PRIVATE EQUITY PERFORMANCE IMPROVEMENT

How to Create Capacity in a Constrained Labor Market

Phrases like “a tight labor market” and “the great resignation” have become commonplace in the post-pandemic world. Early retirements, enhanced unemployment benefits, and an array of other factors since the height of COVID-19 lockdowns have challenged businesses’ ability to grow headcount and create enough capacity to meet demand. Put into numbers, currently there are five million more job openings in the US labor market than unemployed workers, a deficit that has continued to grow since mid-2021.

National Job Openings vs Number of Unemployed Workers

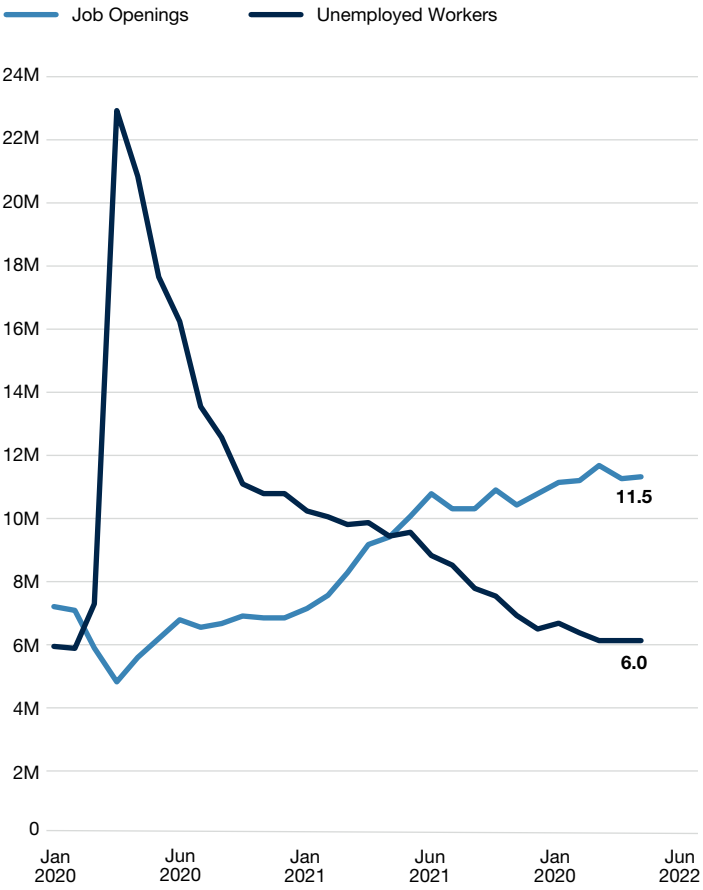


Figure 1 – (Source: https://www.uschamber.com/workforce/understanding-americas-labor-shortage)

This phenomenon has disproportionately impacted America’s manufacturing sector where the newfound pleasures of working from home or a “hybrid” work model are hard to implement within a factory. There are signs the industry is beginning to fill more positions with recent job reports showing positive trends, however, two million fewer Americans are participating in the labor force today compared with pre-pandemic levels. This deficit continues to hamper the ability to fill open roles. Specifically, a lack of skilled trade labor has left industrial companies struggling to grow revenue in the face of increasing demand.

Our experience in the last year has reaffirmed the notion that labor shortages continue to be a primary barrier to EBITDA (earnings before interest, taxes, depreciation and amortization) generation among industrial companies. We believe manufacturers will have to deploy additional levers, outside of adding headcount, to successfully increase capacity and grow revenues. In this paper, we cover seven capacity improvement levers that Alvarez & Marsal has leveraged successfully to create capacity in a constrained labor market. We examine this case through the lens of a mid-market, private equity-owned capital equipment manufacturer in midwestern United States that A&M has supported over the last year.

7 Levers for Capacity Growth

1. SKU Rationalization

- Analyze profitability of the product portfolio and focus plant capacity on margin-driving products and simplification of offerings.

2. Design for Manufacturability

- Lead a Design for Manufacturing workstream to simplify the manufacturability of product hardware.
- Standardize components across product families to reduce operational complexity.

3. Strategic Scheduling

- Align plant to a set master schedule grouped by products with similar manufacturing processes and routings.
- Simplify work order variability to reduce changeovers/downtime at work centers.

4. Selective Outsourcing

- Contract manufacture non-IP products to focus plant on core competencies.
- Strategically outsource parts and assemblies with heavy draw on plant capacity.

