

What is the right supply chain for your product?

[Business](#)



The main problems in supply chain of many industries are the excess of some products and the shortage of others because of unpredictable demands for these products. In this paper, a framework that helps manager to understand the nature of demand for their product and manage their supply chain in line with their product requirements is suggested. The products are classified into two groups according to their demand patterns: Primarily functional products and primarily innovative products. Functional products are defined as the products that satisfy basic needs. The demand for that type of products is stable and predictable.

They have a long life cycle. The competition in the market is fierce due to this stability in demand that results in low profit margins. On the other hand, innovative products are the ones that have clearly unpredictable demands. They may have very short life cycle because of the imitators. But luckily their profit margin is higher compared to the functional products. The supply chain management for the innovative products should clearly be different from the functional products. The managers should determine their product type and follow a supply strategy has a perfect match with their product type.

Otherwise, some problems arise from the mismatch between the type of product and the type of supply chain. The author classifies the functions of supply chain into two groups: physical function and market media function. Physical functions include converting raw material into parts, components and finished good, and also transporting the product. The cost in physical function of supply chain arises from the production, transportation and inventory storage. The market media function, on the other hand, is mostly

related to ensuring that variety of products reaching the market place matches what customer want to buy.

The cost in market media function arises when supply exceeds demand or supply falls shortage. Since the demand for the innovative products is uncertain, the market domination cost for innovative products are dominant. According to their type of product, managers should follow a supply chain strategy that is physically efficient or market responsive. The best matches between supply chain strategy and the product type are efficient supply chain for the functional products and responsive supply chain for the innovative products. In efficient supply for functional products, there are two models introduced: comparative and cooperative models.

In the competitive model of supply chain relations, the retailer and the manufacturer compete through price negotiations for a bigger profit pie. In cooperative model, the retailer and the manufacturer corporate to cut cost throughout the chain therefore the size of the pie is increased for both of them. One alternative can be using competitive and the cooperative models at the same time. But, in this situation the information sharing between the retailer and the manufacturer seems problematic. In responsive supply for innovative products, the first thing to do is to reduce the uncertainty.

There are three coordinated strategies are suggested in order to reduce, avoid and hedge uncertainty. The first one is to find sources of new data that can serve as leading indicators and also to have different product share common components as much as possible so that the demand for components becomes more predictable. The second one is to avoid

uncertainty by cutting lead times and increasing the supply chain's flexibility. Lastly, once uncertainty is reduced, it can hedge against the remaining residual uncertainty with buffers of inventory or excess capacity.