ADVUMAN – Curated Reading List & Index Math Foundation

PART I – Curated Reading List

Strategic Early Warning Systems (SEWS)

https://en.wikipedia.org/wiki/Strategic_early_warning_system

Conceptual foundation for weak signals, environmental scanning, and early warning logic.

An Early-Warning Risk Signals Framework to Capture Systematic Risk

https://eprints.soton.ac.uk/500379/1/An_early-warning_risk_signals_framework_to_capture_systematic_risk_in_financial_markets.pdf

Supports clustered signals and deviation-based escalation logic.

Intelligent Early Warning System for Supplier Delivery Delays (MDPI)

https://www.mdpi.com/2571-5577/8/5/124

Demonstrates dynamic thresholds and execution-level early warnings.

AI-Driven Early Warning Systems for Supply Chain Risk Detection

https://francis-press.com/uploads/papers/mLkte6wzsrCt58l02tCIemHjm2sZf7bQlu0c138M.pdf

Illustrates hierarchical risk indicators and weighted aggregation.

Supply Chain Risk Management Automation: A Literature Review

https://link.springer.com/article/10.1007/s12525-025-00844-1

Positions Advuman within SCM risk monitoring literature.

Key Risk Indicators (KRIs)

https://en.wikipedia.org/wiki/Key_risk_indicator

Industrial justification for rule-based thresholds.

Early Warning for Manufacturing Supply Chain Resilience

https://www.researchgate.net/publication/364583402_Early_Warning_for_Manufacturing_Supply_Chain_Resilience_Based_on_Improved_Grey_Prediction_Model

Composite index logic and resilience monitoring.

Multi-source Text Mining for Risk Signal Detection

https://dl.acm.org/doi/full/10.1145/3778450.3778528

Structured extraction of risk signals from text.

PART II – Index Math Foundation

Design Principle

Advuman indices detect early deviation from baseline conditions using interpretable aggregation.

Signal Representation

Signals are classified by index (RPI, LSI, CPI), severity (1–3), confidence, timestamp, and source.

Composite Index Construction

$Index(L,t) = \Sigma (w_i \times s_{i,t})$

Baseline & Deviation

Deviation = Index(L,t) – rolling mean over window T.

Cluster Logic

Escalation occurs when multiple indices deviate together.

Risk States

Stable – normal

Watch – mild deviation

Active – clustered or severe deviation

Conclusion

The framework prioritizes interpretability and decision confidence over prediction.