WHITE PAPER

STIBO SYSTEMS
MASTER DATA MANAGEMENT

Through the Storm:

How System Trust **Builds Operational Resilience**

Introduction

In a world currently defined by disruption—geopolitical uncertainty, inflation, tariffs, labor shortages, and unpredictable demand all while trying to find the best digital transformation path forward—manufacturers face unprecedented challenges. They need systems they can trust, yet most are working within tech stacks ill-equipped for volatility.

Incompatible systems, data silos, and inconsistent information erode confidence in critical decisions. These outdated tech stacks often fail to support modern tools effectively, leading to fragmented data environments and missed opportunities for automation.

Manufacturers must be able to rely on their data, platforms, and workflows without second-guessing, double-checking, manual integration, or manual patchwork. Establishing strong data foundations, inclusive of systemic reliability, data confidence, and technology integration, is critical for resilience.

To understand how organizations are adapting, Stibo Systems surveyed 500 U.S. operational business leaders across the manufacturing, consumer packaged goods (CPG), distribution, retail, life science, automotive, and aerospace and defense industries to explore the prioritization of interoperability in their tech stacks for 2025 and beyond.

The **Trust Crisis**

Manufacturers grapple with volatility, driven by demand spikes and material shortages, amplified by global instability. In fact, 53% of leaders report that these factors increase supply chain costs significantly. Incomplete or inaccurate data is often born at the beginning of the product lifecycle during the supply chain process outside of the enterprise. This chaos is exacerbated by internal crises, particularly a pervasive distrust in organizational data, leading to the need to second-guess numbers and react too slowly to critical changes.

Only 25%

of operations leaders fully trust the data in their systems

Easy access to trustworthy data is crucial for making informed decisions and maintaining a competitive edge. Data discrepancies—whether due to inconsistencies, gaps, or inaccuracies—can result in poor strategic choices and significant financial losses.

The top-cited reasons for data distrust:

Inconsistent data	**50%**
Incomplete data	**37%**
Segmented or siloed data	**34%**
Inaccurate data	**34%**

These data issues cause substantial challenges. For example, when a manufacturer's system communicates updates like a part delay, third-party systems may not interpret this information correctly. This misalignment results in outdated forecasts, missed production windows, and compounding delays for all stakeholders involved as critical departments are not in real-time sync to leverage accurate and consistent data.

Interoperability can address these issues by ensuring seamless communication across all systems, which enhances data integrity and reduces human error. This harmonization allows departments to access up-to-date, reliable information, crucial for operational efficiency and strategic planning.

What is Interoperability?

Inter•operability: Different systems and applications within the manufacturing environment communicating and working together seamlessly. This capability is vital for optimizing production processes and improving productivity, ultimately enhancing market competitiveness.

When Trust Breaks Down

Manufacturers face a critical divide: the systems they have versus the systems they need. This gap is vividly illustrated by the real-world challenges they encounter daily. Despite a majority (76%) of organizations holding on to mismatched systems, employees, from leaders to floor workers, often cannot access accurate information quickly enough, bogged down by siloed and outdated systems. For example, nearly half (46%) of operations leaders must navigate five or more different platforms each day, exacerbating inefficiencies and errors.

86%

of employees spend over 30% of their day on manual data tasks

This fragmentation leads to inefficiency, unreliable data, and the inability to automate between systems which reduces throughput and makes strategic decisions difficult and often inaccurate.

Real-World Point of View

Jake, a dedicated shop floor worker, typifies this struggle. He toggles between multiple systems to compile essential data, facing frequent mismatches that undermine his trust and productivity. This typical occurrence forces him to manually pull numbers and reconcile the discrepancies, but he still can't fully trust the data he has compiled. A unified system would revolutionize his workflow, allowing him to access real-time, reliable data from a single source, ultimately focusing on production rather than data verification.

Interoperability enables seamless communication between old and new systems, facilitating smoother transitions and enhanced operational efficiency. By adopting standardized data protocols, organizations can overcome the hurdles of legacy systems, ensuring that all components work cohesively to support modern manufacturing demands.

Moreover, the challenge extends to integrating existing systems with new technologies. While many (67%) organizations find it difficult to sync incompatible systems with new technologies, the need for interoperability is clear.

How to **Build Systems** You Can Rely On

Interoperability remains a hidden key to unlocking optimized efficiency as it is often dealt with at the department level by leveraging inefficient workarounds. It is crucial as many operational pain points, like inability to maximize production throughput, inaccurate demand forecasting, and supply chain disruptions, are directly tied to interoperable capabilities.

Less than two in five (37%) leaders see master data management (MDM) as a solution, despite its potential to ensure consistency and accuracy across all data points by acquiring, cleansing, managing, and sharing mismatched formats. By providing a single, consistent view of critical business data, MDM ensures that all departments within an organization are working with the same accurate and up-to-date information. This unified data approach enables businesses to scale faster and eliminates discrepancies and errors that can arise from fragmented data sources. Additionally, MDM enhances the ability to respond to fluctuations by providing real-time insights and analytics, allowing organizations to adjust their strategies swiftly.

As the manufacturing industry moves toward integrating more advanced technologies in 2025, the emphasis on operational efficiency becomes apparent, with 67% aiming to enhance this area. Yet, without solid data foundations and systems in place underpinning these new technologies, efforts often result in increased complexity.

