Introduction on what is postponement

Over the past 10 years, there has been a growing consciousness in industry towards the importance of effective Supply Chain Management (SCM). The term supply chain has become a standard part of the business vocabulary. There are as many definitions for the term as articles or books on the topic, but the general idea is integration. Excellent performance can be achieved by taking an integrated view of all the activities required to convert raw materials into finished goods. To archive that kind of performance, companies are now focusing on the logistics activities. Logistics activities have gained increasing strategic importance for most companies. Fixed costs of production have increased, consumer demands have become more complex and are harder to predict, both in time and place (Hoek, 1998a). Technology is rapidly changing and product life cycles have shortened while product range has increased (Gattorna and Walters 1996).

Companies are now faced with the challenge of producing an increasingly large variety of products in a responsive manner while keeping materials and inventory to a minimum. Inventories are required to buffer the uncertainties and inefficiencies. Therefore, inventory has become a crucial part of supply chain management. The manufacturing world is facing the challenge of delivering what the customers want, when they want, while meeting the financial need to keep inventory levels down. In order to stay survive in the market, business strategies must be consider and fully implement. The most effectiveness strategy in today era will be using postponement strategy.

Why choose Postponement

Postponement refer to the extent that parts of manufacturing and logistics operations can be delayed until customer commitments are known and the

uncertainty associated with operations can be reduced or eliminated' (Pagh and Cooper, 1998). Postponement is essentially a type of network configuration that aims to reduce risk by making Trade-offs between flexibility and costs. On one hand postponement has the potential to increase a companies' flexibility to respond to changes in demand from different markets, improve responsiveness to orders and reduce investment in inventory (Lee et al, 1993). At the same time, the strategy can make a product more expensive to produce since economies of scale may be sacrificed for a more fragmented system of production (Waller et al, 2000). Transport costs can also rise since products may be shipped on demand and in smaller quantities.

Postponement is also known as delayed differentiation, is an " adaptive supply chain strategy that enables companies to dramatically reduce inventory while improving customer service" (Muzumdar et al., 2003). The concept is to delay the point of commitment of work-in-process inventory into a final product and, thereby, gain control of efficient asset utilization in a uncertain environment.

Nowadays, consumers are demanding higher levels of customization, yet are not willing to pay extra or wait longer. Product modification is a common challenge for firms for providing customized products. Postponement can be used to cope with this challenge as component commonality is one of the most popular supply chain strategies to tackle the challenges such as difficulties in estimating demand, controlling inventory, and providing high service levels for customers. Postponement can be achieved by postponing the configuration of generic components into a wide variety of end products.

In postponement a product is processed till it remains generic and the customization is delayed until demand is realized. A generic product offers more flexibility when demand is uncertain since it can be transformed into any final product. Instead of keeping high finished goods inventory or suffer stock outs which can result in lost sales or interrupt plant production schedules, the customization of the product can be delayed until customer orders arrive.

Postponement concept of delaying the point of product differentiation has been found to be an effective strategy in product variety. Postponement delays product differentiation at a point closer to the customer. This involves designing and developing generic products that can be customized once the actual demand is known. It also involves the implementation of precise inventory approach to position inventory farther away from the customer while satisfying the service levels and reducing the inventory costs. Postponement lessens the forecasting horizon and thereby solves the uncertainty of end product demand (Whang and Lee, 1998). Also better inventory performance can be achieved by redesigning a product or its supply chain.

How to Implemented Postponement Strategy

Implementing a postponement strategy involves fundamental changes to a company’s manufacturing processes and internal operations. Configure-to-order production demands a high degree of collaboration and visibility across the supply chain. Traditional manufacturing practices – mass-producing finished products in predetermined, set quantities – are about as straightforward as it gets. In sharp contrast, stopping production at a generic

product state, and offering a range of different configurations and options, requires a flexible, just-in-time production model. If poorly implemented across the supply chain, mass customization can result in cost overruns and longer lead times. Outsourcing adds another layer of complexity. As more of the value chain moves outside of the organization, the company is increasingly reliant on outside suppliers and contract manufacturers. While outsourcing partnerships enable Original Equipment Manufacturers (OEMs) to improve their financial performance and focus on their core competencies, there is a downside in terms of inventory. Incorrect decisions increase procurement costs, and if product doesn’t move, the costs are unrecoverable. Therefore, postponement strategies must manage variability in supply, as well as demand, and recognize that cost and risk characteristics will change over time.

Postponement Strategies will require a high product variety, modular and standardized product design, flexible manufacturing system, real time information and communication, fast response logistics, strategic supplier relationship in order to be correctly implemented. A postponement strategy also is dictated by the product lifecycle: not having right inventory early in the lifecycle will mean missing customer service level targets and the opportunity to gain market share. Products at the end of life cycle lose value quickly and risk obsolescence, resulting in costly write-offs. Moreover, if old products are held in a generic state, their components and parts can be “ recycled” for next-generation products.

Logistics Postponement

The concept of postponement has a long history of practical applications, as well as academic literature. Practical application of the concept can be traced back to the 1920s. The first detailed empirical descriptions appeared in the 1960s. In the literature, the concept was originally proposed by Alderson (1950) and later expanded by Bucklin (1965). The logic behind postponement is that risk and uncertainty costs are tied to the differentiation (form, place and time) of goods that occurs during manufacturing and logistical operations. To the extent that parts of the manufacturing and logistical operations can be postponed until final customer commitments have been obtained, the risk and uncertainty of those operations can be reduced or fully eliminated. So we can define postponement as a strategy to delay changes in form, identity and place to the latest possible point of manufacturing and distribution sites (Zinn and Bowersox, 1988; Paché, 1994). Postponement was first implemented in manufacturing processes to reduce costs of inventory and improve service level inside the company while the product variety increases. The variety growth is due to motivations of supplier (Lancaster, 1999) and to motivations of consumers.

