



SUPPLY CHAIN RISK · AUDIT · SUPPLIER INTELLIGENCE

Supplier Late. Line Down. Which Stage Created the Risk?

ShivAI Supply Chain Risk Engine — RPN-scored risks across every supply chain stage, with 1:N cause-to-stage mapping. Audit plans with findings tracked to closure. Supplier scorecards, incoming inspections, and SCARs. Management review reports built from your live data. From risk events to a closed audit register — all in one workspace.

THE SUPPLY CHAIN RISK PROBLEM

Risks Are Firefought. Never Systematically Eliminated.

<p>Same Supplier Delay — 4th Time This Quarter Everyone knows the problem. Nobody has a formal RCA. No documented cause. No mitigation plan. Same fire drill every time. Same customer escalation.</p>	<p>Risk = One Number in a Spreadsheet Someone writes 'High Risk' in a cell. No severity score. No occurrence data. No detection rating. No RPN. No way to prioritize which risks actually need action first.</p>
<p>No Idea WHERE the Risk Originates Is the risk in sourcing? Inbound logistics? Warehouse? Production? Distribution? Without mapping risks to supply chain stages, mitigation efforts hit the wrong target.</p>	<p>Audit. Suppliers. Risk Register. All Disconnected. ISO 9001, IATF 16949, customer audits all want one view — risk register, audit findings, supplier scorecards, management review. Yours lives across four spreadsheets and one inbox, last updated whenever the next audit got scheduled.</p>

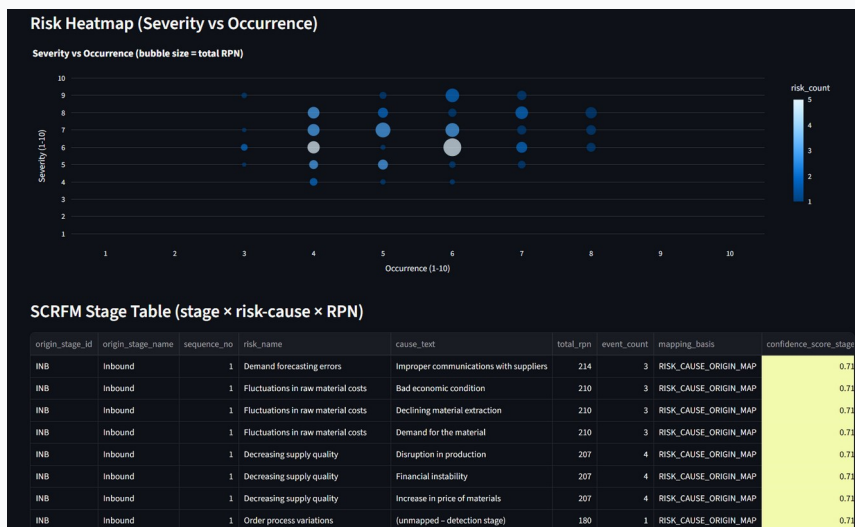
THE SOLUTION

Score. Map. Audit. Mitigate. Review.

Upload your supply chain stages, risk event log (Severity, Occurrence, Detection), and supplier master. ShivAI calculates RPN, maps each risk to its origin stage, runs Pareto by RPN, and drives structured RCA — 5-Why, Fishbone (6M), and mitigation actions with risk response strategy. 1:N cause mapping is native. Audit plans, supplier scorecards, SCARs, and management review all share the same risk register.

THE 5-STEP WORKFLOW

- Step 1: Define Your Supply Chain Flow** Upload PROCESS_STAGES: Facility ID, Stage ID, Stage Name, Sequence Number, Stage Type, Department. Map your supply chain from raw material sourcing through to customer delivery.
- Step 2: Log Risk Events** Upload RISK_EVENT_LOG: Date, Facility, Risk Name, Severity (1-10), Occurrence (1-10), Detection (1-10). System auto-calculates RPN = S x O x D. Track risk category, type, detection stage, and assessor.
- Step 3: Map Risk Causes to Origin Stages** One risk can have MULTIPLE causes at DIFFERENT stages. 'Supplier Late Delivery' might originate from: Procurement (poor contract terms), Supplier (capacity issues), AND Logistics (route congestion). Each cause mapped with confidence score (0-1). RPN is distributed across causes.
- Step 4: Risk Filter Map** Stage-first view: for each supply chain stage, which risks originate there, with allocated RPN and confidence. Severity x Occurrence heatmap shows the risk landscape at a glance. Pareto by RPN ranks which risks to tackle first.
- Step 5: Root Cause Analysis + Mitigation** Launch RCA per risk-stage combination. 5-Why, Fishbone (6M), and mitigation actions with risk response — Mitigate, Contingency, Transfer, Accept. Audit findings link directly to risks. Supplier SCARs roll into the same workflow. Every action: owner, due date, evidence, effectiveness check. The Management Review module pulls it all into one board-ready report.



Risk Filter Map — stage-first risk attribution, Severity x Occurrence heatmap, Pareto ranked by RPN



Not 'High/Medium/Low.' Actual Math.

