

Managing a Global Value Chain

By A.V. Vedpuriswar

Introduction

Firms can be in business only if the activities they perform add value for their customers. If they can add value efficiently and effectively and charge a price which is more than the total cost of the activities, they can make a profit. The value chain, a concept developed by Michael E. Porter is a useful tool for analysing the value adding activities of a company. While the value chain is important for all companies, in the case of global companies, a highly sophisticated and well-coordinated approach to value chain management becomes critical. Global value chain configuration increases competitive leverage by helping a company access global resources and capabilities. In a multi domestic strategy, each subsidiary's competitive position is determined locally. On the other hand, global companies, by taking an integrated view of their worldwide activities, are better equipped to cut costs and create more value. .

Key considerations

Managing a global value chain is a complex task. As the name suggests, the value chain describes how a company adds value by converting basic raw materials into a suitable output(s). Michael Porter categorises value chain activities into two groups: *Primary* and *Support*. Primary activities include inbound logistics, manufacturing, outbound logistics, sales and service. The support activities are firm infrastructure, human resource management, technology development and procurement.

While analysing the value chain, not only is it important to examine each activity to see if it is being performed efficiently, but also to see how the activities together add value for the customer. In other words, we need to look at both local efficiency and overall effectiveness, when we study the value chain.

A truly global company configures its value chain activities across different countries to maximise efficiency and effectiveness. In simple terms, efficiency can be understood as 'doing things right' and effectiveness as 'doing the right things.' Efficiency can be maximized by shifting activities to regions with low wages, low taxes and government incentives. But along with cost, strategic benefits should also be considered for maximizing effectiveness. For example, the location of

research activities may be more influenced by the skills of the locally available manpower than by the wage rates. On the other hand, a low value adding activity such as assembly of CKD (completely knocked down) kits may be located in a low wage country. In short, a transnational company would combine both *comparative* (cost) and *strategic* advantages for global leverage.

In the traditional vertically integrated model, if a company had an overall cost competitiveness it could be the market leader. Today, due to high levels of outsourcing, value chains are getting divided into smaller segments. What is becoming more important is competitiveness in each segment of the value chain. Within each segment, there are fewer bases of competitive advantage, implying that only a small number of players will be able to survive. So global companies must remove inefficiencies and create a well oiled value chain.

The value chain configuration of a transnational company also depends on the roles and responsibilities it wants to distribute among its subsidiaries. This in turn depends on two factors. *The first is the overall importance of the local environment to the firm's global strategy.* For example, the market could be huge in size or might be the home base of a major competitor. Alternatively, the market could be highly technologically advanced or might have sophisticated consumer tastes. *The second is the subsidiary's competence in technology, production, marketing and other areas.* There may be a sophisticated cluster of related industries or highly talented manpower. In relation to these two factors, Ghoshal and Bartlett [1] have classified subsidiaries into *strategic leader, contributor, implementer* or *back hole*. A strategic leader ranks high on both factors while an implementer ranks low on both factors. A contributor ranks high on local capabilities but low in terms of strategic importance of the local environment. A black hole is located in a strategically important market but has minimal capabilities. The black hole is a situation that must be rectified quickly. IBM, for example, has ramped up resources quickly in India in the last two years.

We now examine how different value chain activities can be managed by global companies. For want of space, we only take up three functions- Research & Development, Operations and Treasury.

Research & Development

Research & development (R&D) is a critical function for many global companies. Three broad approaches are possible to managing R&D activities across the worldwide system. In the *centralized* approach, the headquarters takes

responsibility for setting objectives and planning projects. While foreign R&D managers implement these plans, formal communication channels and monitoring mechanisms are used to control the different activities. In some cases, managers from the headquarters may be deputed to the subsidiaries to oversee implementation [2]. In a *decentralised* approach, the subsidiaries have considerable freedom in setting objectives and planning projects. The parent company's role is limited to providing broad policy guidelines. Foreign subsidiaries negotiate with the parent company's management and divisions through informal channels of communication [3]. Finally, in a *hybrid* approach, both parent and subsidiaries are closely involved in R&D management. Both make important contributions and their managers jointly approve strategic projects.

In the centralised approach, synchronizing R&D plans with corporate strategy and resource allocation is very easy. This approach not only tends to protect and develop the core competencies of the company but also helps in achieving economies of scale and specialization. On the other hand, resistance from subsidiaries to ideas being imposed by the parent company is likely. R&D managers at the headquarters may also try to handle more than they are capable of.