Interoperability between siloed, legacy, and new systems is crucial. It allows for seamless integration and automation to support innovative technologies like AI and IoT, which depend on accurate, real-time data to function optimally.

Real-World Point of View

Devan, a supply chain manager, is eager to integrate a new AI software into his organization's operations. Devan is on a small team and spends his days coordinating with suppliers, negotiating contracts, and ensuring that inventory levels are maintained. His keen eye for detail and his ability to foresee potential issues are crucial in preventing bottlenecks and delays. He is excited to use AI to help speed up some of these tasks to make his organization even more efficient.

However, he quickly encounters significant challenges as the AI application begins to produce erratic and unreliable data related to products and the supply chain. Despite his best efforts and extensive collaboration with his IT team, Devan is left without any clear explanation for these anomalies.

The outdated systems his organization relies on are rigid and lack the necessary flexibility to support advanced technologies like AI, leaving them significantly behind schedule. Additionally, there are gaps and inconsistencies in the data Devan is getting from an external supplier that further compound the issue.

To truly achieve digital transformation, robust data management practices that ensure comprehensive interoperability are essential—not optional. These practices prevent unnecessary complexity and unlock the full potential of their technological investments, driving meaningful improvements in operational efficiency.

Trust as a **Competitive Advantage**

Investing in MDM is a strategic move that enhances a company's competitive edge by ensuring data is accurate, consistent, and accessible. This reliability speeds up decision-making, enabling companies to navigate market challenges with agility and precision, which is crucial for maintaining stability and scaling a business.

Interoperability removes bottlenecks, allowing teams to share information effortlessly, which accelerates workflows and decision-making processes.

Real-World Point of View

Marie, a seasoned engineer at a bustling manufacturing company, prides herself on finding innovative solutions to complex problems. She just finalized a crucial design change to an existing product in the company's product lifecycle management (PLM) system, a tweak that would improve product performance and reduce costs. But as soon as she hit "save," her inbox lit up with a flurry of notifications. Procurement needed to know the specific changes and how they affect the bill of materials (BOM), production wanted updated specs, marketing was asking about revised product descriptions, and regulatory compliance needed assurance that the changes met industry standards. Each department relied on the master record, but the PLM's limited integration meant the new data was trapped in a format only it could understand.

Without interoperability, Marie watched as the ripple effects of her update slowed the entire enterprise. Procurement ordered the wrong materials, production lines paused to clarify specs, and marketing nearly published outdated product details. Marie spent her afternoon manually updating spreadsheets and emailing teams, knowing that every minute lost to these inefficiencies risked supply disruptions, lost margins, and even market share. She couldn't help but think: if only the systems spoke the same language, her innovation wouldn't come at the cost of chaos.

By promoting a connected and collaborative work environment, interoperability empowers teams to dedicate more time and effort to strategic initiatives, significantly enhancing operation and strategic effectiveness. This shift allows employees to focus on identifying new opportunities (49%), strategizing with internal teams and leadership (47%), working through tasks or business objectives without interruptions (45%), and pursuing professional development (44%). Such a transformation enables companies to innovate and grow, building a robust foundation for future scalable success and sustained growth.

Conclusion

Manufacturers must contend with external factors often out of their control, making it more critical than ever before to optimize their internal production efficiencies.

However, the data shows that leaders' ability to maximize their organizational efficiency is not as strong as it could be. Most operations leaders do not fully trust the data in their systems. Data is often inconsistent, incomplete, siloed, or inaccurate—resulting in a trust crisis. Failed integration between mismatched systems results in further data fragmentation within organizations.

Organizations must invest in their systems and data management to survive market volatility, drive growth, and future-proof with a scalable solution. Reliable systems will result in unified data, fewer platforms, functional automation, and real-time decision support.

Leaders will be empowered by accurate, cross-functional data to make critical business decisions in real-time. Moreover, MDM enables businesses to scale by serving as the interoperable platform for all departments. This cohesion provides a single source of truth and ensures that systems and departments do not end up being siloed or mismatched in the future.

By building strong data foundations and creating interoperability across business units, leaders can minimize errors and focus on strategy, innovation, and growth. Manufacturers that focus on systemic reliability, technology integration, and data confidence will build operational resilience to survive the storm ahead.

About the Study

Stibo Systems commissioned TEAM LEWIS Research to conduct an online survey of 500 U.S. business leaders of senior manager level or above at organizations with 500+ employees. All respondents had decision-making authority for operations-related decisions. All respondents were in one of the following industries: consumer packaged goods (CPG) or fast-moving consumer goods (FMCG), distribution, manufacturing, retail, life science, automotive, or aerospace and defense. Data was collected from February 18 to 25, 2025.

About Stibo Systems

Stibo Systems is a leading enabler of trustworthy data through AI-powered master data management. Built on a robust and flexible platform, our SaaS solutions empower enterprises around the globe to deliver superior customer and product experiences. Our trusted data foundation enhances operational efficiency, drives growth and transformation, supports sustainability initiatives and bolsters AI success. Headquartered in Aarhus, Denmark, Stibo Systems is a privately held subsidiary of Stibo Software Group, which guarantees the long-term perspective of the business through foundational ownership. More at **https://www.stibosystems.com.**

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