Every risk event is scored on three dimensions (1-10 each). RPN = Severity x Occurrence x Detection. Range: 1 to 1,000. This replaces subjective 'High/Medium/Low' with a quantified priority. A risk with Severity 9, Occurrence 3, Detection 7 (RPN 189) gets very different treatment than Severity 3, Occurrence 9, Detection 7 (also RPN 189) — same number, completely different mitigation strategy.

Severity (1-10)

How bad is the impact when this risk materializes? 1 = negligible. 10 = catastrophic (line shutdown, customer loss, safety incident). Drives the 'how much damage' dimension.

Occurrence (1-10)

How often does this risk happen? 1 = once in 5 years. 10 = daily. Drives the 'how likely' dimension. High occurrence + low severity may need different response than low occurrence + high severity.

Detection (1-10)

How easy is it to detect BEFORE impact? 1 = always caught early. 10 = never detected until damage done. High detection score = your controls are weak. This is where prevention investment pays off.

defect_code	defect_name	origin_station_id	origin_confidence	detection_method	mapped_by	mapped_on	notes
D007	Auto DC noise	WS-35B	0.55	TEST_RIG	SeedData	2026-02-05	RPM + lift pin readings
D001	Cam noise	MA-10	0.75	MANUAL	SeedData	2026-02-05	Manual cam matching + backlash adjustment
D009	Double gear noise	MA-09	0.55	VISUAL	SeedData	2026-02-05	Double gear adjustment / teeth damage
D006	FD sprocket run out	WS-15	0.7	GAUGE	SeedData	2026-02-05	Sprocket fitment + torque
D003	Gear not engage	MA-01	0.65	MANUAL	SeedData	2026-02-05	Gear train placement / teeth issues
D004	Misfiring	MA-23	0.6	VISUAL	SeedData	2026-02-05	Carburetor / wiring / spark plug checks
D008	Oil not flow	WS-14	0.7	VISUAL	SeedData	2026-02-05	Oil pump O-ring/gasket/air lock
D005	Starting trouble	MA-13	0.7	SENSOR	SeedData	2026-02-05	Rotor key missing / electrical
D002	Tappet noise	WS-17	0.6	VISUAL	SeedData	2026-02-05	Hydraulic tappet oil filling / fitment

Risk-Cause-Origin Map — followed by 5-Why drill-down, Fishbone with 6M categories, mitigation actions with risk response strategy

AUDITS · SUPPLIER QUALITY · MGMT REVIEW

Audit Plans. Supplier Scorecards. Board-Ready Reviews.

Audit Management

Plan audits across the year — internal, supplier, customer, regulator. Log findings against ISO 9001 / IATF 16949 clauses. Link findings to risks and to CAPA actions. Track every finding to closure with evidence and sign-off. The audit calendar your QMS auditor expects to see, with the trail to back it up.

Supplier Quality + Mgmt Review

Supplier master, incoming inspection log, SCAR (Supplier Corrective Action Request) workflow. Live scorecards with OTIF, PPM, on-time delivery, and SCAR closure rate. The Management Review module pulls risks, audits, supplier performance, and CAPA status into one board-ready Excel — generated on demand. Plus the full RCA toolkit (5-Why + Fishbone 6M) and four response strategies — Mitigate, Contingency, Transfer, Accept.

1:N CAUSE MAPPING — ONE RISK, MANY CAUSES, DIFFERENT STAGES

Unlike defect mapping (1 defect → 1 station), supply chain risks often have multiple root causes across different stages. 'Customer order delayed' might originate from procurement (late PO release), supplier (capacity constraint), warehouse (picking error), AND logistics (truck breakdown). The Supply Chain Risk Engine maps all causes, distributes RPN proportionally, and tracks a separate RCA and mitigation thread for each cause-stage combination.

EXCEL INPUT

PROCESS_STAGES · SUPPLIERS

Stages: facility, stage ID/name, sequence, type, department. Suppliers: code, name, category, location, rating. Your full network from sourcing to delivery.

RISK_EVENT_LOG

Date, Facility, Risk Name, Severity (1-10), Occurrence (1-10), Detection (1-10). RPN auto-calculated.

RISK_CAUSE_ORIGIN_MAP

Risk to Cause to Origin Stage mapping. 1:N supported. Confidence scores. Build progressively.

THE BUSINESS CASE

60% Fewer repeat risk events	RPN Quantified risk priority	1:N Multi-cause risk mapping	100% Audit-ready risk register
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WHO IT'S FOR

Supply Chain Heads Map risks across the full chain. Prioritize by RPN. Track mitigation.	Operations Managers Stage-level risk ownership. Know which stage creates which risks.	Quality/Compliance ISO 9001 / IATF 16949 risk register, audit plan with findings, management review — all in one workspace.	Procurement Teams Supplier scorecards, incoming inspections, SCARs. Delivery reliability. Contract leverage with data.
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Stop Firefighting Risks. Start Eliminating Root Causes.

Start your 30-day Pilot (₹4,999) | contact@shivaiscsolutions.com | www.shivaiscsolutions.com