In a decentralised approach, these problems can be avoided. This approach is more effective in meeting the needs of the national environment. Such an approach also enables management to leverage the creative resources and developments of its subsidiaries worldwide to benefit the entire organization. Unfortunately, all overseas R&D projects may not be in line with corporate objectives. Subsidiaries may pursue research in those areas which they understand best. Coordination across the worldwide system is also more difficult in a decentralised set up. The Not-Invented-Here Syndrome is another pitfall. Subsidiaries may be reluctant to accept good ideas coming from other parts of the system. As such, a hybrid approach which is a cross between the two is the most practical approach in many cases.

Kuemmerle [4] has classified overseas R&D centres into *home base augmenting* sites and *home base exploiting* sites. Home base augmenting sites attempt to tap knowledge from competitors, customers and universities around the globe. Information essentially flows from the overseas laboratories to the headquarters. Such sites should ideally be located in regional clusters of scientific excellence, where there is scope to tap new sources of knowledge. These centres should preferably be headed, at least initially, by prominent local scientists who can nurture ties between the new site and the local scientific community.

Home base exploiting sites are typically set up to support overseas plants and to modify standard products to suit local tastes. Information essentially flows from the headquarters to the overseas laboratories. Such centres should ideally be located close to large markets. They should enable the speedy transfer of technology from research to manufacturing. Home base exploiting centres should, in their early phase, be led by highly respected managers, who are familiar with the company's culture and systems. Their primary responsibility is to forge close ties between the new lab's engineers and the foreign community's manufacturing and marketing facilities.

Operations

A global network of tightly coordinated operations is a key characteristic of a transnational. While configuring its network, a global company must strike the right balance between centralized and dispersed manufacturing facilities. A centralised production system allows a firm to avoid investment in overseas plants during the early stages of globalisation. It helps in generating economies of scale and in reducing the complexity of sourcing and materials management. However, in a highly centralized system, the response to needed product changes in a local market may be slow. There might be delays and uncertainties in delivery due to the need to ship material over long distances and complications such as customs clearances. A centralised location may also mean giving up comparative advantages, available in other countries. Various factors shape the operations strategy of a global corporation. A few of them are listed below.

In some cases, plant location may be dictated by the *requirements of customers*. Some automobile companies such as Ford, Honda and Toyota have rapidly expanded across the world in the last two decades. As a result, many auto parts manufacturers have also relocated themselves to be close to them.

Exchange rates can be a major driver in the relocation of manufacturing facilities. A rising home currency implies lower margins on exports and vice versa. For example, the stiff appreciation of the rupee [5] in recent times is posing big challenges for Indian exporters. With the rupee rising against the dollar by almost 10% since March 2006 and 7% in the three months leading to September 2007, Indian companies are learning to live with currency volatility. The rupee has already breached Rs. 40.00 and some expect it to possibly even Rs. 35 in the next couple of years. Indian exporters are not only hedging currency risk more aggressively but also trying to strengthen their operations in other countries to achieve some if not perfect currency neutrality. Mahindra & Mahindra is

developing a hub in China for tractor exports. TCS has set up a development centre in Guadalajara, Mexico, which will employ 500 people to start with and 5000 by the end of the fifth year. Shrenuj Diamonds is strengthening its presence in Thailand and China. Bharat Forge has acquired a company in the US currency. Sundaram Fasteners is planning to import new materials rather than buy locally.

Overseas presence can also increase *bargaining power*. The Mexican cement company, CEMEX has a disciplined approach towards acquiring cement plants in other countries. CEMEX buys capacity only in those regions where it can reduce the number of competitors, establish the largest share among these competitors and own a controlling stake in the acquired company. CEMEX has set up a global network of 60 marine terminals to facilitate this. CEMEX's status as the world's largest cement trader further supports this strategy. As a result of this strategic approach to operations, CEMEX controls higher prices than its global rivals.

Flexibility is another important consideration. A global network allows production to be shifted from one site to another, taking into account changes in the environment. Consider the case of the famous shirt brand, Arrow. The makers of Arrow began sourcing from Japan in the 1950s. As wages and real estate costs in Japan increased, production moved to Hong Kong, then to Taiwan and then South Korea. During the 1970s and 1980s, countries such as China, Indonesia, Thailand, Malaysia and Bangladesh became key production bases. In the 1990s, Central American countries such as Costa Rica, Dominican Republic, Guatemala, Honduras and Puerto Rico became important manufacturing centres for Arrow. Similarly, driven by increasing wages, India's leading IT services and BPO companies are looking seriously at alternative locations.

