Managing the Global Supply Chain in an Uncertain World

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We live in interesting times. Powerful forces are re-shaping the global business scene: financial and economic upheaval in the Far East, Latin America and Russia is creating a tidal-wave of change in the competitive environment. Organisations that once felt insulated from overseas low-priced competitors now find that they too must not only continue to constantly create new value for customers, but must do so at a lower price.

To meet the challenge of simultaneously reducing cost and enhancing customer value, requires a radically different approach to the way the business responds to marketplace demand. One of the keys to success is the creation of an agile supply chain on a worldwide scale.

The agile supply chain

There is now widespread recognition of the role that supply chain management can play in enabling organisations to compete in volatile markets. However, experience suggests that there are significant barriers both within the company and between its upstream and downstream partners in achieving the required level of responsiveness across the chain as a whole. Continuous change is a phenomenon with which the supply chains have had to cope for some time. But the rate, scale and unpredictability of change is today’s turbulent business environment is seriously challenging supply chains based on 1990s best practice. The logistics environment of the new millennium will have to contend with:-

- turbulent markets that change rapidly and unpredictably
- highly fragmented ‘niche’ markets instead of mass markets
- ever greater rates of technological innovation in products and processes
- shorter product life-cycles
- growing demand for tailored products - ‘mass customisation’
- the delivery of complete ‘solutions’ to customers, comprising products and services.

And all of the above to be achieved at less cost!

These severe challenges mean that a new operating paradigm is needed. The key factor is agility - rapid strategic and operational adaptation to large scale, unpredictable changes in the business environment. Agility implies responsiveness from one end of the supply chain to the other. It focuses upon eliminating the barriers to quick response, be they organisational or technical.
Agility should not be confused with ‘leaness’. Lean is about doing more with less and is often used in connection with lean manufacturing to imply a ‘just-in-time’ approach to the business. Many companies that have adopted lean manufacturing as a business practice are anything but agile in their supply chain. It is paradoxical that many Japanese companies have exceptionally long delivery lead-times to their customers and insist that those customers provide them with firm orders often several months ahead of manufacture.

Yesterday’s world was one characterised by standard products, mass produced for generally predictable market demand. Today’s world is almost the opposite with customers demanding tailored solutions (high variety) in small quantities (low volume) with a higher degree of uncertainty.

Figure 1 suggests that whilst there will still be conditions where lean concepts are appropriate, in particular where the product is standard and volume demand is high and predictable. Increasingly however these situations are tending to become fewer as the global forces we have described lead to higher levels of market volatility.

**Figure 1 - Agile or Lean**

![Figure 1 - Agile or Lean](image)

“Agility” is needed in less predictable environments where the demand for variety is high.

“Lean” works best in high volume, low variety and predictable environments.

A number of issues arise when global logistics strategies are being devised. One key concern is the question of the appropriate degree of centralised direction as against local autonomy.

Traditionally many companies have preferred to devolve decision-making to a local level. Yet, almost by definition, it is difficult to see how global supply chains can be optimised in terms of service and cost if they are planned and managed on a fragmented, local basis. On the other hand the attractions of local
autonomy are clear when it comes to responsiveness to market changes and the ability to ‘stay close to the customer’.

A second related issue is the extent to which synergy can be released by global co-ordination and whether this is compatible with local decision-making in sourcing, production and distribution. Many global companies, for example, have sought to establish ‘centres of excellence’, particularly in R&D and in production, whereby resources and/or technologies are concentrated for greater focus. However, separating new product development and production from the market may not necessarily be sound practice, especially where those markets are not homogeneous.

Running in parallel with these two issues is the question of how the search for economies of scale in production and the benefits of standardisation can be reconciled with the need to meet different local requirements and to do so with ever higher levels of responsiveness.

Making the change

How do global supply chains achieve agility? In a sense the very process of globalisation has retarded agility. For example, many companies in their search for lower production costs have moved much of their manufacturing and assembly offshore. The main driver for such moves often being low labour costs. However, in so doing they run the risk of extending their lead-times significantly thus generating the need for more inventory in the pipeline. As a result their agility is reduced. Some organisations have actually sought to reverse this trend by bringing manufacturing back closer to their main markets - Dell Computer being a case in point. Other companies are using low cost sources of supply to manufacture products where there is a predictable demand and using more local, flexible facilities for producing less predictable, more volatile products. Zara, the successful Spanish fashion retailer, has followed a very similar strategy enabling it to respond more rapidly to changes in demand.