5. Standard Production System

- Introduce production rigor and a tiered management structure including daily Gemba walks and a root cause corrective action mindset.
- Define and visualize daily production goals to improve accountability of output.

6. Lean Implementation

- Targeted Overall Equipment Effectiveness and Capital Expenditure investments in identified bottleneck areas.
- Implementation of new production layouts using lean methodologies to enable material flow.

7. Investing in Current Workforce

- Implementing intra- and inter-departmental cross training programs for flexibility.
- Create water spiders to improve operator value-add time.
- Elevate labor via training and leadership responsibility to improve retention.

1. SKU Rationalization

Re-prioritizing available capacity toward margin-driving SKUs (stock-keeping unit) can be a powerful tool to grow revenues and earnings in the face of labor shortages. A full product portfolio analysis can highlight low volume and low margin products that tend to drain plant capacity due to the added operational complexity that comes with short production runs.

Our capital equipment manufacturing client was struggling to add capacity to support an extensive product portfolio and order backlog. A&M analyzed the product offerings by looking at SKU gross margin (GM) vs. compound annual growth rate (CAGR) percent to visualize rationalization opportunities. The results were reviewed with management and an action plan was implemented for each SKU. Supporting analyses surrounding customer impact, order backlog implication, transition products for rationalized orders, and customer communication strategies were put in place to protect the client's revenue and margins.

Rationalizing 27 low-margin products within the client's portfolio unlocked the equivalent of 10 percent added plant capacity in labor and was reallocated to higher-margin SKUs.

2. Design for Manufacturability (DFM)

Companies can create manufacturing capacity by simplifying the manufacturability of product parts in fabrication and assembly processes. In addition, enabling component standardization across product families can reduce routing complexity within a factory and yield cost savings. Tapping into operator knowledge is a key differentiator that can help drive the effort.

A&M advised our client management to make DFM a plant-wide priority for increasing capacity. A&M and management collected DFM suggestions during daily production department Gemba[1] walks. The interaction with operators and department supervisors led to more than 50 identified opportunities in the first month of implementation.

A&M established a war room to visualize and follow-up on the development activities coming from the shop floor. A weekly cross-functional meeting cadence was formalized to assess and action on the opportunities. DFM ideas were ranked based on estimated operational impact (production hours reclaimed and cost impact) and commercial priority. To sustain the DFM effort, A&M created project management tools including status dashboards, project plans and timelines, and forms for project team members to self-report activity completion and time allocated to the initiative.

Multiple benefits and learnings resulted from the implementation of a formalized DFM approach with the client:

- Elevating manufacturability as a key consideration within Design Engineering departments during new product developments; reducing SKU variation to improve processing times within the factory.
- A cross-functional approach including the engagement of operators allowing for rapid prototyping and execution of solutions.
- Standardizing parts across existing product families to reduce part and manufacturing complexity.

3. Strategic Scheduling

Revisiting internal scheduling strategies can extract four-walls capacity from an existing workforce. Across all manufacturing disciplines, the way in which work flows through a factory can generate untapped capacity within work centers. There is no "one size fits all" solution for scheduling strategy. However, the overall principles of minimizing complexity and focusing on stability tend to find their way into most solutions.

Our client was vertically integrated with both fabrication and assembly capabilities in-house. Customer orders were processed first-in, first-out (FIFO) with added priority shifts based on which sales rep, and in turn customer, were yelling the loudest. Long manufacturing lead times meant that work orders were started and stopped adding changeover time and noise into the system.

A&M guided the client in shifting towards an internally managed "master schedule" with pre-defined production slots based on demand mix. Products with similar manufacturing processes or part routings were grouped together to extend production runs and reduce machine downtime from changeovers. A stable demand signal sent to the factory yielded additional indirect benefits from capacity planning and demand visibility, making the scheduling process a vital tool to grow capacity organically.

4. Selective Outsourcing

Selective outsourcing can help in adding short-term capacity and improving long-term manufacturing flexibility within a company. Comprehensive strategic outsourcing includes contract manufacturing, white labeling, and outsourcing of specific processes of sub-assembled parts.

With our client, A&M expertly identified 24 SKUs to contract manufacture and white label. Core manufacturing competencies were kept in-house and products with non-standard manufacturing processes were outsourced. This resulted in freeing up an additional 40 percent of plant capacity labor that was reallocated to producing core products.

A&M advised on the creation of a team focused on strategically outsourcing parts and sub-assemblies with long cycle times within the client's manufacturing processes. Through BOM (bill of materials) analysis and prioritizing parts that were routed through bottleneck departments, the team identified an additional 20 percent of capacity that could be reclaimed through outsourcing.