The general concept of logistic postponement is to maintain a full-line of anticipatory inventory at one or a few strategic locations. This means to postpone changes in inventory location downstream in the supply chain to the latest possible point. Finally the concept was applied to distribution processes, using the risk pooling concept by stocking differentiated products at the strategically central warehouses that balance between inventory cost and response time (Bowersox and Closs, 1996). This strategy requires

cooperation between the two major actors of supply chain: distributors and retailers (van Hoek et al., 1999). In this strategy, manufacturing is based on speculation, and logistics is based on postponement. This is carried out by direct distribution of fully finalized products from a centralized inventory to final retailers/customers. All manufacturing operations are inventory initiated, and performed prior to the logistical operations. The logistical operations are purely customer order initiated.

The major features of logistic postponement are increased on-time deliveries of complete orders, shorter and more reliable lead-times, reduced inventory costs, faster introduction of new products in the assortment, the anticipatory nature of logistics is reduced or completely eliminated, since products are distributed directly to retailers/customers, the centralization of inventories reduces the amount of stock required to offer high in-stock availability, shipment cost may increase due to smaller shipment sizes and faster modes. Anyway the roles of distributors and retailers are well defined. Distributors are responsible of product variety and response time for total market of retailers: decision makers on variety of products and stock localisation; owners of stocks at central and peripheral warehouses; responsible on logistics (transport, warehousing and service level). Retailers are responsible of product variety and response time at local market of consumers: direct link with consumers, decision maker on response time to consumer; owner of local stock.

Warehouse roles in the Postponement Process

A warehouse in the logistics postponement strategy keeps finished inventory at a central location, directly shipping products only on demand. This

reduces the risk of having product in the wrong place at the wrong time, reserving the inventories for the regions with the highest demand. This strategy results in higher distribution costs, but it reduces inventory in the channel. Just-in-Time shipping, Efficient Consumer Response, Quick Response and Supply Chain Management are all the warehouse process in the logistics postponement strategies. Semi-finished products are shipped in bulk to a warehouse near to the market. The final operations such as light manufacturing, final assembly packaging and or labeling are performed once a customer order is received. The final differentiating step takes place at a decentralized point close to the market and also distribution costs are low because the products are shipped in bulk to the regional packing center or assembly site. Inventory risk is low because the undifferentiated product can be diverted to another form, location and or packing operation if demand shifts. But production and packaging costs may be higher in this strategy because of the need for operations in several locations. Final manufacturing, packaging and logistics operation on hold until the moment that a customer order is received. The products are stocked and customized in a single central location. The order triggers the final process to produce a customized product and ship it directly.

Labelling: By focusing on labelling firms have the possibility to sell products under several brand names. The strategy is that products should be standardized and not labelled until order is placed. This will lower inventory cost as inventories are constituted of generic products. What can be seen as important is how warehouses are placed from a strategic point of view.

Packaging: When postponement is connected to packaging it means that customer is asking for different packaging types of the same product when ordering. Example could be paint, chemicals and medicine. By using packaging postponement products can be adapted to customer requirement and transportation requirement.

Assembly: This type of postponement has it focus on aesthetic features like computers, mobile phones, IPods, t-shirts etc. Mobile phones are designed to fit different international markets are similar from a generic point of view and can be finalized regarding software programs, manuals, etc. when reaching the final customer market.

Manufacturing: According to Zinn and Bowersox manufacturing postponement happens when parts are delivered to the finishing center from more than one supplier. Manufacturing postponement can be seen as an extension of assembly postponement factor.

Manufacturing and Logistic Characteristics

Packaging and manufacturing strategies can be an opportunity for international manufacturers to compete against regional suppliers. Often localized industries make and sell highly customized products whereas global industries make standard products. Postponement offers the opportunity to do both. Postponement can contribute to both localization and globalization. It makes it easier to adapt and customize products for specific local customers. At the same time, it can enhance global efficiency through modular design. Postponement allows simultaneously for customer service improvements and operational cost savings. Packaging increases a

company’s flexibility to respond to changes in the mix of demands from different market segments. It can improve responsiveness to customers and reduce inventory risk and investment. It can dramatically reduce transportation costs depending on the size or weight of the packaging materials and the cost of transportation.

Product Characteristics

All packaging postponement applications have one thing in common, a global standard product customized for local markets. Although the basic product is a standard module throughout the world, the package’s language, structure, and or product peripherals vary for geographically regional markets. Packaging can maximize the global potential of a standard product. It presents the opportunity to simultaneously standardize and localize. A second important of the product factor is how much volume or weights the product gains during packing. The unpackaged product shipped in bulk to the regional processing centers will almost always occupy less volume and weigh less than when it is packaged. The greater the difference between the weights, the greater the opportunities to reduce the transport costs. It is important to note that almost all products gain weight once they are packaged. This is a compelling reason to consider packaging postponement as a way to reduce transport cost. Other product characteristics to consider are stage in the product life cycle rate of obsolescence and commonality between products verses the breadth of product line. Market Demand Characteristics One of the most important factors for selecting a postponement strategy is the needs of the final customers. When demand is

unpredictable, the risk of speculation is high. When demand is uncertain, packaging can reduce the risk of having products in obsolete packages.

Conclusion

From all the postponement strategies that had implemented, that will help the organization to stay competitive in the market. In today era, a lot of organizations are switching to use Postponement as a strategy and then modify the strategies to suit their requirement. But the operation process cannot just remain the same as organization need to be flexible and change their strategies to suit the demand in the market, if the process didn’t change, the organization will then be out-dated and eventually it will then lost to their competitors and slowly it will then be kick out from the market.