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EXECUTIVE SUMMARY

Building Supply Chain Excellence in a Climate of Disruption

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KEY TAKEAWAYS

- Milliken's industry leadership and experience have created a robust and agile company with deep expertise in supply chain management.
- The Milliken Performance System is the basis for its success in weathering supply chain disruptions.
- Major forces and concerns are contributing to current supply change disruptions.
- In this disruptive environment, efficiency matters.

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OVERVIEW

A substantial increase in supply chain challenges has occurred across numerous industries since the beginning of the pandemic. Many organizations are now so focused on addressing and repairing their short-term supply chain issues that they lack the resources to implement investments in high-performance improvements for the long term.

Performance Solutions by Milliken has worked with many organizations around the world to help optimize their supply chains and avoid or smooth some of these disruptions that the industry is facing today. Milliken has identified four capabilities for high-performing supply chains: customer centricity, systems building, high-performance work teams, and rapid improvement.

CONTEXT

Phil McIntyre shared the history of Milliken. Sebastian Giraldo discussed lessons from Millken's experience weathering disruption and four capabilities that support high-performing supply chains.

KEY TAKEAWAYS

Milliken's industry leadership and experience have created a robust and agile company with deep expertise in supply chain management.

Milliken is a 157-year-old, privately held manufacturing company based in South Carolina. A values-based organization, Milliken is recognized for innovation, safety leadership, and manufacturing excellence, with strong supply chain processes stemming from a culture of continuous improvement.

Although Milliken offers some branded direct-to-consumer goods, the majority of the products manufactured by the company are used by other world-renowned companies in multiple industries. It's estimated that a person

touches a Milliken product 50 times a day, from carpet to chairs to chemicals to workwear.

Milliken's five divisions include textiles, chemical, floorcovering, health care, and consulting. As the company was originally heavily textile-focused, the industry landscape has changed significantly since Milliken was founded. Due to various governmental regulations, competitors moving their footprint overseas, and changes in buying patterns, U.S. domestic production of textiles declined, while overseas mill production increased. However, Milliken lived up to its award-winning reputation, expanded its areas of focus, and improved operational excellence through learning from other organizations.

Milliken & Co. has been able to not only survive, but thrive, because of three key factors: (1) we've been positioned in the right markets due to our belief in innovation excellence, (2) we focus on manufacturing and supply chain excellence, (3) and we engage our people at all levels of the company.

Phil McIntyre, Performance Solutions by Milliken

The Milliken Performance System is the basis for its success in weathering supply chain disruptions.

Decades ago, Roger Milliken, former CEO, said, "Operational excellence secures the present. Innovation excellence secures the future." Milliken still adheres to this philosophy.

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Figure 1: Evolution of the Milliken Performance System

MILLIKEN PERFORMANCE SYSTEM



Milliken reinvested in itself to continuously achieve excellence in its people, processes, and businesses. Experiences and lessons learned through these investments led to development of the Milliken Performance System. Built on a foundation of safety and strategic clarity, the Milliken Performance System applies prescriptive steps for each role in the supply chain to ensure that Milliken's many manufacturing sites are aligned to achieve improvement as needed. Using a Lean enterprise strategy, the company can look at an end-to-end supply chain and optimize it to withstand and adapt to disruptions.

Over time, the Milliken Performance System has become more enterprise centric, with improvements for agility and to bring greater financial impact. However, fundamentally the same prescriptive processes, number of steps, and focus on reducing losses within the supply chain remain.

Major forces and concerns are contributing to current supply change disruptions.

Some of the major forces influencing supply chain operations include:

- **Demographic decline.** Population exodus from larger cities has caused permanent labor shortages, impacting supply chain costs.
- Climate transition. Extreme weather is interfering with transportation of goods and increasing energy costs.
- **Deglobalization.** Trade wars and geopolitical turmoil prompt companies to consider relocating operations, whether onshoring or nearshoring.
- Technological acceleration. Industry 4.0 promises to solve many supply chain problems, but technology is sometimes poorly executed and often doesn't fulfill all expectations.

Meanwhile, most companies are seeing an increase in demand and are dealing with back orders. Unemployment is high and organizations are not realizing all of the benefits from the technology they have recently installed.

The supply chain is moving from a VUCA (volatile, uncertain, complex, ambiguous) environment to a BANI (brittle, anxious, non-linear, incomprehensible) environment. The next generation of business will need to be aware of and adapt for this change.

Figure 2: Current Environment



Efficiencies gained in these difficult times can be breakthrough

What is your company doing? What actions are you taking to get ready for the next disruption? This is no time to wait and see what's going on. We've got to be prepared. We need to take action.