Locating a plant in an overseas location may also be a smart way of getting around trade barriers. One of India's leading forge manufacturers, Bharat forge is locating facilities across the world including developed markets. In the past three years, Bharat Forge [6] has made a series of acquisitions in Germany, Sweden, Scotland and the US. Now the company is looking seriously at Brazil. Brazil makes sense not only because it is close to North America but also because the country has various free trade agreements with countries in North America. Brazil also has trade tie ups with Latin American countries like Argentina, Chile and Mexico.

For global airlines, operations have to be run tightly to control costs. Most airlines use a hub-spokes system to fly passengers. In this context, the hub has to be chosen carefully. Indeed, the hub is the equivalent of a “plant” for an airline. India’s largest and probably the most admired private sector airline, Jet Airways wants to be among the top five airlines in the world by 2010. Jet has chosen Brussels as its hub to serve North America. Brussels is not only centrally located but is also less congested than London, Frankfurt and Paris. Moreover, Brussels Airlines serves a lot of African traffic coming from the former French and Belgian colonies. Jet hopes to carry a diverse mix of traffic that might include Indian, Indian Americans, and Canadians of Indian origin, Americans, Canadians and Africans who would be going to India, USA or Canada. Jet hopes to connect five Indian cities, Mumbai, Delhi, Chennai, Bangalore and Ahmadabad with six North American airports, Newark, JFK, Chicago, Toronto, Los Angeles and San Francisco through Brussels.

Treasury Management

Global companies have to take care of the cash requirements of subsidiaries in different countries, simultaneously. Each of these subsidiaries could be dealing with receivables [7] and payables [8] in different currencies at the same time. If cash management is completely decentralised, each subsidiary would be independently managing its foreign currency receivables and payables, including the associated exchange rate risk. Such a style of cash management can lead to various forms of inefficiencies. Hedging [9] may be done, even when it is not really required, leading to avoidable transaction costs. When subsidiaries manage cash flows independently, quite often they could be simultaneously hedging long and short positions in the same currency. Decentralised cash management also leads to the need for larger cash balances for a given volume of business.

On the other hand, if cash management is globally centralised, various cash flows for a given currency can be combined to arrive at the net receivables or payables position. As a result, for each currency, the MNC may have to undertake only a single hedging transaction. By reducing the number of hedging transactions, substantial *cost savings* can be achieved.

Centralised cash management also takes advantage of the relationship between movements of different currencies. Even though there might be a net payable in one currency and a net receivable in another currency, there may not be any necessity to hedge, if there is a positive correlation between the movements of the two currencies. Similarly, if the company has payables in many currencies, and if there is a negative correlation among their movements, they could cancel out.

Only by taking a centralised view can the treasurer decide whether hedging is required or not.

A globally coordinated approach towards cash management also facilitates *pooling*. It is quite possible that there may be cash surpluses in some locations and deficits in others at a given point of time. The correlation between surpluses and deficits is usually not perfect. As a result, the variance of total cash flows tends to be smaller than the sum of variances of the cash flows for individual subsidiaries. By pooling all the cash flows, the business can be managed with smaller cash balances.

Even though there are several advantages in centralised cash management, some amount of decentralization is a must to deal with business realities. For making important payments towards taxes or for supplies of critical items, subsidiaries need to maintain adequate cash balances. It may also take time to move cash from one centre to another, especially when developing countries are involved. Thus, the key issue in cash management is striking the right balance between centralisation and decentralisation. While centralisation can help in reducing transaction costs and improving the efficiency of cash usage, decentralisation gives the subsidiaries the much needed flexibility to respond swiftly to the needs of the local environment.

CEMEX, the Mexican cement manufacturer illustrates how globalization can help manage the treasury more effectively. When it was a local company, CEMEX tapped local sources of finance. But after establishing itself in Spain, the Mexican company started financing new acquisitions through the Spanish operations. CEMEX benefited from the tax deductibility of interest in Spain, Spanish investment incentives and increased collateral value because of operations in a more developed market, compared to Mexico. Indeed, CEMEX has attracted a lot of attention for its ability to use overseas assets as collateral and mobilize capital in Europe.

