

FRONTLINE LEADERS PLAY A KEY ROLE IN MANUFACTURING AI ADOPTION

March 2026

PwC and the Manufacturing Institute

EXECUTIVE SUMMARY

As artificial intelligence moves from experimentation to execution, manufacturers face a leadership test on the factory floor. AI's potential to improve safety, quality, productivity, and decision-making is clear. Its success, however, will depend on how effectively frontline leaders introduce, explain, and integrate AI into daily work. Their role extends beyond supporting adoption. They can help teams move from skepticism to excitement, from early use to integration, and ultimately to reimagine how work is performed across the frontline.

To examine these dynamics, PwC and the Manufacturing Institute surveyed manufacturing leaders across operations, human resources, and executive roles for this 2026 report. This marks the third year of our research series focused on the manufacturing frontline. In 2024, manufacturers emphasized that addressing attrition and talent shortages required intentionally prioritizing the frontline employee experience. In 2025, respondents reinforced that strengthening frontline leadership capability was essential to improving that experience.

Now, as AI influences work, this report presents a current view of AI adoption across the frontline, illustrating the critical role frontline leaders play in reimagining work on the shop floor.

The Five Key Findings

- 1. Rising frontline leader influence outpaces readiness to lead AI-driven change:** 54% of respondents reported low or very low confidence in their frontline leaders' readiness to lead AI-driven change, and none reported high or very high confidence. This confidence stands in sharp contrast to the 48% who say their frontline leaders are very or extremely effective in shaping the overall employee experience of hourly frontline workers, up from 43% in 2024. Manufacturers can strengthen frontline leaders' capacity for AI-related communication, coaching, and change leadership so they are better positioned to translate AI advances into confident daily practice.
- 2. Uneven AI adoption slows integration into daily operations:** 45% of frontline leaders are described as skeptical of AI, even as 50% express excitement about its potential. Frontline leaders may be positioned to drive implementation, but sustained adoption depends on the conviction of the workers responsible for day-to-day execution. Without alignment, momentum of AI adoption can stall.

3. **Advancing along the AI adoption curve requires training and experiential capability building:** 49% of respondents report that existing training programs do not prepare frontline employees for AI-driven role changes at all. Only 2% express high confidence that their teams are ready for how AI will reshape daily work. AI capability building must combine formal instruction with structured experimentation. Foundational training, including embedding AI into onboarding, creates shared language and baseline confidence, while applied use cases and protected time for frontline leaders and workers to test AI tools within real workflows can help translate exposure into ownership.
4. **Human and system readiness gaps constrain AI adoption:** 72% of respondents cite resistance from employees comfortable with existing systems, and 57% identify lack of training and readiness. Human and technical readiness are interconnected. Inconsistent data environments, siloed systems, and unclear governance can make it difficult for frontline leaders to trust AI outputs or reinforce their use with confidence. When data quality is uneven or system logic unclear, skepticism can intensify across roles.
5. **Limited frontline leader input constrains AI adoption and execution:** 50% of respondents report that frontline leaders have moderate to high influence over how AI tools are introduced and explained to workers. However, that influence rarely extends upstream into solution design and strategic decision-making, where long-term adoption outcomes are frequently set.

Conclusion: A Leadership Framework for Frontline Execution

The findings point to a consistent conclusion: AI adoption on the factory floor is constrained less by technology than by how effectively leaders at every level enable people to experience, use, and trust it in daily work. Manufacturers that move from experimentation to sustained adoption do so by strengthening three reinforcing conditions:

- **Lead curiosity:** Signal that experimentation is expected and supported.
- **Deliver value:** Tie AI to safety, quality, and operational performance.
- **Earn trust:** Involve frontline leaders early and align systems for transparency.

Sustained progress depends on strengthening the leadership mechanics of adoption. When manufacturers lead curiosity, deliver value, and earn trust, AI moves beyond experimentation and becomes embedded in daily operations. The impact of AI will depend less on the technology itself than on what happens on the factory floor between frontline leaders and their teams.

[Read the full report](#)