



From VUCA to BANI: A Dual-Lens Perspective on Resurrecting Sri Lanka's Medical Supply Chain (2023–2025)

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Abstract

The Medical Supplies Division (MSD) of Sri Lanka acts as the logistical heartbeat of the nation's universal health coverage. However, between 2023 and 2024, this heart nearly stopped beating, subjected to an existential stress test driven by a sovereign debt crisis and deep-seated systemic fragilities. While the VUCA (Volatility, Uncertainty, Complexity, Ambiguity) framework provides a traditional lens for such disruptions, this perspective article argues that the severity of the Sri Lankan experience necessitates a more modern, post-pandemic framework: BANI (Brittle, Anxious, Nonlinear, Incomprehensible). Drawing on the direct operational experience of the MSD directorate, we dissect how a monolithic reliance on the State Pharmaceuticals Corporation rendered the supply chain Brittle, while legal controversies surrounding falsified medicines paralyzed decision-making with Anxiety. We further explore how the premature deployment of the 'Swastha' digital system created an Incomprehensible data landscape. Finally, we detail the strategic roadmap—anchored by the "90/90/1 Rule" and a focus on human resource resilience—that allowed the MSD to successfully finalize 2026 procurement orders by January 2025. This paper posits that surviving such crises requires shifting from reactive firefighting to "antifragile" system design.

Introduction

For decades, the Medical Supplies Division (MSD) of the Ministry of Health has operated as the foundational entity ensuring the equitable provision of pharmaceuticals and surgical consumables across Sri Lanka. Its mandate is vast, supplying everything from basic analgesics to radioactive isotopes for cancer care. Under normal circumstances, the MSD navigates the typical friction of a developing nation's supply chain. However, the period spanning 2023 to 2024 was not "normal" by any metric. It was a perfect storm that threatened the Ministry's vision of universal health coverage.

The immediate catalyst is well-known: the national economic crisis [1]. The evaporation of foreign currency reserves crippled the import-dependent healthcare sector, extending procurement timelines from a manageable 11 months to an indefinite horizon. Yet, to attribute the breakdown solely to economics is a comforting but incomplete fiction. The crisis acted as a contrast dye, revealing long-standing structural fractures: opaque procurement pathways, the absence of an integrated digital ecosystem, and the weakening of peripheral management structures like Hospital Drugs and Therapeutics Committees (DTCs).

As administrators governing this division, we found that traditional management theories were insufficient to navigate this chaos. The standard VUCA framework (Volatility, Uncertainty, Complexity, Ambiguity) accurately described the *external* economic environment [2], but it failed to capture the *internal* systemic collapse and the psychological toll on our workforce. To truly

understand the "anatomy of the crash" and the subsequent recovery, we must apply a dual-lens approach. We overlay the VUCA framework with the darker, more nuanced BANI framework (Brittle, Anxious, Nonlinear, Incomprehensible) to provide a comprehensive autopsy of the crisis and a blueprint for the resilience that followed [3].

The External Environment: A VUCA Storm

The macroeconomic landscape of 2023–2024 was a textbook manifestation of a VUCA environment, battering the MSD from the outside.

Volatility was defined by the precipitous fluctuation of resources. Foreign exchange did not just become scarce; its availability became erratic. A Letter of Credit (LC) approved on Monday might be rejected by Friday due to currency shifts. This volatility shattered the standard procurement cycle, forcing us into a reactive mode where "emergency procurement"—often at higher costs and with higher quality risks—became the default rather than the exception.

Uncertainty dismantled our forecasting capabilities. In a stable system, historical consumption predicts future demand. However, the economic crisis shifted patient behaviors; patients who typically sought private care flocked to the free state sector, spiking demand in unpredictable ways. Simultaneously, the uncertainty of international shipping routes and supplier solvency made it nearly impossible to predict *when*—or *if*—a consignment would arrive.

Complexity arose from the tangled web of stakeholders. The MSD is merely one node in a network involving the National Medicines Regulatory Authority (NMRA), the State Pharmaceuticals Corporation (SPC), and hundreds of hospital units. Operational inefficiencies in one area—such as a backlog in NMRA registration dossiers due to manual processing—cascaded through the system. A delay in registration meant a delay in tendering, which meant a delay in ordering, amplifying the "bullwhip effect" until it hit the patient as a shortage.

Ambiguity was the fog of war. Without a unified digital backbone, we lacked a "single source of truth." Conflicting reports would surface: a hospital might claim a stock-out while the central warehouse system showed availability. This ambiguity obscured accountability. Was a shortage caused by a supplier failure, a funding delay, or a distribution error? In the absence of real-time data, the root causes remained hidden, leading to a culture of blame rather than resolution.

The Internal Reality: A BANI Breakdown

While VUCA describes the storm, the BANI framework—coined by Jamais Cascio as a successor to VUCA—describes how the ship began to crack. The internal reality of the MSD during this period transitioned from complex to chaotic.

1. Brittle: The Illusion of Strength

A brittle system looks solid on the surface but lacks the elasticity to bend under stress; instead, it shatters. For years, the Sri Lankan medical supply chain appeared robust because of its established, monolithic reliance on the State Pharmaceuticals Corporation (SPC). This single-channel procurement was efficient in peacetime but fatal in a crisis [4]. When the SPC faced credit blockades due to the country's sovereign rating downgrade, the MSD had no diversified "Plan B." We could not easily pivot to other suppliers or procurement methods because the system was designed for a single pathway. This singular dependence revealed the inherent brittleness of our architecture; when the SPC stalled, the entire nation's supply chain fractured.

