

Empowering High-Tech Manufacturing in Industry 4.0

Harnessing Change Readiness and Innovation to Maximize Success

Lance Rodman, DBA, MBA, SHRM-SCP
Indiana Wesleyan University

The Opportunities

After a 40-year decline, American manufacturing is experiencing what McKinsey & Company (2022) calls the **new American manufacturing renaissance**. This resurgence is due to **historic federal investments** in high-tech manufacturing, complemented by equally historic **private-sector** investments. In fact, there is now **\$50B of federal monies** available to bolster advanced domestic manufacturing capabilities (The White House, 2022). Furthermore, rapidly-evolving technology, like **AI and machine learning**, can enable **productivity levels unimaginable** until now.

The Obstacles

High-tech manufacturing firms are facing many **challenges**, such as **rapid technological advancement**, **increasing competition** and **commoditization**, and **pressure to scale operations** due to recent public investments. The **accelerating pace of technology** puts **pressure** on manufacturing firms to **continuously learn and innovate** (Pisano, 2015), but **the ability to scale** operations accordingly is **quite slow**.

The highest-performing organizations in Industry 4.0 integrate change and innovation into **strategy, structure, culture, and human capital management** to maximize success.

Strategy

Integrating change and innovation into an organization is paramount and should be **senior leadership's primary goal** during **times of change and uncertainty**. However, despite the importance of strategy integration, **many organizations fail to do so effectively**. One of the main reasons **strategy integration fails** is that **many leaders** do not **realize that integration** is an **ongoing** process (Ashkenas et al., 1998).

 Embedding change and innovation into your mission, vision, and values accelerates integration.

Structure

While **change and innovation strategy** is senior leadership's primary responsibility, **front-line managers actually implement strategies, so structures must** be built to **support and listen to them**. If **front-line managers** are **responsible** for **implementing change** and **innovation strategies**, then organizations should **simplify their structures** to allow for **rapid decision-making** by these front-line managers.

 The best structures empower employees because the best solutions are made with, not for, employees.

Culture

Culture is the **unseen organizational force** that either helps or harms an **individual's and a team's ability to respond** to internal and external **problems**. Clearly, a **culture** that **creates** and **sustains change and innovation** has to be more than pizza parties. Instead, **culture** has to be **conceived with employees**, **enforced with formal mechanisms**, and **operationalized** to support change and innovation.

 Enlisting an employee task force to co-create a new culture with, not for, employees creates change champions.

Human Capital Management

Human capital management is where the other areas come into full focus. Today's business landscape **requires more from HR professionals** than mere paper pushing. Instead, human capital management **enables change and innovation** by being **proactive problem-solvers** with employees, **actively responding** to organizational **challenges**, and, ultimately, **enabling** individuals and teams to **find new and better ways of working**.

 HR should help employees solve real problems, not just traditional HR issues like payroll or time off requests.

EM Technologies Case Study

EM Technologies is a medium-sized high-tech manufacturing and engineering firm specializing in defense communications equipment. After a challenging M&A, the firm's new ownership recognized the need to embrace digital transformation and other Industry 4.0 activities to grow the firm. But, despite their best efforts, EMT's leadership had not discovered the most effective way to motivate individuals and teams to embrace change or innovation.

Research Question

How can EMT's leadership motivate individuals and teams to embrace change, product and process innovation, and new ways of working to fulfill the high-tech firm's post-M&A mission, vision, and values?

Methodology

Using a mixed-methods approach, two identical employee satisfaction surveys were conducted via Microsoft Forms among EMT's leaders and employees to evaluate how each stakeholder group perceived the organization and its practices, giving immense insight into the organization's current state.

Key Insights

- Involve and engage key stakeholders, particularly front-line managers, as change agents and innovation incubators.
- Operationalize the company mission, vision, and values by embedding them into the employee lifecycle.
- Train individuals and teams on collaboration and creative problem-solving, then empower them to solve problems together.

Post-Intervention Results

After implementing targeted and tailored organizational effectiveness and development interventions in a challenging, change-resistant post-M&A environment with the goal of integrating strategy, structure, culture, and human capital management, EMT has seen:

- Experienced 11% decrease in turnover
- Enjoyed 43x higher eNPS
- Implemented 3 Industry 4.0 initiatives (and counting!)

References

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