

Supply chain - A strategic lever in an economic downturn

A quarter into 2009 and businesses are seeing few signs of easing out of the economic slowdown, volatility and demand uncertainty. Using the supply chain as a strategic lever can enable companies to tide over the situation and can enhance their margins say Harsha Kapoor, Practice Head – Analytics Solutions, Milind Desai and Kumar Abhinav from Tata Strategic Management Group.

The overall economic slowdown has impacted top line and bottom line of most of the Indian companies. While top line has been impacted due to uncertain demand, bottom line has been impacted due to increasing inventories and under-utilization of assets. Mis-matches in supply and demand conditions have led to bottlenecks in order fulfilment. The meltdown has impacted all areas of supply chain management from procurement to inventory to distribution.

Reaction from India Inc:

Indian Companies faced with the current problems of supply chain management are deploying various levers to mitigate the slowdown.

One of the levers often used is **inventory reduction**. Recently, a major book-music-gifts retailer has resorted to inventory reduction to ensure better cash utilization. Also, in the automobile sector, a major Indian player is reducing dealer-level inventories to negotiate falling demand conditions. Though such overall reduction of inventory levels may be beneficial in short term, but this may result in stock outs and potential opportunity loss.

Offering **price cuts**, freebies and discounts is another lever used by companies to create demand. However, a caveat while adopting this policy is that this can be easily replicable by competition eliminating any potential benefit. Price-cuts and discounts may also lead to erosion of profit margins. As rightly pointed out in this context by Rahul Bajaj, chairman of two-wheeler major Bajaj Auto, *"If price reduction increases your sales then obviously you will not reduce your production. But if everybody in our industry reduces the price then how does the market share improve?"*

Reducing number of warehouses and **closing distribution centers** is one of the options that companies are exercising to reduce operational costs. However this has certain limitations. In case of a surge in demand, companies might face difficulties in keeping pace during an upturn.

Lastly, many companies are reassessing demand conditions by resorting to forecasting and planning techniques. However given the uncertain demand conditions, a typical forecasting solution may have limited ability in assessing the demand signals accurately.

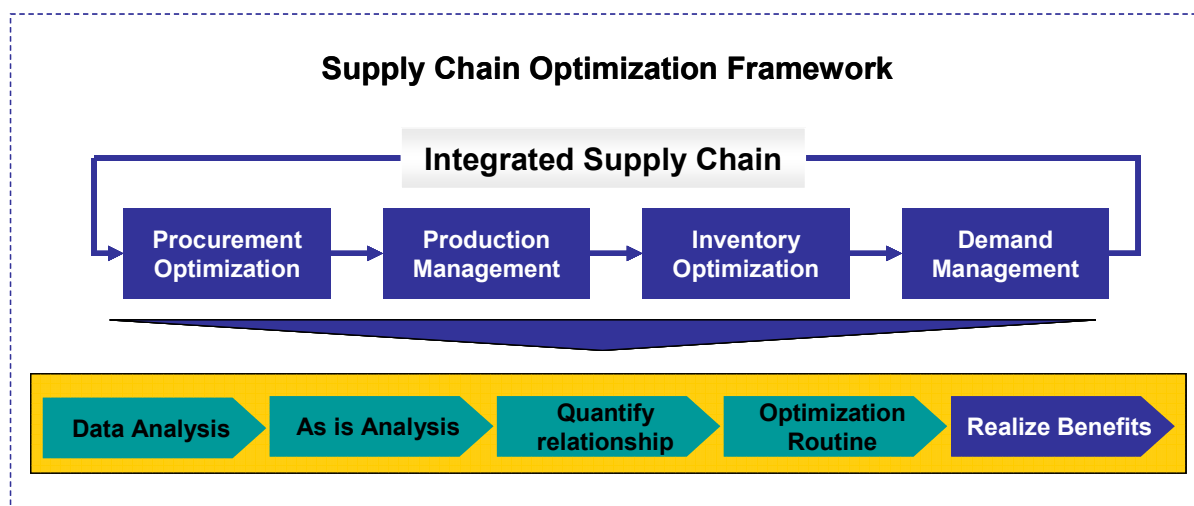
More opportunities exist:

While the above levers are easier to deploy and are yielding some results, there still lies opportunity to further optimize the supply chain by using advanced simulation and optimization techniques. A few leading Indian companies have already started deploying such advanced techniques in their supply chain operations. This has enabled faster decision making, increased responsiveness to changing market conditions and effectively navigating through the current tumultuous time.

time production scenarios were evaluated to improve responsiveness of the procurement function.

