The E15 volcanic ash disruption in the Swiss Alpines, the earthquake followed by a tsunami in Japan and the political crisis of Libya has put severe stress on the supply chains of industries around the world. Companies across the world have lost billions of dollars as a result of these events and the Japanese auto industry in itself has taken over a 1 billion dollar cut in profits. This has sparked a debate on the resilience of the current models and questions are being posed on the sustenance of revolutionary models like the ‘Just in Time’ (JIT) concept.

The ‘Just in Time’ model was conceptualised in the 1970’s by Toyota in Japan and became a runaway hit in the early 1990’s. This success was primarily due to the tremendous ability of Japanese auto manufacturers to withstand the changes in the external environment and continue to remain highly profitable. JIT is a philosophy which aims at reducing waste by providing exactly what the customer wants, when they want it and in the exact amount. This practise greatly improved operational efficiency by bringing down the overall levels of inventory, thus freeing up locked capital and reducing the requisite working capital. General Motors is believed to have saved hundreds of millions of dollars by implementing JIT and claims to have only 4 hours’ worth of seats on hand for its entire production. With the advent of global sourcing, the JIT model was kept alive through the efficient use of communication technology, concepts like Vendor Managed Inventory, Collaborative Forecasting and Replenishment, and efficient global supply chains. Companies invested a great amount of time, money and effort in keeping minimal inventories as per the JIT model, implementing systems like Kanban, Heijunka, Single Minute Exchange of Dies etc. and in the process reaping good rewards.

Recent natural disasters and political uncertainty have again raised the critics’ voice against the JIT model and are vociferously advocating a ‘Just in Case’ model which focuses on building inventories to prevent stock outs. The two clear take home points that emerge from understanding the recent events are:
A well-functioning JIT system operates with fewer inventories, which results in significant cost savings. In their quest for savings, some firms have streamlined their sources to the extent of having a single supplier per component, even critical ones. Also, these suppliers get concentrated in a particular geographical area due to cost, technology or other advantages. Further, consolidations of many such supplier firms have resulted in certain areas being the majority globally suppliers of some components. For example, Japan produces 40% of the world’s electronic components which are critical to industries like Automobiles, Consumer Durables etc. A single crisis in the Japanese economy would essentially rattle the foundations of organisations dependant on them. This makes the firms highly susceptible and displays poor risk management. Firms should have an effective Business Continuity Plan, which should design for substitute suppliers to mitigate such risk, in the face of emergencies.

Companies have to develop flexibility in their product strategy in order to mitigate supply chain risks. Introduction of modularity and stress on standardisation of parts would result in quicker replacement, in case there is a shortage in one supply source. Incorporation of these concepts more rigorously in the New Product Development cycle and Value Engineering initiatives would help prevent complete shutdown of production units and heavy losses as experienced in recent times.

In conclusion, though the world raced towards better management of inventories and hence locked up capital, there were blind spots in terms of managing the supply chain risks and developing resilience. Companies can incorporate these aspects into the existing ‘Just in Time’ model through flexible product development and standardisation which would help them be better prepared to tackle unexpected changes in the external environment rather than jousting when it is too late.

References


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