



The Myths & Realities of Successful Workforce Solutions: Lessons from Supply Chain's Leading Edge

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Executive Summary

More organizations are launching initiatives to address critical talent shortages in the fast growing supply chain sector. But what are we learning about what works and what doesn't? Collaborations between companies and local schools has shown to be an effective method of identifying the skills employers require of their employees, while helping schools set a curriculum that can help to get their students hired upon graduation.

Based on four case studies and interviews in more than a dozen organizations, this report identifies 13 essential steps for implementing effective partnerships between companies and schools. This report provides:

- Insights into what makes industry/academic workforce partnerships successful.
- Obstacles that undermine efforts to accelerate the development of the new supply chain workforce.
- And the most important lessons being learned by those engaging in more innovative efforts to solve skills gaps in the supply chain.

This report draws on the experiences and insights of companies and schools of various sizes across the country. It organizes the lessons being learned into a practical framework structured as problem definition, developing partnerships, producing results, and leveraging them. Each step in the process of building productive relationships includes a set of questions leaders can use to diagnose their own situation and to determine the most effective path forward. This approach promises to help other leaders focus on what really matters.

The nature of supply chain's workforce problem is well understood. The question is what are we learning from early adaptors' attempts to solve it. This report provides practical, actionable answers to those questions.



Introduction

The problem of critical skill shortages in the supply chain industry has been well documented¹. Every year more companies are starting initiatives or pursuing creative solutions to address these workforce challenges which threaten to slow the growth of the industry. But what are employers and educators learning from these early efforts?

- When do industry/school partnerships work best?
- What are the essential steps in successfully launching a supply chain workforce initiative?
- What hurdles and pitfalls can undermine efforts to accelerate the development of the new supply chain workforce?
- What are the most important lessons being learned by those engaging in more innovative workforce development programs?

This report begins to answer these questions. It is based on more than two dozen in depth interviews with executives and educators who are committed to helping develop the future supply chain workforce. Four short case studies were used to compare the experiences and further develop lessons we can learn from these early adopters. Those cases are:

1. **Walmart's Sauk Valley Community College Internship Program** designed to develop and recruit industrial maintenance employees in its Sterling, Illinois, Grocery Distribution Center.
2. **Panther Industries'** partnership with its neighbor, the STEM School Highlands Ranch, bringing young students into the company as interns to

support the rapid growth of this small manufacturer of supply chain labeling equipment.

3. **Norco College's Accelerated Certificate and Employment (ACE) training program**, which graduates entry level maintenance technicians needed to support the booming supply chain industry in California's Inland Empire.
4. **Patterson High School's Supply Chain & Logistics Training Center** created to train high school students, so they are ready to take on jobs in this rural California town's growing set of distribution centers for companies such as Amazon, CVS, Restoration Hardware and Grainger.

To make this report as practical and useful as possible, it will outline a process or checklist of steps that most employers or schools must move through to successfully implement partnerships in workforce development. (See Exhibit 1) Some steps are more critical than others for different initiatives, depending on the context, scale of the project and timing.

We draw insights from the case studies to show how different projects may move through the steps differently. Questions are included that should be asked with each step in the process when designing or evaluating workforce initiatives. This will create more realistic expectations for the results you're trying to produce. This process checklist also reduces the risks of skipping activities that have proved essential in developing tomorrow's supply chain workforce.

Exhibit 1 - A Process Framework for Workforce Development Partnerships

I. Problem/Need Definition

1. Clarify company/regional workforce problems and identify specific needs
2. Identify potential partners/collaborators (other employers, schools—high schools, community colleges; workforce boards)

II. Developing Partnerships

3. Approach potential partners, initial conversations, developing mutual needs & objectives, clarifying next steps
4. Identify sponsors/champions at employers & schools
5. Specify skill needs/current curriculum/identify gaps
6. Define pilot project for collaboration
7. Address funding challenges

III. Producing Results

8. Fill the pipeline/build interest (“If you build it, they won’t necessarily come.”)
9. Design & implement pilot internship or training programs, etc.
10. Improve/adapt pilot programs
11. Identify & address challenges/obstacles/limitations of workforce partnership
12. Measure results/benefits

IV. Leveraging Results

13. Scaling programs more broadly



I. What is Your Business Problem or Workforce Need?

1. Clarify company/regional workforce problems and identify specific needs



Myth

Companies and schools share common objectives in solving critical skill shortages.

