**Introduction:**

The big boss in charge of keeping things running smoothly at Medi Crystals, the Vice President of Operations, called on our team for a special task. They want us to take a deep dive into the risks associated with their suppliers. Why? Because a strong supply chain is like the backbone of any business, and Medi Crystals wants theirs to be as healthy as possible. By understanding the potential problems suppliers might face, the Procurement and Sourcing team can figure out where to focus their attention first. This will help them make sure Medi Crystals always has the things they need when they need them.

**Beyond the Money and the Rules:** **A Wider Look at Supplier Risks**

Medi Crystals faces numerous challenges in managing its suppliers, including operational disruptions, employee unrest, production issues, supply chain disruptions, cybersecurity threats, and strategic challenges. These include disruptions due to natural disasters, transportation disruptions, and cybersecurity threats. Strategic challenges include relying too heavily on a single supplier for critical materials, fluctuating raw material prices, and government regulations. Changes in these regulations can impact suppliers, forcing them to adapt or face penalties. Protecting the brand involves addressing environmental issues, quality concerns, and labor violations, which can lead to recalls, customer dissatisfaction, and damage to the brand image. By considering these risks, Medi Crystals' Procurement and Sourcing team can make informed decisions about managing suppliers and safeguarding the company's supply chain.

**Assessing Supplier Risk: A Scoring System for Peace of Mind**

We propose a scoring system to identify and prioritize potential problems with suppliers. The system consists of three steps: Risk Factor Weighting, Supplier Scoring, and Overall Risk Score. The Risk Factor Weighting method can be used by Medi Crystals' Procurement and Sourcing team to assess potential risks in suppliers. It assigns importance to each risk factor based on its potential impact on the business, indicating how much each factor counts towards a supplier's overall risk score. The score is calculated by summing up individual risk factor scores, with more weight given to more critical factors. High scores indicate potential disruptions to the supply chain, and suppliers with high scores may require more risk mitigation strategies. This scoring system enables data-driven decisions about supplier management, ensuring a secure and resilient supply chain.

**Red Flags: Identifying High-Risk Suppliers**

Medi Crystals is facing potential risks from suppliers due to financial fragility, a history of disruptions, reliance on a single source for critical materials, and environmental entanglements. Financial fragility can lead to issues like declining cash flow, credit rating downgrades, and high debt burdens, limiting Medi Crystals' ability to invest in equipment upgrades and maintain quality control. A history of disruptions, such as labor unrest or production stoppages, can delay deliveries and impact customer demands. Overdependence on a single supplier for critical materials can lead to delays or production shutdowns. Environmental entanglements can also disrupt production and damage Medi Crystals' reputation for environmental responsibility.

**Risk Domains and Scoring Methodology**

1. **Operational Risk**

S-OTD (Supplier On-Time Delivery): Lower percentages suggest higher risk.

* 90% and above: Low Risk (Score 1)
* 75% to 89%: Medium Risk (Score 2)
* Below 75%: High Risk (Score 3)

Single Source: Sole sourcing increases risk.

* Yes: High Risk (Score 3)
* No: Low Risk (Score 1)

**2. Financial Risk:** Credit Rating: Higher ratings are better.

* 5: Low Risk (Score 1)
* More than 3 and less than 5: Medium Risk (Score 2)
* Less than 3: High Risk (Score 3)

**3. Regulatory Risk:**

Labor Unrests:

* Yes: High Risk (Score 3)
* No: Low Risk (Score 1)

Environmental Incidents:

* Yes: High Risk (Score 3)
* No: Low Risk (Score 1)

**4. Geopolitical Risk:**

Risk levels cover political, security, operational, regulatory, cyber plus digital, and integrity risks, including a range of ESG-related risks. Each country is assigned a single rating based on a combination of these risks (Data base on ControlRisk.com).

* Stable (U.S., Germany, Brazil, India, China, Saudi Arabia, Italy): Low Risk (Score 1)
* Moderately Stable (Philippines): Medium Risk (Score 2)

5. **Quality and Product Risk:**

IP Protection:

* Yes: Low Risk (Score 1)
* No: High Risk (Score 3)

Data Security: 9 and above: Low Risk (Score 1)7 to 8: Medium Risk (Score 2) Below 7: High Risk A table with numbers and symbols

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**Taking Action: Recommendations for a Secure Supply Chain**

We developed a scoring system to assess supplier vulnerability, aiming to build a more secure and resilient supply chain. The system involves developing a "scoring matrix" that serves as a risk assessment checklist, outlining each risk factor and its corresponding weight. The matrix will define clear scoring scales for each risk factor, allowing for objective evaluation of a supplier's vulnerability based on available data. Once finalized, the scoring matrix can be applied to all critical suppliers, providing a standardized and data-driven assessment of their overall risk profile.

Medi Crystal’s addressing supplier issues, focusing on three key areas: operational risk, S-OTD, and single sourcing. Real Glass and Best O gals face operational risk, which requires agility and foresight. Dual sourcing and multivendor sourcing strategies can protect companies from major losses due to single supplier failure. Improving S-OTD requires leaner supply chain practices, accurate demand forecasting, and a lack of partisan pressure on suppliers.  
  
For Real Glass and Best O gals, financial risk is significant, especially in terms of financial scoring. To reduce financial risk, they can pay invoices and debts on time, review credit repayment history, and share data with a credit reference agency.  
  
For Plaxian and Real Glass, regulatory risks include labor unrest and environmental incidents. To reduce regulatory risks, regular psychological consultations and factory inspections can be implemented. A proactive strategy can minimize disturbances and improve operations efficiency.  
  
Quality and product risk are apex concerns for Real Glass and Best Ogals, especially due to data security or IP protection. Strict security requirements for supplier contracts, regular inspections, and verification of industry-standard certifications are essential to protect clients and assets.

**Conclusion:**

Medi Crystals can maintain its strength and prevent supplier-related complications by following strategies and maintaining vigilance. Reduced operational, financial, regulatory, geopolitical, and quality risks help the company remain adaptable and prepared for unforeseen circumstances.