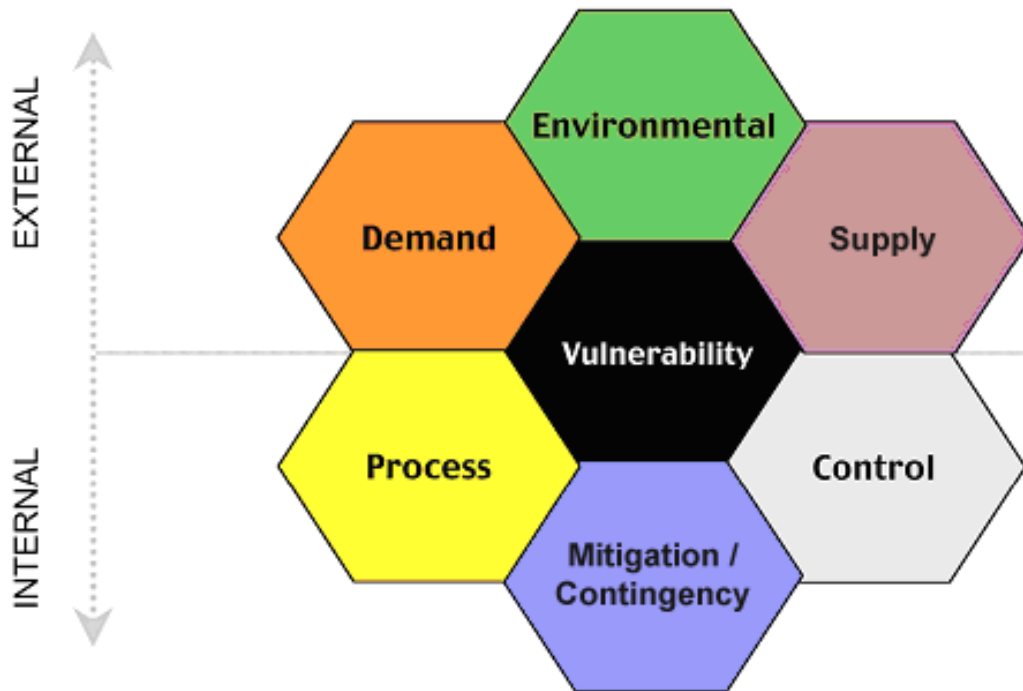


Supply Chain Risk Management

Modern supply-chains are very complex, with many parallel physical and information flows occurring in order to ensure that products are delivered in the right quantities, to the right place in a cost-effective manner. The drive towards more efficient supply networks during recent years has resulted in these networks becoming more vulnerable to disruption. In particular, there often tends to be very little inventory in the system to 'buffer' interruptions in supply and, therefore, any disruptions can have a rapid impact across the supply networks.

Sources of Risks



Supply chain risk is about any threat of interruption to the workings of the supply chain. Risk may be generated as a result of risk 'drivers' that are either internal or external to the company

External Drivers

Demand risk

Demand risk relates to potential or actual disturbances to flow of product, information, and cash, emanating from within the network, between the focal company and the market. This demand risk can be a failure on either the high or low side to accurately accommodate the level of demand.

Supply risk



Related Links

www.martin-christopher.info

www.corerisk.com

www.som.cranfield.ac.uk

www.emeraldinsight.com

About DecisionCraft Analytics

We provide decision-making solutions to improve operational efficiency and business responsiveness. Our consulting services employ our strengths in industry knowledge, conceptual rigor, and information technologies. Developed using concepts from decision theory; our solutions use robust optimization, simulation, and statistical engines adapted to our client's focus areas.

DecisionCraft Services

Business Diagnostics

We analyze business processes and transactional data to identify

Supply risk is the upstream equivalent of demand risk, it relates to potential or actual disturbances to the flow of product or information emanating within the network, upstream of the focal company. Therefore, it is risk associated with a company's suppliers, or supplier's suppliers being unable to deliver the materials the company needs to effectively meet its production requirements/demand forecasts.

Environmental

Environmental risk is the risk associated with external and, from the company's perspective, uncontrollable events. Examples would include port and depot blockades, closure of an entire industrial area due to fire or chemical spillage, events such as earthquake, cyclone, volcanic or terrorist activity.

Internal Drivers

Process risk

Processes are the sequences of value-adding and managerial activities undertaken by the company. Process risk relates to disruptions to these processes.

Control risk

Controls are the assumptions, rules, systems and procedures that govern how an organization exerts control over the processes. In terms of the supply chain they may be order quantities, batch sizes, safety stock policies etc. Control risk is therefore the risk arising from the application or misapplication of these rules.

Mitigation and contingency

Mitigation is a hedge against risk built into the operations themselves and, therefore, the lack of mitigating tactics is a risk in itself.

Contingency is the existence of a prepared plan and the identification of resources that can be mobilised in the event of a risk being identified.

The classic mitigations in supply chain management are:

- Inventory
- Capacity
- Dual sourcing
- Distribution and logistics alternatives
- Back up arrangements

Risk Management Framework

Map Supply Network

Build a structure of various participants in supply chain. Identify relationships, key measures and ownership.

Identify Risk

Evaluate whether significant risk exists within the network, and whether existing risk management practices are identifying and managing it. This involves building a Cross functional team of subject matter experts. The team brainstorms and defines Enterprise risk related to Financial, Strategic, Hazard and operational areas. Out of the various risks identified Filter down risks that are relevant to manufacturing and supply chain operations

Assess Risk

Build a Risk map based upon probability of occurrence and loss severity (Subjective assessment). Build a list of Top 10 risks

underlying patterns, unravel hidden relationships and recommend areas for improvement that can improve ROI and reduce costs.

Predictive Analytics

We use historical data intelligently to develop a view of future market trends and help our clients focus on the right audiences thereby developing their competitive edge.

Forecasting

We use advanced time-series and regression techniques for forecasting behavior of critical business variables that allows our clients to plan for their resources intelligently.

Manage Risk

Build an integrated supply chain process map. For each repeatable risk, build a Impact map indicating where risk is causing primary disruption. Build models to estimate probability of risk and number of events expected. Build models to assess monetary loss at impact points. Prioritize high impact points. Develop various scenarios

Implement Actions

Build risk mitigation plan for repeatable risks at the high impact points. Set up early warning signals. Prepare contingency plan for non repeatable risk. Put a Regular Risk review mechanism in place. Have some Risk awareness campaign

Conclusion

While supply chain risk tends to paralyse most supply chains, the case is not hopeless. Successful companies are the ones that break the risk spiral and restore supply chain confidence throughout the chain. The benefits are much more than cost reduction, but also, the reduction of chaos leads to increase in sales and market share, penetration to new markets, and speedy new product introduction.

Next Issue: [Credit Risk Analytics](#)
Previous Issue: [RFID - Good or Bad](#)