Reality

Executives and educators often share unaligned or even conflicting goals in workforce development.

From the employer's perspective, successful workforce initiatives are driven by a compelling business problem or a need to address regional workforce issues. For example, as the maintenance operations manager for Walmart's Grocery Distribution Center in Sterling, Illinois, Eric Hinrichsen has a problem recruiting and retaining staff in skilled maintenance positions. When the distribution center posted technicians' jobs, they received few responses and most were unqualified for the position.

For the last decade, this highly mechanized distribution center had been unable to recruit a full complement of 32 maintenance technicians needed to keep its equipment running. As one of 43 grocery distribution centers in the Walmart system, the huge Sterling distribution center serves 140 stores and 39 SAM's Clubs throughout the Midwest.

Being short-staffed with skilled maintenance technicians meant Hinrichsen's team would struggle to complete all the required preventive maintenance and at times would need to work overtime to complete the workload. This sometimes led to excessive downtime and a shorter life for the equipment. These skill shortages were costing the company money. Businesses like Walmart can clearly articulate the business logic for investing in workforce initiatives. Making the business case explicit also helps in evaluating the performance of workforce investments.

Colleges and high schools, on the other hand, have a different perspective on why they want to invest in a particular program or partnership. For example, the rural town of Patterson, California, traditionally had an economy driven by agriculture, until a series of large distribution centers sprung up in the area. But the town's residents weren't getting hired by the distribution centers because they didn't have the skills needed to perform the work. Patterson High School's principal recognized this problem and set the school on a path training a new generation of supply chain workers. Patterson wanted to help employers meet their staffing needs, but their primary loyalty was to their students, so their incentives were different.

Employers and schools approach supply chain workforce issues differently. Business leaders need to be asking questions like:

- What is the evidence we have a problem recruiting, developing and retaining employees in jobs A, B or C? What is it costing us?
- If we were ideally effective at recruiting and retaining talent in this role, what would be happening one or two years from now?

Educators on the other hand might ask:

- What programs will attract students? Are we marketing this set of courses as effectively as possible, in the context of the current job market?
- What skills are needed broadly enough in our region on an ongoing basis that we should develop programs to meet this need?

Both employers and educators should be asking questions that allow them to articulate an economic rationale for their investments in specific workforce programs. But the logic behind these investments is usually not the same for executives and educators. This can make collaboration more challenging.



2. Identify potential partners/collaborators, such as other employers, schools—high schools, community colleges, etc.



Myth

Potential industry/academic partnerships are self-evident and these connections are readily made.

Reality

Potential partnerships are often overlooked.

It may seem obvious, but employers need to intentionally identify other employers and schools that they might collaborate with on a workforce program. One of the first decisions companies often make unconsciously is: Are we going to pursue a solution alone or collaborate with other employers?

For example, in creating an internship program for industrial mechanics, Walmart was approached by the CEO of a local manufacturing company who created a consortium of ten companies that eventually partnered with Sauk Valley Community College to gain access to more technical talent. Having multiple employers involved creates more complicated dynamics in managing the relationship with a school. At the same time, this collaboration creates a larger critical mass of demand that is more compelling and practically served by a community college or technical high school. Panther Industries, on the other hand, has approached its workforce partnership alone with the local high school.

A striking similarity of the Walmart and Panther Industries initiatives is the opportunity to partner with a nearby local education partner. Christian Dow, Panther Industries' vice president decided to approach the STEM School at Highlands Ranch only after interviewing dozens of engineering grads from other distant schools. And the STEM School is right the same block with Panther Industries!

Similarly, Hinrichsen says, "I wish we had done this years ago!" when he describes the multicraft internship program his distribution center has established with a local community college. "The folks at Sauk Valley have been great. The biggest thing is just reaching out to your local technical school."

Schools can benefit from the same kind of outreach to employers. Norco College, a community college founded eight years ago, hired a placement coordinator, who works at developing relationships with potential employers in the region. Schools often develop connections with companies who might hire their graduates. But it is much less common for colleges and high schools to seek feedback on how well they're preparing their students to be productive employees.



When it comes to identifying potential partners for workforce development initiatives, questions employers and educators ought to be asking include:

- What schools nearby might possibly be able to better prepare graduates to be valuable employees?
- What courses can schools offer that might be attracting potential candidates for us?
- Are there other companies in the area who need job candidates with similar skills? Could we collaborate with them to create a more compelling case for local schools to support the employer's training needs?
- Do educators know the kinds of jobs employers in our region are most anxious to fill?
- Do employers know about the quality of the school's technical and soft skills programs?