2. Anxious: The Paralysis of Decision Making

Anxiety in the BANI context is not just stress; it is the fear that *any* decision you make will be the wrong one, leading to passivity. This was palpably felt within the MSD corridors, exacerbated significantly by the legal and ethical firestorm surrounding the falsified medicines scandal (notably the Human Immunoglobulin incident). This event resulted in high-profile legal actions and cast a shadow of suspicion over the entire

procurement apparatus. The result was a crippling "decision paralysis"[5]. Technical Evaluation Committees (TECs) and procurement officers, fearing future litigation or audit queries, hesitated to sign off on tenders. Routine approvals that once took days dragged into weeks as staff sought excessive assurances. In supply chain logistics, speed is life; this anxiety-induced stagnation delayed life-saving drugs just as effectively as a funding cut.

3. Nonlinear: The Disproportionate Disconnect

In a nonlinear world, cause and effect are disjointed. Small actions can trigger massive disasters, and massive efforts can yield zero results. We observed this clearly in inventory fluctuations. The disconnect between "ordering" and "receiving" became extreme. A minor delay in opening an LC for a raw material could halt local production entirely, leading to a critical stock-out. Conversely, panic-driven emergency orders placed months prior would suddenly arrive all at once, overlapping with late standard shipments, pushing items from "zero stock" to "expiry risk" in a matter of weeks. This nonlinearity made the standard re-order formulas in the *Manual of Management of Drugs* (MoMD) temporarily irrelevant.

4. Incomprehensible: The Fog of Data

We try to find answers in data, but in a BANI world, more data often creates more confusion. A prime example was the rollout of the 'Swastha' information management system. The intent—digitization—was correct. However, introducing a complex, nascent software platform into an already volatile environment created an "incomprehensible" operational picture [6]. Staff who were already exhausted by manual firefighting were suddenly navigating a system with teething issues. Data entry errors and integration gaps meant that digital dashboards often contradicted the physical stock in the warehouse. Instead of providing clarity, the early phase of Swastha added a layer of "digital fog," making it difficult for decision-makers to comprehend the true status of national inventory.

Strategic Interventions: From Survival to Resurrection

Recognizing that we were trapped in a BANI cycle, the MSD directorate, in conjunction with the Ministry of Health, initiated a series of strategic pivots. We realized that we could not "manage" our way out of this with standard tools; we had to engineer resilience.

1. Breaking the Paralysis: The "90/90/1 Rule"

To shatter the anxiety and inertia, we adopted a disciplined management philosophy adapted from the "90/90/1 Rule"[7].

- **The Concept:** For the next 90 days, the first 90 minutes of the workday are dedicated exclusively to the single most critical goal (the "1").
- **The Execution:** We identified that the "1" was the procurement backlog. Senior administrators and procurement teams instituted a "protected time" block each morning. During this window, no routine administrative clutter was allowed—only the unblocking of tenders, the signing of estimates, and the fast-tracking of approvals.
- **The Outcome:** This focused burst of energy broke the deadlock. By January 2025, the MSD achieved a historical milestone: we released *all* SPC orders for the procurement year 2026. This was done exactly in accordance with the Manual of Management of Drugs timelines—a feat of planning that had been impossible just two years prior. It proved that even a brittle system could be jump-started with disciplined focus.

2. Addressing Complexity: SOP Harmonization and Delegation

To tackle the complexity of the stakeholder web, we moved to streamline the "rules of engagement." We developed and updated internal Standard Operating Procedures (SOPs) and, crucially, worked to harmonize them with the NMRA and SPC. This reduced the friction at the handover points between agencies. Furthermore, we enforced a clear Delegation of Duties. By explicitly defining which officer was responsible for which specific file or tender, we removed the ambiguity of accountability. This was not about policing staff, but about empowering them to own their slice of the supply chain.

3. Restoring the Human Element: Welfare as Strategy

Perhaps the most distinct deviation from traditional crisis management was our focus on the workforce [8]. We recognized that an "Anxious" system is made of anxious people. We invested in Staff Welfare Strengthening. This included reintroducing social outings, team gatherings, and structured team-building exercises. While seemingly trivial in the face of a drug shortage, these interventions were vital. They rebuilt the "psychological safety" of the team. By restoring interpersonal trust, we reduced the fear of decision-making. A team that feels supported is less likely to succumb to paralysis. This "soft power"

strategy was a key driver in the productivity surge that met the 2026 targets.

4. Moving to Radical Transparency

To solve the "Incomprehensible" data landscape, we doubled down on the digital transformation—but with a focus on usability. We moved to integrate the Swastha system more robustly, ensuring that it provided real-time visibility into stock levels, tender statuses, and distribution movements. We also revitalized the reporting mechanisms, encouraging informal "early warning" channels (e.g., direct feedback from hospital pharmacists) alongside formal reports. This allowed us to triangulate data and see through the fog.

The Way Forward: Towards Antifragility

The stabilization achieved by early 2025 is a victory, but it is fragile. To ensure the MSD does not slide back when the next crisis hits, we must institutionalize these changes. The future lies in Comprehensive Digitization and Diversification. We must transition from a "Brittle" single-supplier model to a diversified sourcing strategy, fostering local manufacturing to create supply buffers. The *Manual of Management of Drugs* must evolve from a static text to a dynamic digital platform, capable of updating guidelines instantly as the environment changes.

Conclusion

The crisis of 2023-2024 was a crucible for Sri Lanka's Medical Supplies Division. Viewed through the VUCA lens, it was a logistical nightmare; viewed through the BANI lens, it was a systemic and psychological fracture. However, the resurrection of the supply chain proves that recovery is possible. It requires leadership that is willing to apply rigid discipline (the 90/90/1 rule) to processes, while simultaneously applying empathy to the people who run them. We have moved from a state of paralysis to a state of proactive planning. The ultimate goal now is not just to survive, but to build a system that is "Antifragile"—one that gets stronger, not weaker, under pressure.

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