Choosing the Best Supply Chain for your Products

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In the Late 1990's, Dr. Marshall Fisher, of the Wharton School of Business, revolutionized supply chain management by observing that companies were not choosing the supply chain that matched the nature of their products. He presented a rather stark difference between product and supply chain types. On one end of the spectrum are functional, commoditized products such as grocery food products (he used canned soup as his example). On the other end are innovative, quick life-cycle products such as computers and fashion.

He realized that functional, commoditized supply chains were being used in all industries, even for innovative products. He suggested that companies must choose a supply chain that matches their products and not try to adapt their functional supply chains to their innovative products.

Of course chances are your products are not necessarily on the extremes of purely functional commodities or technology/fashion products that have lifespans of a few months. However, there is a lot to learn from Dr. Fisher if we consider where your products are on the functional/innovative continuum.

Functional Products / Low Cost Supply Chains

Low cost supply chains focus on high volume and achieving a balance of service, price and quality. The primary concern of this supply chain is to reduce the Bullwhip Effect (See January 2013 enewsletter or White Paper on the Bullwhip Effect in Supply Chains) trying to maintain even order-patterns and minimizing excess capacity or the need for overtime labor. Order quantities tend to be large in low cost supply chains, to take advantage of economies of scale.

Functional products have minimal week-to-week variation and long life cycles. While there may be innovation, it tends to be in product line extensions. The market usually does not allow functional products to have high profit margins, because there are few differentiators, beyond brand equity. Functional products, therefore, favor either brand leaders (such as Campbells in soup) or high volume unbranded producers. Economies of scale and low costs are critical to earning an acceptable profit margin.

Innovative Products / Flexible Supply Chains

Flexible supply chains focus on availability. Supply chain researchers and professionals are continually working to optimize inventory to ensure the supply chain can react to customer demand, without over-stocking. Flexible supply chains use strategies such as Lean Operations and Agility. In addition, members of flexible supply chains must learn to adapt to market signals, changing products and processes to meet the needs of innovative customers.

Dr. Fisher said that supply chains for innovative products are mediated by the marketplace. This was a nice way of saying that if you don't make the optimal decisions on designing your supply chain, then you will pay by earning lower profit. Not having enough available product means lost sales. Having too much inventory will cause inventory write-downs of unsold items.

Perhaps the greatest supply chain designer is Tim Cook, CEO of Apple. His first job of Apple was the head of operations/supply chain. He designed a supply chain, and chose supply chain partners, who could react to unknown demand of previously unavailable technologies. I could go on and on, but suffice to say that Tim Cook's team thought through every supply chain decision to optimize sales and profit.

What Happens When You Choose Wrong?

Choosing the wrong supply chain will mean that the market will mediate your profits down. You may have low costs, but that doesn't matter if you don't have products available for sale, or have an excess of inventory.

Designing Your Supply Chain

Because most companies are not on either extreme of the functional/innovative continuum, you need to determine what level of low-cost and flexibility you need to optimize your profit. This means designing your operations and choosing your supply chain partners based on price, economies of scale, flexibility, lean-ness, redundancy and adaptability. Remember, if you don't optimize your profit, the marketplace will mediate them in the wrong direction.