II. Developing Partnerships

3. Approach potential partners, initial conversations, developing mutual needs & objectives, clarifying next steps.



Myth

Once a potential partner is identified, industry/academic collaboration can be quickly established.

Reality

Employer/school partnerships take time to develop.

Panther Industries' Dow recalls how his relationship with the nearby high school began:

Talking with others at an MHI conference got me thinking: what can we do as a small company an hour away from nearest university? How can we have an impact on our problems of hiring people and how can we influence the lack of talent coming out of schools? I had a pretty low opinion of what was coming out of high schools today.

I invited the school's principal and engineering teachers to come visit and asked them how we could help the school. Initially, I was just looking to increase their interest in what we were doing at Panther, thinking some students might come back after college. I thought we could be a resource

“It was mind blowing for them. We realized there is talent at the school we can use today.”

Christian Dow,
Panther Industries

for them, doing tours and getting students interested in automation. We asked them if they wanted to partner with us, and they said, “yes.”

Soon after, they asked us to teach a CAD class for mechanical design to show students what and how we design a part with SolidWorks.

Then I saw what they were doing in the school, providing real world certifications in IT (A+, Net+, and Security+). And they started offering SolidWorks certifications. We also learned they did a lot with their student robotics programs. Their students had much greater capabilities than I expected, so I sent our managers to the school to do a walk through. It was mind blowing for them. We realized there is talent at the school we can use today.

Employers and educators operate in very different cultures and on different time tables. And they need to get to know – and trust – each other. Collaboration between employers and educators requires patience and being open to unexpected opportunities. And, as in Christian Dow’s case, it requires a willingness to be surprised and to be wrong in your assumptions about what capabilities students have.

One dilemma employers face in developing partnerships with educators is their needs for critical workforce skills are likely to be much more immediate than what schools can deliver. The demands of today can easily override the relationship building activities needed to establish programs that promise to deliver in the long term.

Questions employers and educators should ask at this stage include:

- What can I do to move this potential collaboration forward?
- Do we understand the other organization’s needs and priorities and how they could overlap with ours?
- Are we sharing enough about our needs, fears and passions to build trust on the other side?
- Are the people we’re meeting with in a position and of a disposition to get things done? Is there a sense of urgency underlying our discussions?
- Are the next steps clear for advancing our learning about potential opportunities to collaborate?



4. Identify potential sponsors/champions at employers & schools



Myth

Because the need is so clear, workforce development initiatives can thrive without strong sponsorship.

Reality

Even mature workforce programs rely on committed leadership to be sustainable.

Identifying committed sponsors on both sides is a critical step in the process of partnering on workforce initiatives. There are two kinds of sponsors in change projects like this. First, there is an “executive sponsor,” who might be a college dean or high school principal, but who could also come from industry. In the case of Walmart’s maintenance operation, Keith Nye, director of logistics maintenance, has filled that role, making it clear to his management team that school partnerships are essential to the company’s future workforce strategy. This leader makes the initiative a strategic priority and usually provides budget support.

The role of “operating sponsor,” the second kind of sponsor, is equally important. This is the person who makes the initiative happen. At Walmart’s Sterling operation, Eric Hinrichsen filled this role, speaking to students about career opportunities with Walmart’s distribution centers, and even manning the Walmart logistics maintenance booth at high school career days.

Sometimes the same person handles both sponsorship roles. But without strong sponsorship, a lack of resources, visibility and energy will inevitably cripple innovative workforce projects.

These initiatives also need a committed champion on the other side of the table. For example, Jeff Rowe, director of career technical education at Patterson High School, oversees a sophisticated Supply Chain & Logistics Training Center. He explains:

A lot of it depends on the individual personality of the managers involved. One operations manager in a local distribution center took an interest in our program and pursued it up through corporate headquarters to put an agreement in place to hire 10 of our graduates every year. He put in a lot of extra effort because he felt our program would give his company employees who were better prepared than just hiring off the street.

Of course, one challenge in sustaining sponsorship is turnover, particularly on the employer’s side. Schools often find themselves trying to find a new champion in a local company when their previous contact moves on. At the same time, employer-led initiatives can also be victimized by turnover.

For example, confronted with an aging workforce in maintenance, Gregg Goodner, general manager of a GE manufacturing plant, championed a public-private partnership to bring an extensive new training program into his plant. Goodner sponsored the introduction of a well-funded pilot initiative. But a few months later he moved on to run a different GE division in another state. Unfortunately, his successor chose not to continue the program and the plant stopped participating.