Several important factors were included in A&M's approach:

- Selectively outsource parts and assemblies that will create plant capacity; focus on employee hours and alleviating bottlenecks (machine focused) within the factory.
- Contract manufacture non-IP products or parts to focus plant on core competencies.
- Leverage incumbent suppliers for quick impact; add similar products or parts to those already being supplied.
- Expand supply base targeting local suppliers where available to counteract logistics costs.
- Perform a cost/benefit analysis to understand the potential outsourcing cost increase vs. the incremental revenue and EBITDA growth from hours gained within the plant.
- Leverage negotiation of strategic partnerships and execute terms and conditions (T&Cs) that protect potential IP loss with contract manufacturing.

5. Standard Production System

Visualizing daily performance by use of a standard production system can bridge the gap between leadership and management routines, shift focus to high-impact actions, properly allocate resources for critical action items, and drive accountability across production teams. Daily accountability to set and achieve goals can provide insight to cash and capacity leaks across an organization and improve overall efficiencies. A&M recommends implementing a three-tier approach in creating a standard production system that includes clear goal setting, visibility of performance, and accountability to outputs.

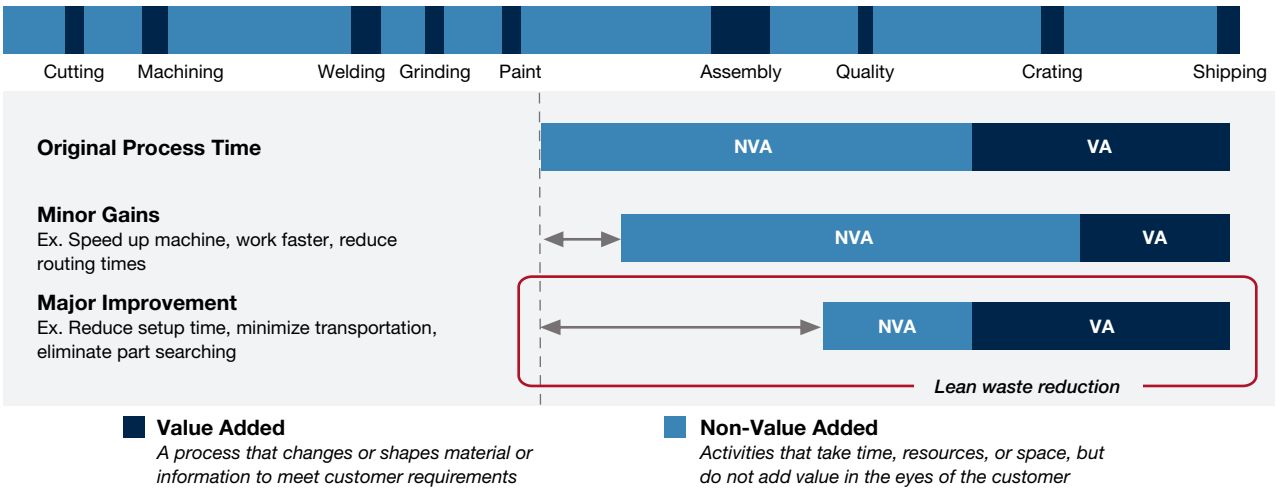
In this case, functional silos were broken within weeks of implementation and company culture began shifting from finger-pointing to a one-team mindset within our client. Key enablers were on-demand problem solving, operations visibility to leadership, and constraint management across business functions like procurement and human resources. Team building, paired with monitoring leading and lagging indicators, enabled the client to manage capacity and proactively mitigate risks.

6. Lean Implementation

While lean implementations are constantly evolving with macroeconomic shifts in a post-covid world, certain principles remain extremely effective for overall capacity utilization without substantial overhead increases. As shown in the graphic below, traditional process improvements seek to reduce the time required to complete a task. However, when looking at lost time consumed between "value-added" operations, there are larger gains to be had, keeping operators focused on actions that create value in the eyes of the customer. Four principles can be used to optimize a process for maximum output utilizing current operational capacity:

- Standard Work: Creation of precise actions and work steps to maximize efficiencies and leverage best practices.
- Progressive Builds: Even distribution of labor between operations and equipment to eliminate waste draining capacity within departments.
- Material Presentation: Planned locations and presentation of parts to minimize time spent gathering and searching for materials.
- Visual Management: Clearly defined material and information storage to make actions easily tracked and repeatable.

