GOAL 3: RETAIN WORKERS AND VALUABLE INSTITUTIONAL KNOWLEDGE

Aspen Digital, in consultation with experts from academia, civil society, and industry, developed the following recommendations for how to integrate automation into the manufacturing frontline responsibly.

Issue

The manufacturing sector faces a historic challenge in retaining skilled workers. Given that employee retention rate is a key metric of the firm's success, high turnover rates and the retirement of experienced workers threaten to deplete the industry's talent pool and erode essential institutional knowledge.

Why this matters

- **Institutional knowledge loss:** The departure of skilled workers and loss of on-the-ground knowledge can disrupt production, revenue, and industry reputation. Frontline workers' firsthand experience of the production process can lend key insights into opportunities for operational efficiencies. As they leave, they take that experience with them.

- **High costs of hiring:** Having to constantly recruit and train new workers due to high turnover rates is both costly and inefficient.

"The total cost of hiring one new employee could be as high as $5,000, or more, in a professional or manufacturing industry."
— MIRATECH (2021)

Opportunities

- **Industry reputation:** The manufacturing sector has long been perceived as offering low job satisfaction and limited career growth. There is an opportunity to shift this negative perception by investing in the workforce and improving job quality.

"74% of manufacturing CEOs are concerned about the availability of key skills, highlighting the industry's urgent need for a better image to attract and retain talent."
— PWC (2020)

- **Worker retention:** Workers are more likely to stay at companies where they feel trusted, valued, and included in the future growth of the organization.

"Manufacturing jobs are largely viewed as 'dirty.' Folks would rather take jobs at Target even though living wage manufacturing jobs will advance them to the middle class. How can we use AI to change this perception of manufacturing?"

- **Tomás Durán**, President at Concerned Capital at Aspen Digital's November 2023 roundtable on impacts of AI in manufacturing

Actions

TRANSPARENCY

1. **Be straightforward and communicate clearly** with workers about expected changes by taking the following steps:

   o Provide comprehensible explanations of the AI system's function, operation, goals, and benefits to workers overseeing, using, or otherwise affected by an AI tool.

   o Talk plainly to workers about any staffing changes and why those decisions are being made; if you are not replacing people, explicitly say that, and you will get better feedback from your workers on the new technology.

   o Make sure your communication doesn't include technology or business jargon. Explain all specialized terms if they must be used. Try and have a trusted leader on the frontline deliver these messages.

2. **Provide adequate notice to workers and unions** (suggest 8 weeks or more depending on any applicable collective bargaining agreements) before deploying new technologies and include timelines for providing training, piloting, testing, and implementing new technologies.

FEEDBACK

3. **Get feedback and collaboratively define productivity goals** when adopting new technology. Develop strategies to meet those goals by:

   o Creating a system that encourages workers to anonymously ask questions (see the Strategies for Worker Engagement in the **Cheat Sheet**), and

   o Providing a structure so that workers can develop their own systems for improving performance, such as team socialization activities (workshops, team retreats).

Actions

FEEDBACK

4. **Seek worker input when creating policies for algorithmic management and worker surveillance** (e.g., wearable technology, sensors, and other monitoring systems). If an algorithmic management tool is causing friction between the leadership and your workers, consider why there is pushback. Worker quantification initiated through surveillance systems typically decreases job quality, which impacts retention.

> "Organizations that are the best in engaging their employees achieve earnings-per-share growth that is more than four times that of their competitors."
>
> – GALLUP (2018)

LEADERSHIP DEVELOPMENT

5. **Provide a clear career growth plan** and allow workers to advance professionally by providing advancement training and opportunities on a yearly or more frequent cycle.

   o Consider broadcasting metrics like internal hires, promotions, time to promotion, training participation, and retention rates on a leaderboard.

6. **Deploy automation in ways that provide equal opportunities to employees of all backgrounds,** regardless of race, age, gender, education, experience, native language, or other individual traits, recognizing that some workers may face additional barriers due to legacies of discrimination.

> "Micro-credentials are flexible, portable and cost-effective to implement. They can help boost employee engagement and support employers by promoting a culture of lifelong learning while providing a map for an employee's career path."
>
> – FORBES (2021)

7. **Recognize and compensate workers** for their role in training peers and new hires.

   o Train team leads on new technology first before rolling out team-wide instruction.

   o Offer paid quarterly management trainings for interested workers, creating opportunities for promotion from within and cost-savings in recruiting and hiring.

   o Provide scholarships or subsidies for relevant certifications. Offer awards, badges, or microcredentials for workers who oversee training and onboarding for their peers.

8. **Deploy technology that will complement or support your workers' professional identities.** Identify what your workers take pride in and what parts of their work they find most rewarding. Complementary technologies are much more easily accepted and adopted.

Case Studies

General Electric's leadership development programs are designed for employees, especially those early in their careers or those identified as high-potential talents. These programs provide a structured path for participants to gain diverse experiences within the company, enhance their skill sets, and prepare for leadership roles.

The programs offer participants a mix of on-the-job learning, formal coursework, mentorship, and exposure to different facets of the company. While some participants might be hired directly into these programs from universities, others transition into them as current employees looking to accelerate their careers within General Electric.

Current popular programs include:

- Edison Engineering Development Program: Aimed at those in engineering, this program includes rotational assignments in various business units, coupled with formal coursework.

- Operations Management Leadership Program: Participants undergo rotations in different General Electric locations and functions, gaining a broad understanding of the company's operational practices.

PepsiCo has pioneered a comprehensive approach to employee upskilling to prepare its workforce for the digital age. Through its Digital Academy, PepsiCo offers a repository of over 11,000 learning assets, allowing employees across the spectrum—from digital novices to tech-savvy professionals—to enhance their digital competencies.

Within just a year of its 2022 launch, the Academy witnessed over 11,000 participants who engaged in 140,000 self-paced modules, securing 600 certifications in domains like Cloud Azure and Power BI for Data Analytics.

Other examples include:

- myDevelopment platform: The platform connects incumbent employees to entry-level roles in new areas through short-term projects which only require a modest amount of time and commitment outside of regular hours. The project outcomes are logged internally through an employee profile which can be shared for internal job referrals and interviews.

Acknowledgments