These sponsorship roles are essential for the success of supply chain workforce development initiatives. Proponents of new partnerships need to be asking these questions from the outset:

- Who is going to fill the roles of executive and operating sponsor for this initiative?
- Who might replace a current champion if he or she left?
- When a sponsor or champion moves on, what steps can be taken to effectively transition leadership?
- Who are the champions in our partner organization? What can we do to more fully understand their needs, objectives, priorities, and challenges?

5. Specify skill needs/current curriculum/identifying gaps.



Myth

Schools know what potential employees need to learn to be attractive on the job market.

Reality

Educators need specific inputs from employers on skills needed and encouragement to address those needs directly.

Sometimes employers are very clear on the skills they need in their new hires. But schools aren't delivering. At Panther Industries, for example, Dow recognized a problem with what students were learning. The STEM School at Highlands Ranch was teaching LabView, a programming language used primarily in research and laboratory environments. According to Dow, it is not a standard language used in manufacturing environments.


"We need students to graduate with SolidWorks and PLC standard programming language IEC 1131 capabilities," says Dow. Over time, Panther Industries convinced the teachers that this would make their students much more employable, and it is now being taught at the school.

A few years ago, Patterson High School developed an advisory council of distribution center managers in the region. Jeff Rowe, Patterson's CTE director,

says the main purpose of the council is to get input from managers on whether the school's supply chain program is meeting the needs of their companies. After the council was formed companies started recruiting Patterson graduates much more proactively.

Of course, schools can't teach everything employers might want in new hires. But there definitely should be an explicit articulation of what capabilities supply chain organizations want to see in competitive job candidates, as well as an analysis of what school curriculums are teaching. This can lead to a dialogue about the changes needed in school course materials and where employers must plan to do supplementary training.


Here are questions that need to be asked to clarify the gaps between skills needed and current curriculum:

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- What specific skills & capabilities do employers consider essential for entry-level supply chain jobs? (Of course, answers will vary depending on the job.)
 - What technical skills are students currently learning in the school's curriculum?
 - What "soft" skills are the students learning and what skills are they likely to be missing?
 - What realistic adjustments can educators and employers make produce graduates who will be viewed as readily employable?

6. Defining pilot project for collaboration

Partnerships are only effective when they lead to collaborative activity. The initial program in an industry/school partnership is often obvious, or it just happens organically. But at some point, employers and educators have to put a stake in the ground and say, "OK, this is the first thing we'll collaborate on."

Some questions to consider in making these decisions are:

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- For educators: Is this a program employers will value? Will it be creating a short-term win? Or is the promise of a payoff too far out? (If the benefits are too far in the distance, the program is likely to lose industry support quickly.)
 - For employers: Do we have the resources, e.g., mentors, to invest in making this program a success? (With internships, for example, there is a limit to the number of interns a business can employ without hurting the productivity of their experienced staff who are expected to teach while also doing their job.)

7. Addressing funding challenges



Myth

Workforce initiatives are such a high priority for the supply chain industry that funding will be readily available.

Reality

Funding is always an issue and options should be explored early.

Funding industry/school partnerships for supply chain workforce development is a challenge, particularly for schools. Norco's ACE program is helping students earn certificates in industrial automation in just seven months. But it has been developed with funding from a U.S. Department of Labor grant, which will eventually need to be replaced with other funding resource.

Panther Industries' internship program became possible only then the Colorado legislature approved a P-Tech program. "Pathways in Technology Early College High Schools" (P-Tech) is a government sponsored program that supports public-private partnerships to develop six-year high school programs (adding grades 13 & 14) to award associate degrees focused on career and technical education.

While employers may have the funding they need to participate in industry/school partnerships, schools often have limited budgets to invest in more innovative initiatives. And, as the supply chain workforce shortage becomes more acute, business leaders will be asked to fund even more technical training to develop capabilities that individuals and schools can't afford to pay for.

Some questions regarding funding include:

- How will initiatives be funded? What is the funding source? Who has detailed knowledge of all potential funding sources for workforce development initiatives?
- If it is successful, can a program that is self-sustaining financially be created? Or will long-term funding resources be necessary?
- What other funding questions are relevant in the context of local supply chain workforce needs?