Production management

Order fulfillment and customer relationship management forms an integral part of supply chain. Scheduling production, synchronizing maintenance and responsive marketing decisions can lead to effective order fulfillment. A large aluminium extrusion company recently used this technique to improve its order



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Procurement optimization

Obtaining the right input at the right time in the right quantity at the right price is a major challenge in supply chain management. Faced with this problem, a large cement company effectively used advanced analytics to develop an optimal sourcing strategy. A decision support system (DSS) was developed by the company to evaluate chemical properties of coal vis-à-vis various available inputs. The solution also enabled the company to identify target price for competitive bidding and auctions. Using the DSS, optimal level of procurement and timing of purchases were identified. Dynamic and real-

fulfillment and customer satisfaction levels. Sensitivity analysis was conducted to provide multiple production scenarios and improve product conversion times. The company created an Excel based model with embedded algorithms to provide customers with better quotes in terms of price and time to delivery, thereby improving its capacity utilization rate and overall margins.

Inventory optimization

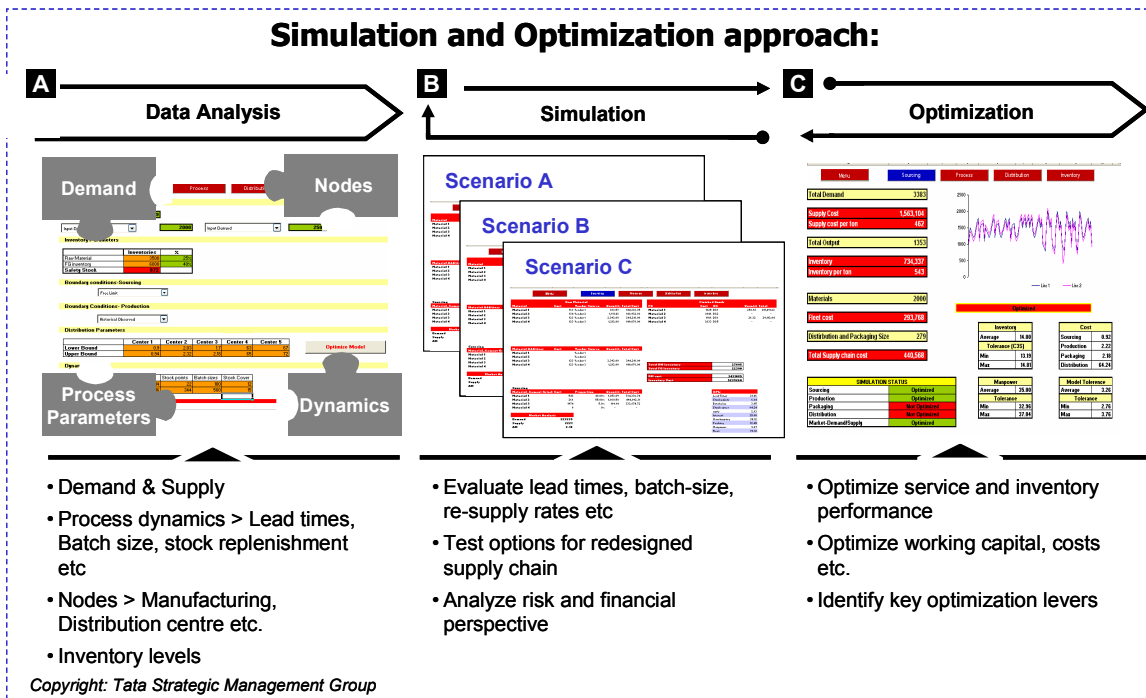
Recently, a large personal accessories company was faced with a problem of identifying optimal levels SKU stocks. The problem was complicated

due to a large number of warehouses, distribution centers and multiple channels. Using advanced analytics, the company developed a multi-stage inventory optimization model to identify optimal inventory levels within the organization's supply chain network. The model enabled the company to analyze a large number of variables, constraints and "what-if" scenarios. Not only the company was able to optimize the inventory levels they were further able to improve on-time deliveries and maintain desired customer service levels.

data. The impact of each of these drivers was quantified to estimate responsiveness of changing customer demand. With adequate understanding of market conditions, the company was able to manage and adapt to uncertain demand conditions.