Sebastian Giraldo, Performance Solutions by Milliken

In this disruptive environment, efficiency matters.

Building high-performance supply chains in this environment requires four main capabilities:

- Consumer centricity. Loss elimination means that every activity that gets in the way of what adds value to customers must be eliminated, reduced, or simplified. Instilling a zero-loss mindset in clients by working with them to map end-to-end processes, calculate the value, and prioritize losses in every supply chain function clarifies what customers are truly willing to pay for. At a minimum, loss elimination can and should offset the costs added to products or services due to inflation. When a loss analysis is conducted, it may be surprising that in many cases logistics losses are higher than manufacturing losses.
- 2. Systems building. Product complexity, material flows, data management, inefficiencies in logistics, and strategic alignment are just a few of the supply chain issues that organizations might struggle with today. Implementing systems—cross-functional solutions with clear metrics in a way that connects and aligns with the goals of the organization—rather than siloed functions supports success in a non-linear environment. Milliken focuses on empowered, collaborative teams, which drives sustainability, ownership of the process, and continuous improvement.
- 3. High-performance work teams. To enable high performance in the workforce, three main elements are required: (1) a *clear purpose* about where the company or team is going; (2) *empowering autonomous, agile teams* with information to make their own decisions in real time; and (3) *agile frameworks* that allow teams to rapidly try different solutions in a nonlinear environment.

Figure 3: The Four Capabilities of High-Performance Supply Chains



4. Rapid improvement. Rapid cycles of improvement are a priority in fast-changing markets. At Milliken, the concept of opportunistic operations means that businesses should involve and enable employees with methodologies for rapid improvement to immediately and quickly take advantage of any situation or opportunity.

In the past 15 years, Performance Solutions by Milliken has provided services to more than 1000 clients in over 40 different countries. PSbyM's experienced practitioners in manufacturing, supply chains, safety, operations, and more work side by side with client teams to implement systems for continuous improvement.

The four capabilities, as well as methodologies Milliken uses to apply them, are not only transferable to almost every industry segment; they are also transferable to organizations that may perceive themselves to be non-industry. The loss profiles might be different between businesses, but the capabilities still apply.

Case Study: General Mills

General Mills needed rapid improvement projects to work on specific losses. They contracted PSbyM for a 12-week project across four different sites, focusing on waste reduction, changeover improvement, global efficiency improvement, and off-quality product improvement.

Using its four capabilities for high-performance supply chains, Milliken achieved a 28% reduction in overpackaging, a 19% reduction in changeovers, a 31% reduction in minor stops, and a 17% reduction in waste, resulting in average annual savings of \$3 million.

BIOGRAPHIES

Phil McIntyre

Managing Director, Performance Solutions by Milliken

Phil's career spans 35+ years of manufacturing, supply chain, and business leadership. Phil's accomplished background has seen him engaging in diverse roles ranging from Finance to Quality to Manufacturing Leadership to Business Leadership. Phil has worked with organizations around the world in areas such as Engagement Design & Leadership, Cash Flow Optimization, Due Diligence, Performance Facilitation, Leadership Coaching & Development, and Project & Change Management.

Phil holds a degree in Industrial Engineering from Clemson University and a Master of Business Administration from Wake Forest University.

Sebastian Giraldo

Business Development Leader, Performance Solutions by Milliken

Sebastian joined the Performance Solutions Team in 2014 after 15 years of experience in the manufacturing industry starting in maintenance and developing different roles within the supply chain including the position of continuous improvement director of a large food manufacturing group in Latin America where he implemented and integrated TPM (Total Productive Maintenance), LEAN SIXSIGMA and QHSE management systems in an Operational Excellence model delivering sustainable business results.

Since becoming a practitioner Sebastian has partnered with clients across North and South America supporting operations of pharmaceutical and medical devices, rubber, food and beverage, corrugated paper and plastic in well-known industries, supplying a systemsbased thinking, high-engagement culture and worldclass performance mindset to the companies served.

Sebastian holds a Master of Business Administration with emphasis in QHSE management systems from the University of Viña del Mar Chile, a post graduate diploma in maintenance management from the UIS University in Colombia and a Bachelor of Science in Mechanical and Manufacturing engineering form the UAM in Manizales – Colombia. Passionate of the continuous improvement methods, Sebastian has expanded his knowledge in different areas and countries, holding certificates in TPM (Brazil), Production Management and Just In time (Japan), Lean culture (Mexico), Human change management (Brazil), Coaching and leadership (US), Six Sigma and Demand Driven Material Planning (Colombia).