III. Producing Results

8. Filling the pipeline – “If you build it, they won’t inevitably come.”



Myth

Students will naturally be attracted to educational programs that promise to make them employable.

Reality

Most people don’t know about potential career opportunities in supply chain organizations. If schools and businesses don’t promote the employment opportunities, students won’t enroll in related programs.

Recruiting new students is one of the challenges of creating a successful and ongoing workforce development program. Working in a warehouse or distribution center has historically been viewed as low paying work centered on driving a forklift, according to Colleen Molko, associate dean of career and technical education at Norco College and head of the National Center for Supply Chain Automation. “Young people are influenced by their parents who believe warehouse employment is boring and offers no career opportunities,” she says².

This is the backdrop against which leaders of Norco’s ACE program have to work to continue to interest students in the accelerated certificate program. Recognizing this challenge, Norco hired an outreach & recruitment specialist to educate community residents about the different programs that Norco, a

“That is where I wanted to get to. I want every student ... to want to intern at Walmart.

Eric Hinrichsen,
Walmart

relatively new community college, offers. This specialist works with high schools and unemployment offices to interest potential students in the ACE program and other offerings at the school.

For Walmart’s Sterling distribution centers, starting an internship program to support the development of its maintenance workforce was just part of the solution. Walmart’s Keith Nye encouraged the maintenance operations manager in Sterling’s distribution center to also build relationships with local schools to inform students about Walmart’s career opportunities in logistics and, specifically, industrial maintenance.

Hinrichsen aggressively took on this assignment. In less than a year, he spoke to hundreds of students at local high schools, participated in college and career days, and gave numerous student tours of the Sterling distribution center. He made a point of talking to freshman and sophomore high schoolers at the local vocational career center, encouraging them to get more information from their school about eventually applying to the multicraft technology program at the nearby community college.

Combined with the efforts of other employers in the area, participation in the multicraft technology associates degree program has jumped from 16 to 52 students in less than two years. Only one student applied for the initial internship in Walmart’s maintenance operation. But four students applied for the most recent opening.

“That is where I wanted to get to,” says Hinrichsen. “I want every student at Sauk Valley Community College to want to intern at Walmart. And I want to be able to offer interns a position in one of the eight Walmart distribution centers in our region. My goal is to be fully staffed someday soon.”

Here are some questions employers should ask related to “filling the pipeline” of supply chain workforce initiatives:

- If we create a program for training, internships, etc., how many qualified students are likely to apply?
- What specific steps are we going to take to increase the quality and quantity of applicants for our program?
- What resources do we need to build interest in the program? Where will we get them?
- What other questions should we be asking to make sure we fill the pipeline adequately?



9. Design & implement internships or training programs



Myth

Implementing workforce initiatives is a straightforward project management problem.

Reality

Supply chain programs are heavily shaped by context, including the skills involved and larger political, economic and strategic issues.

Creating or reinventing school curriculums are different than creating an initiative in a company. But in either case, there are decisions to be made. For example, who should be considered for the program? Walmart realized they only wanted interns who were in their third or fourth semesters in the multicraft technology associates degree program. These students would have enough technical knowledge to benefit from exposure to on the job practices, and they were close to graduating. For each intern, Hinrichsen's team also created a 24 week training program to maximize their learning.

Interns at the Sterling distribution center are assigned to the facility's maintenance department and, depending on their experience and orientation, assist the maintenance team in areas, such as preventative maintenance, trouble shooting and repair, PLC logic, motor starters, frequency drive controllers and inverters.

"Interns are paid \$16 an hour, and we adapt their hours to their school schedule," said Hinrichsen. "Because the most important thing is completing their degree and completing the internship. It's easy to forget these priorities if you really need to hire someone now."

At Norco College, they had a higher-level objective of proving the effectiveness of the Accelerated Certificate and Employment (ACE) training model. This model is designed to help students get technical certificates in seven months to qualify for high-paying jobs with regional employers. Additionally, the ACE program offers certificates that qualify students for other jobs.

The content and objectives of different initiatives vary tremendously. But one common lesson is that these programs inevitably require considerable time and effort to be effective. It is not realistic to expect students or recent graduates to show up and figure it out what they're supposed to be doing.



Some questions educators should consider include:

- Who is going to develop the resources needed for training?
- Are we making realistic assumptions about the effort required from management and our experienced employees, or our faculty?
- Given how we are designing the program, do we have the capacity in our faculty and experienced mentors to support the learning needed?
- What strategic, funding or political challenges could undermine our implementation plans? What can we do to mitigate these risks?