Conclusion

Moving a step beyond traditional practices, companies need to develop responsive and agile supply chain management functions to navigate



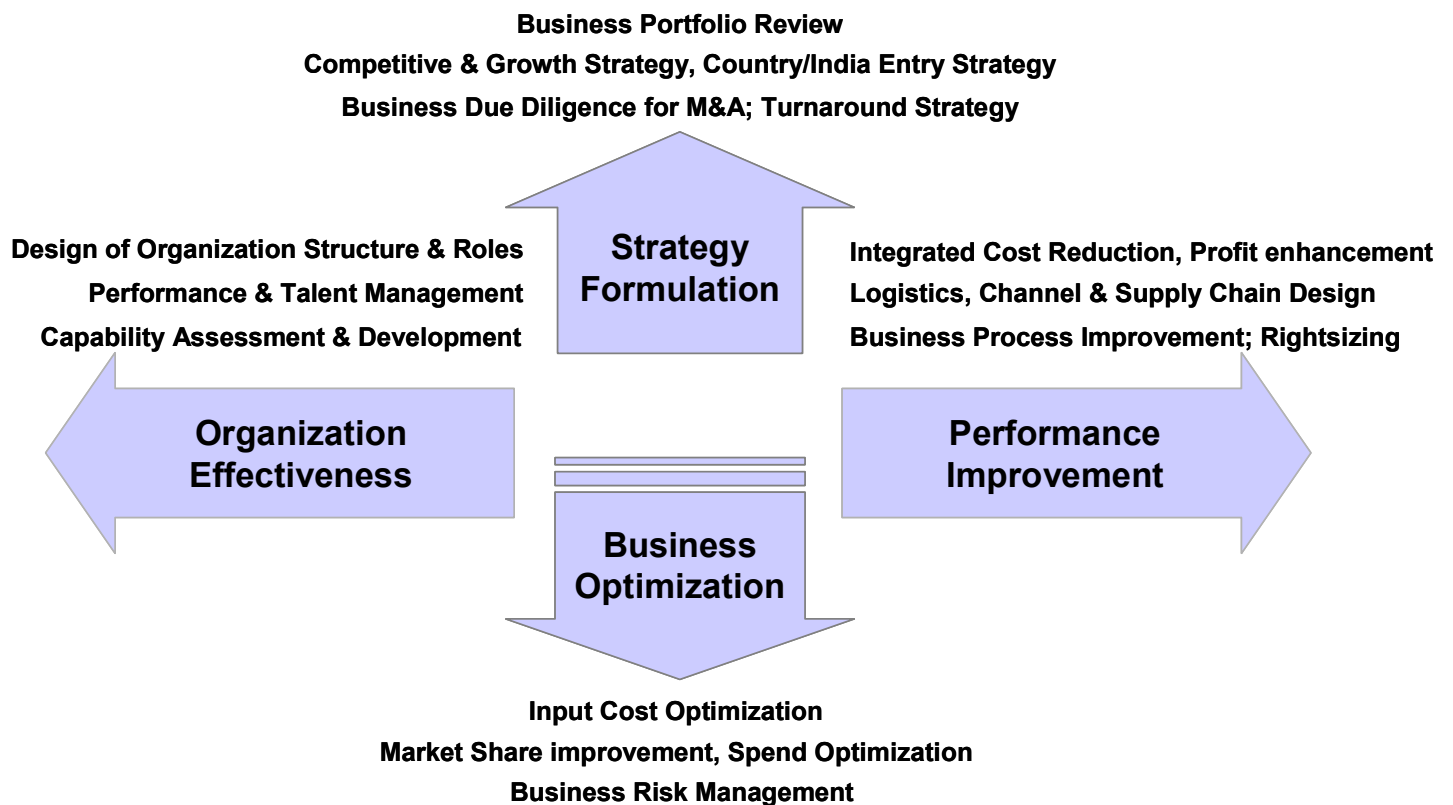
Demand management

Demand management and rising inventories have been a serious problem with consumer durables sector. A large Indian consumer durable major effectively used its dealer database to develop insights using advanced segmentation and regression techniques. The company also administered primary surveys to gather further information on factors influencing the demand for its product. Drivers of demand were identified using the insights and primary

through the current volatile situation. Using a structured approach through optimization, companies can develop such responsive supply chains that would enable them to not only reap benefits in the current crisis but will also make them ready for the future economic upturn.

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