experience in developing customized training programs—to launch an in-house apprenticeship program, thereby creating an internal mechanism for equalizing skills and pay scales across their incumbent and newly hired workforce. While this apprenticeship program was not designed with MC graduates in mind, this example nonetheless demonstrates the ways that initial changes introduced in support of MC students are inspiring partner employers to identify and resolve broader human resource bottlenecks within their organizations. Furthermore, this presents a critical opportunity for MC to build on employers’ willingness to extend special treatment to MC hires, initially for philanthropic reasons, leveraging that openness into a broader commitment to improve and institutionalize human resource practices more generally.

REFLECTIVE CONCLUSIONS

The MC case demonstrates that successful labor market interventions designed to encourage youth to pursue careers in urban manufacturing require a joint focus on educational opportunities and strategies of employer transformation. Jobs-driven training, whereby the intermediary simply responds to an employer’s immediate skill needs, is not enough to engage young workers if they are placed in an environment where paths to advancement are not well-articulated and transpar-

ent. On its own, this supply-side training approach risks making only a short-term impact on firms and workers, instead of transforming job openings into career opportunities that can both support positive long-term socioeconomic outcomes for workers and ultimately contribute to industry growth and regeneration.

MC models itself as a workforce intermediary, seeking to influence employer behavior in ways that improve the overall work experience. MC engages firms with two motivations: giving disadvantaged youth a hand and helping facilitate organizational transformation. Firms may not initially perceive a strong link between the two, but MC guides firms through a set of experiences that influence them to start connecting the dots. Early mismatches between MC students' expectations and firms' existing human resource practices lead employers to institute new practices, initially in the name of philanthropic impact. Viewed through the narrow lens of the firm's ability to support MC's philanthropic mission, it is relatively easy for firms to admit that their human resource practices fall short and to apply targeted fixes, including increased mentorship, clearer frameworks for advancement, and additional training opportunities.

When strategies in support of MC students begin to cause fissures among the broader workforce, firms can be encouraged to leverage their investment in the program to adopt more widespread organizational changes. Indeed, perhaps the most important change to human resource strategies that has resulted from MC's intervention is at the meta level: based on experiences that have demonstrated to employers that their current human resource infrastructure has gaps that will make it difficult for them to support and retain the workforce of the future, they have started to actively demand resources that can help them make changes. This desire on the part of employers reinforces MC's framing of the role of employers as true partners who are expected to coinvest in the transformation of the manufacturing industry in Chicago. MC leverages this expectation to encourage partners to make larger changes precisely because the philanthropic logic is so tightly interwoven with goals of industrial transformation. That is, employers' expectation that they will play an active role in investing in these disadvantaged young people implies an expectation that they will play an active role in reshaping the future of the manufacturing industry in Chicago. That agency is manifested as employers embrace new approaches to human

capital supporting the long-term success of the next generation of manufacturing workers.

MC has clearly made progress on the intermediary front, engaging employers in a way that enables them to recognize their contribution to industry workforce development. MC is now working to develop additional supports, including training and peer learning opportunities for incumbent workers, which will enable them to take advantage of firms' willingness to change. MC's work so far has created a valuable resource—a community of small firms that are committed to building a stronger human resource infrastructure. As MC continues to develop and refine its model—including expanding programming to other Chicago-based high schools—it will provide an important example to build on as federal and state policymakers hasten the spread of sectoral workforce intermediation.

Notes

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1. For more information on the MC program, see “Manufacturing Connect: Teaching Advanced Manufacturing Skills to Inner-City Students” by Rick Mattoon and Susan Longworth, in Volume 1 of this book, and “High School Manufacturing Education: A Path toward Regional Economic Development” by Benjamin Kraft, in Volume 2 of this book.
2. The primary data source for this study is a set of 25 in-depth interviews conducted with Manufacturing Connect staff and participating SME employers between 2014 and 2017.
3. Personal communication with Erica Swinney, Director of Operations, Manufacturing Connect, May 20, 2014.
4. Personal communication with Erica Swinney, Director of Operations, Manufacturing Connect, May 20, 2014.
5. Personal communication with Seth El Jamal, Youth Coordinator, Manufacturing Connect, May 28, 2014.
6. Data on impact provided by Manufacturing Connect.

7. We conducted in-depth interviews with owners or top executives at nine MC partner firms in 2014, 2016, and 2017. In addition, we observed employer partners at MC-sponsored events and meetings. The goal of these interviews and observation was to understand and contextualize changes they have made to their internal human resource infrastructure as a result of program engagement. We also spoke with three graduates of the MC program who are employed at partner firms, along with five instructors and administrators at MC. A longer description of the methodology is reported in Stern (2015).

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