10. Improve/Adapt Pilot Programs



Myth

Workforce development programs are one-and-done, straightforward to implement.

Reality

Every innovative workforce program is going to require revisions to make it more effective and sustainable. And they will evolve based on changing demand and access to resources.

Workforce development initiatives inevitably need to be revised after they are put in practice. The ACE program at Norco College was implemented quickly. But after graduating one cohort in seven months, administrators realized they had to address problems of faculty overload and curriculum that was too hard for students to absorb in such a short time. Jesse Lopez, Norco's CTE director, noted:

Giving students 16 weeks of curriculum in 3 weeks means things can go south quickly. When scheduling accelerated courses there's a fine line between too quick and not quick enough. We discovered some courses should not be condensed less than six weeks. For example, our entry-level PLCs [Programmable Logic Controllers] class has proved one of the most challenging courses for students, most who are learning about this technology for the first time.

At the request of employers, Norco has also added a course called "Technical Communications," which is really a team building class for students to improve their communication skills. According to Lopez, "We have to train people to be better team players because the technical problems require complex solutions that no one person can solve."

Patterson High School's supply chain program has also seen considerable revision. Jeff Rowe, Patterson's CTE director, says a few years ago the school

added an entry level Introduction to Supply Chain & Logistics class, as well as an advanced course in Supply Chain & Lift Training, which qualifies students for a lift truck certificate. More significantly, the physical space used for training has evolved from just a classroom to a temporary warehouse to a formal supply chain & logistics center with three warehouses and four classrooms. The center reflects the increased importance of hands-on training in the program.



Some questions employers and educators should consider regarding pilot programs include:

- Are we starting this workforce supply chain initiative assuming we will learn as we go and that the program will evolve?
- Are we scheduling times for reflection and using specific practices to get fast feedback and valid input from key stakeholders, like hiring managers and students and faculty?
- Are we looking for trends and patterns in what we're hearing, instead of just reacting to one particularly vociferous critic?
- Are we being realistic about our priorities and timing for program improvements, given the resources we have available?

11. Identify & address challenges/obstacles/limitations of workforce partnerships



Myth

Once a workforce partnership is established, it will run smoothly, without obstacles.

Reality

Every industry/academic collaboration has all kinds of potential for misunderstanding, misaligned goals, and disappointing outcomes.

There are often unexpected challenges in a workforce development partnership that can undermine the results if these problems aren't addressed. For example, the CTE director at one school lamented how time consuming it was to deal with management turnover at employers where they frequently lost their sponsor and had to find another manager at the company. This inevitably happens when there was no transition plan for sustaining the partnership, and the new contact is likely to have different priorities.

Some companies are so fixed on their existing recruiting and employee development processes that schools find it almost impossible to get their attention about innovative programs that could really help address critical skill shortages. Finding a potential sponsor in those organizations can be very time

“We have to train people to be better team players because the technical problems require complex solutions that no one person can solve.”

Jesse Lopez,
Norco’s CTE director

consuming and frustrating.

Another challenge for schools is understanding whether their academic programs can support and accelerate the development of talent, given the existing career path in a particular field. For example, Norco’s ACE program has offered an accelerated electrician’s certificate in the past, but Lopez observes:

Electrician is great certification. It pays relatively well, but with the state licensing process, it takes three to four years to get a journey-level certificate. And even with a certificate you need 8,000 hours as an electrician’s helper or electrician apprentice, which pays about \$16 an hour. There are lots of jobs, but you’re stuck there for a few years at that level.

Today the dynamics of certain career paths make even accelerated, cost-effective certificates hard to sell to potential students. This is one reason the industrial automation certificate has been so appealing, but other supply chain career paths may not be as attractive at some point. The industry needs to examine the realities of those career paths and explore ways to make them more appealing.

For example, one company interviewed struggles to hold on to its multi-skilled technicians, who are called on to perform a wide variety of tasks from repairing forklifts to fixing PLC problems in a robot. These highly skilled technicians often don’t like doing lower skilled mechanical repairs, which their role requires, because there is not enough automation maintenance to occupy a full time technician. Turnover in this role is high and employees who leave are extremely hard to replace.

Access to the latest machines and systems for training is another obstacle facing schools that want to deliver programs focused on maintaining automated technologies. That is getting access to the latest machines and systems to train students in relevant skills. Employers are more likely to offer schools equipment that’s obsolete and being replaced, which won’t help teaching skills needed to work on the latest equipment. “If you’re no longer using it, why would we want to train people on it?” asked one academic.