To overcome the potential loss of agility through extended global supply chains, companies need to adopt a number of guiding principles:-

- **Remove the organisational barriers**

  Too many companies are hindered in their attempts to streamline their supply chains because of their out-moded organisational structures. It is not possible to even contemplate a seamless global pipeline if there are quasi-independent national subsidiaries making their own decisions on sourcing, distribution facilities and inventory for example.

  Similarly, it is still the case that for many businesses the functional ‘barons’ still wield significant power. As a result decisions are taken which are based on a
narrow definition of ‘optimisation’ - in other words the focus is on improving performance within a function without regard for its wider supply chain impact. Thus we find, for instance, that often factories are designed and built to maximise the economies of scale rather than to enhance flexibility of response. In a global marketplace this tunnel vision can lead to a damaging loss of competitiveness.

The solution has to be to re-engineer the organisation structure so that supply chains are managed on a truly integral basis with cross-functional teams being given the responsibility for managing the pipeline from source to final market.

- **Make the supply chain the value chain**

The idea that companies should focus on their core competencies is rapidly taking hold. As a result there is a greater willingness to out-source than was previously the case. This trend has been particularly observable in global corporations where there has been a recognition that the complexity of managing a worldwide logistics chain requires specialist resources.

There is now a great opportunity to start thinking of the supply chain as a value chain. Rather than accepting the conventional view that believes that all value-creating activities need to be conducted under the same corporate roof, forward-looking organisations are taking a different view. Particularly as supply chains become global it will often make sense to move to a greater level of ‘localisation’, i.e. the final finishing or configuration of the product being performed much closer to the point of demand. To enable this to be achieved on a global basis, specialist third party logistics service providers have emerged who can now act as extensions of the company’s value chain.

In structuring cost-effective and agile global supply chains the question of where in that chain the value creation should take place becomes crucial. By working more closely with specialist providers, greater levels of customer value can often be achieved at less cost to the supply chain as a whole. Hewlett Packard has adopted this concept for many of its products such as the Desk Jet printer, even going to the lengths of re-designing it so that a generic semi-finished global version could be built centrally with localisation being performed by regional partners.

- **Shift the de-coupling point**

A major problem in all supply chains, but significantly worse for global business, is that they have little visibility of ‘real’ demand. Because global supply chains tend to be extended with multiple echelons of inventory between the point of production and the final marketplace they tend to be forecast driven rather than demand driven. In other words decisions on production and distribution are based upon forecasts or orders (which themselves do not necessarily reflect demand
but rather tend to be based on arbitrary ‘rules’ such as re-order points and re-order quantities).

The point to which real demand penetrates upstream in a supply chain is termed the decoupling point. These decoupling points also tend to dictate the form in which inventory is held. Thus in the uppermost example in Figure 2 demand penetrates right to the point of manufacture and inventory is probably held in the form of components or materials. In the lower example demand is only visible at the end of the chain, hence inventory will be in the form of finished product.

**Figure 2 – Decoupling points and strategic inventory**

Ideally, information from the marketplace should flow as far upstream and in as close to real time as possible. In this way all the parties in the supply chain work to the same information and reduce their dependency on the forecast. At the same time opportunities for postponing the final configuration of finished inventory should be investigated. The aim of the global supply chain should be to carry inventory in a generic form, i.e. standard semi-finished products awaiting final assembly or localisation.

Given that information on real demand can be transmitted rapidly through the supply chain and inventory can be carried in a generic form then responsiveness can be significantly enhanced.

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Managing the global supply chain requires a level of agility and responsiveness several magnitudes greater than that required in the old model of ‘local for local’
manufacturing. Emphasis will increasingly have to be placed on creating a business model that recognises that competitive advantage is created through the management of the supply chain as a single entity rather than through fragmented, locally-focused decision making units. For the foreseeable future leadership in global markets will belong to those organisations that exhibit greater agility than their competitors.