Typical Production Lifecycle



A&M strategically identified these opportunities across the client's factory focusing on high-margin products with a significant order backlog. For one department in particular, implementation of the above principles enabled an output increase of 45 percent utilizing the same number of full-time employees and factory footprint.

7. Investing in Current Workforce

Lastly, and most importantly, companies need to invest in their current workforce. Leadership development, retention, and managing workload can all have varying effects on capacity. Enabling a company's most-valuable asset to succeed and grow is of critical importance especially when that asset is in short supply.

At an operator level, cross- and up-training current talent provides flexibility and agility to respond to daily changes in the supply chain. At our client, 'water spiders'[2] were introduced to improve operator value-add time. Assembly operators were given the opportunity to learn new skills like CNC (computer numerical control) machining or welding. This was encouraged across all shop departments and incentivized with compensation. An elevated operator role was created in each department to build an internal talent pipeline for leadership and to alleviate time consumed by basic administrative tasks currently performed by managers. This alleviation, paired with leadership and development training, enabled the company to shift shop leader focus from daily firefighting to long-term improvements within their departments.

Workforce retention is foundational for succeeding in a labor-constrained market, especially when competition for industrial talent is at an all-time high. Across every role, employee engagement and satisfaction, paired with career trajectory and training is a non-negotiable to keep talent where it matters – in house.

Ensuring a balance of responsibilities within teams both currently, and forward-looking based on a company's strategic direction, will ensure employees are not over-burdened. Our client had critical gaps in the current leadership organization which prevented them from achieving their long-term vision. A&M worked with the CEO to re-structure executive and mid-level leadership teams to align focus on key priorities and eliminate functional silos. Key transformation changes included creating a C-suite, forming performance review and succession planning cycles, and hiring critical competencies to close gaps. The restructuring leveled the executive and managerial workloads, realigned accountability to business priorities, improved customer focus, and supported growth within a new technology area.

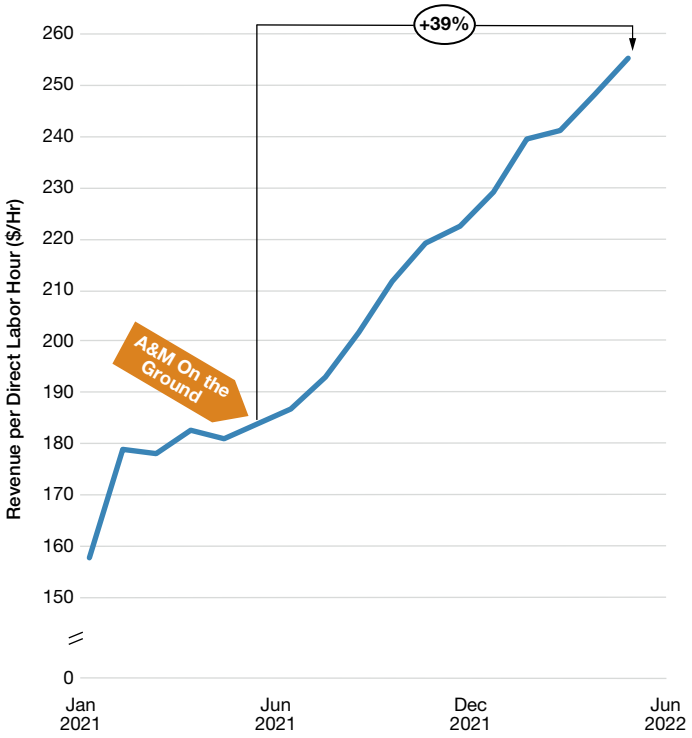
All these actions allowed the client to retain and build flexibility within their workforce to support future growth.

Conclusion

In the case of our mid-market, PE-owned capital equipment manufacturer, executing the above seven levers allowed the client to nearly double monthly output which led to record-breaking monthly revenue performance in the first six months of implementation. This performance was achieved with less than 12 percent additional labor capacity from hiring. In 2021, 95 percent of total yearly EBITDA was generated during the six months of A&M's implementation. The capacity improvement levers resulted in a 39 percent productivity improvement within the factory as shown to the right and enabled the client to begin reducing their backlog.

Portfolio company leaders who are struggling to add headcount should look closely at these seven levers to improve financial and operational performance while developing their current workforce and processes. A&M has implemented these levers successfully over the last year and is equipped with the knowledge and skillset to help other clients successfully balance these levers to achieve their business priorities in a volatile labor market.

Revenue per Direct Labor Hour Improvement



1. A Japanese word meaning "the real place" and refers to observing on the production floor
2. A production role focused on material handling and replenishment of workstations

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