Here are some questions that may uncover potential problems in your relationship with partners in workforce initiatives.

- When was the last time we checked with our partners to make sure they understand and value the programs we’re working on?
- What are our partners doing that’s impeding our ability to work with them more effectively? How can we talk about this problem with them and how things might be changed?
- Ask our partners: Is there anything we could realistically be doing differently to help you be more effective?

12. Measure results/benefits



Myth

Supply chain workforce development initiatives are so important, we don't need to measure the results.

Reality

Failing to periodically quantify results and explicitly evaluate benefits of your partnerships seriously limits learning, accountability, and the business case for investing more in initiatives like this.

Employers and educators tend to evaluate the success of their initiatives differently. Community colleges are likely to track job placement rates after graduation. Norco prides itself on its clearly proud of its 100% placement rate for ACE students completing an industrial automation certificate. At the high school level, Patterson is aware of how many of its supply chain program students land jobs in distribution centers. But they aren't as concerned with quantifying results, given that high school grads are likely to pursue other options, such as college.

Internship programs such as those at Walmart and Panther Industries have benefits that are less easy to measure, but are further reaching. Walmart, for example, has hired two interns into industrial maintenance jobs. It has also created higher demand locally for internship positions. And it has learned how to collaborate with community colleges to feed the pipeline of students enrolling in programs like the multicraft technology associates degree.

Based on the success of its pilot program, Walmart is engaged in a national rollout of its industrial maintenance internship program. While the benefits may not have been fully quantified, Walmart's leadership believes the payoff is well worth it the investment.

Here are questions on measuring benefits employers can consider:

- What decisions do we need to make about our future investments in this workforce program? What information or measures would reduce our uncertainty about making the right decision?
- If our workforce initiative is ideally effective, what costs savings will we gain in managing our workforce, i.e. reduced recruiting/training costs or reduced quality upsets?
- How is our partner school measuring the effectiveness of our workforce development curriculum? What observable changes will there be if this program is successful?
- What will be the costs for us if this program fails?





IV. Leveraging Results

13. Scaling programs more broadly

Myth

All workforce development is local, or at least regional. Companies can't effectively transfer better practices from Norco to New Jersey.



Reality

Contextual factors are huge when it comes to addressing workforce issues! But the technical skills shortage in the fast-growing supply chain sector is so serious that the industry has no choice. It must become more effective at transferring successful processes and practices for building successful partnerships that address these challenges.

Successful workforce development initiatives are ripe for replication and expansion. Sources for all four of our case studies indicated they had been involved in discussions about expanding programs they had created or benefited from.

For example, Walmart has begun trying to replicate the Sterling internship program in other parts of the company. It's now called the "Maintenance Associates & Service Shops Technicians Internship Program". Hinrichsen and his team have worked with Walmart's human resources department to develop

a documented program that is being shared with all of Walmart's distribution centers and truck maintenance garages.

It remains to be seen how far and how fast this internship program will be adopted in Walmart's supply chain operations, but the work of one maintenance operations manager has helped create a model for the company that could go a long way to relieving one of the major workforce challenges facing the industrial maintenance field today.

Norco College has been asked to help other California community colleges replicate its Accelerated Certificate & Employment (ACE) training program. Jesse Lopez has hosted numerous school visits to show other administrators how the college has set up the program. Jeff Rowe and his colleagues at Patterson High School have also tried to educate their peers about potential opportunities for workforce programs, like their supply chain and logistics center.

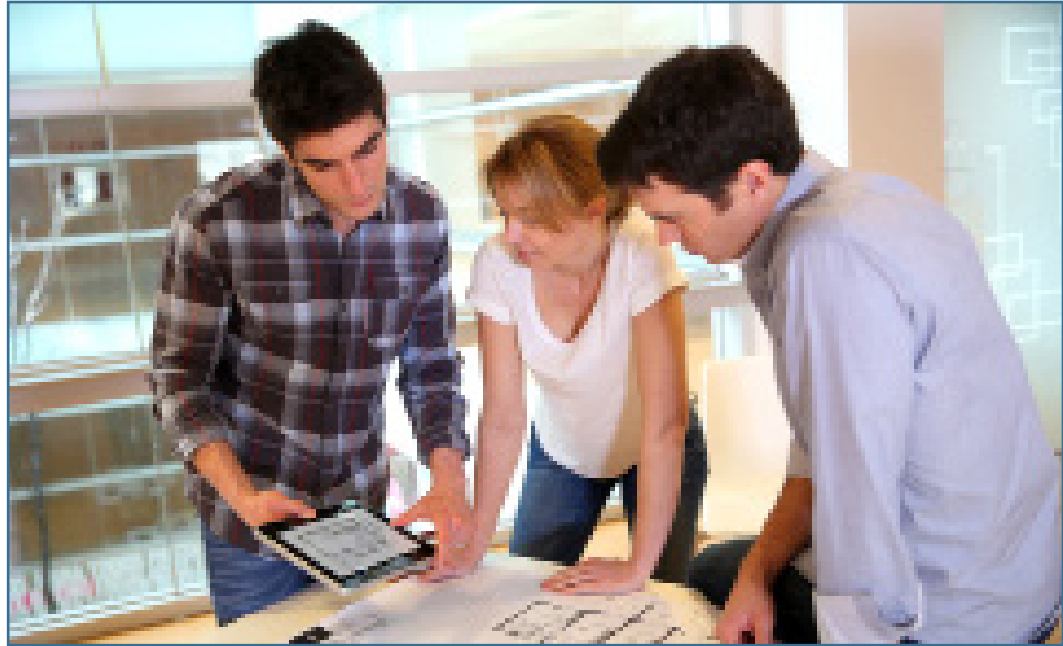
Christian Dow of Panther Industries has become a proponent of the P-Tech program and encourages executives to promote P-Tech and similar programs in their states.

Scaling supply chain workforce initiatives must happen on multiple dimensions. Companies like Walmart, Target and Amazon are finding ways to increase their investments in these programs on a regional level. And schools like Norco College and Patterson High School are role models for what can be achieved with proactive leadership and an understanding of what local employers really need. And national programs, like P-Tech, can help promote the growth of schools designed specifically to train tomorrow's high-tech workforce.

Here are questions to evaluate opportunities to scale your initiative:

- What other parts of our company could benefit from what we have learned about accelerating workforce development? Who would know who might be interested?
- Have we documented what we've done, and what we have learned, in a way that the story can be told in a concise and motivating way? Who could capture the lessons learned for us?
- What other organizations would benefit from learning about what we have accomplished in supply chain workforce development? How could we benefit from sharing our story with them?
- How can we scale and replicate what we have done so more of our supply chain operation will be positively impacted?





Conclusion

There is a lot to be learned from early adopters of supply chain workforce initiatives. Every program implemented gives us new insights into what works and where the challenges are. Phil Jones, director of vendor relations & business processes for supply chain engineering at Target, has been a leader in promoting industry programs to accelerate the development of supply chain technicians. He concludes:

The nature of automation is expanding faster than the skills sets. We're not keeping pace with the demand we have. We're going to be maintaining many, many robots in the future, and the demand for technicians is growing exponentially. I'm not going to be able to hire enough folks unless I develop grass roots connections at the local community level. The competition is going to be too great. That's why we have to make these initiatives work at a scale across the country.

The race to develop the future supply chain workforce is well underway. And the early leaders are exposing the myths, or false assumptions that no longer serve us. At the same time, organizations like Walmart, Panther Industries, Norco College and Patterson High School are also showing us the realities of what it takes to make these initiatives work. Let the learning begin!

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Footnotes

¹See Material Handling & Logistics U.S. Roadmap 2.0, <http://www.mhlroadmap.org/downloads/>; “Solving the Supply Chain Technician Shortage,” by S. Jackson, MHI Solutions, Q2, 2017: 78-83, <https://www.mhisolutionsmag.com/index.php/2017/03/20/solving-the-supply-chain-technician-shortage/>

²“Solving the Supply Chain Technician Shortage,” S. Jackson, MHI Solutions, Q2, 2017, <http://www.nxtbook.com/naylor/MHIQ/MHIQ0217/index.php?startid=90#/78>

About the Author

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About MHI

MHI is an international trade association that has represented the material handling, logistics and supply chain industry since 1945. MHI members include material handling and logistics equipment and systems manufacturers, integrators, consultants, publishers and third-party logistics providers. MHI offers education, networking and solution sourcing for their members, their customers and the industry as a whole through programming and events. The association sponsors the ProMat and MODEX expos to showcase the products and services of its member companies and to educate manufacturing and supply chain professionals on the productivity solutions provided through material handling and logistics.