Comparative and strategic advantages

While managing their value chain, global companies must combine both comparative and strategic advantages to put in place a globally leveraged strategy. While comparative advantages help in cutting costs in the short run, strategic advantages help in adding value in the long run. We will now examine in greater detail, the key issues involved in generating such advantages.

Comparative advantages can be realized by locating value chain activities in cheaper locations. For example, global companies such as General Electric (GE), Citigroup, Lehman Brothers, UBS and Goldman Sachs have all located bulk of their back office operations in India. IBM has significantly ramped up its presence in India in the past four years to cut costs.

Beyond a point, however, an obsession with comparative advantage may be counter-productive. By focusing too much on costs, opportunities to add value may be lost. Indeed, most global companies give equal if not more importance to strategic advantages while deciding where to perform their value chain activities.

To take a few examples, the US is a strategically important market for products like computer software, financial services, pharmaceuticals and automobiles. France is an important country for cosmetics and perfumes, while Japan is the world leader in consumer electronics. Switzerland is a strategically important country for wealth management, Finland for wireless telecom and Germany for precision machinery. These are not the cheapest locations in the world but a presence in these markets is important, not only to keep abreast of innovations but also to be in touch with highly sophisticated customers and tap local talent.

One way to reap strategic advantages is to be part of a cluster. For example, Silicon Valley in California is reputed for its cluster of computer hardware and software companies. Similarly London and New York are financial hubs where academics, corporates, deal makers and traders came together to drive various financial services innovations.

Michael Porter describes clusters [\[10\]](#) as geographical concentrations of interconnected companies and institutions in a particular business. Clusters include suppliers of components, machinery, services and institutions which provide specialised infrastructure. Sophisticated, demanding customers who keep companies on their toes can also be considered a part of the cluster. So can the local government, universities, research centres and think-tanks that play a vital role in encouraging innovation and creating suitable conditions for more efficient value addition.

By being part of a vibrant cluster, companies can reap several benefits. Competition with rivals keeps them on their toes. The presence of companies engaged in related value chain activities, downstream and upstream, facilitates effective coordination even without vertical integration. Proximity also builds a greater degree of trust among the various players. Clusters help in

improving productivity, due to the superior quality of the local infrastructure. They create a positive environment which encourages innovation. Clusters also attract new companies and businesses which expand and strengthen them further. Some clusters also have a high quality transportation network, which facilitates fast and efficient movement of goods. Availability of skilled, educated and trained manpower, a sound legal system and favourable tax rates also make clusters competitive relative to other locations.

Hong Kong is by no means the cheapest location in East Asia. Yet, it has emerged as a regional hub for distribution and financial services related activities. In India, a cluster of software companies has developed in and around the city of Bangalore to tap skilled manpower. In Chennai, we have seen the development of a cluster of auto parts companies, led by the TVS group. Taiwan's favourable bankruptcy laws have facilitated the growth of several industries where cost control holds the key. Taiwan's legal system, allows poor performers to exit easily. As a result, assets are deployed efficiently, bringing about a significant reduction of costs. Ireland's favourable tax rates, and a pool of educated and well-trained manpower, have made it the favourite base for American computer, pharmaceuticals and bio tech companies trying to expand their presence in Europe.

The presence of demanding customers in a cluster motivates companies to innovate, while the presence of efficient local suppliers and partners helps in bringing innovations to the market faster. A company within a cluster can source what it needs much faster. It can also closely involve suppliers and partners in the product development process. On the other hand, companies outside the cluster may find it much more taxing and difficult to coordinate supply chain activities or obtain relevant technical support.

The rise of Oulu, a city near the Arctic Circle in Finland, illustrates how vibrant industrial clusters are formed. Despite its distinctly unattractive, remote location, Oulu has emerged as an important hub for high tech industries especially wireless telecom. Oulu's focus on wireless technology has no doubt been shaped by the presence of Nokia which employs about 4500 people in the city. Another key factor in the success of the city has been the University of Oulu set up in 1958. It is Finland's only integrated multi disciplinary university, consisting of a traditional university, a technical university and a business school. With over 17,000 students, the university has produced many entrepreneurs. Many of the students work part time for companies earn while they learn and more importantly gain valuable work experience. A dedicated centre at the university focuses on applications for wireless

communications for companies and government. Oulu has succeeded remarkably in forging connections among different companies. Even fierce competitors work together and pool their knowledge to develop new technologies. An initiative called X polis holds “blind speed dating meetings” to bring companies together. X polis also operates a mobile platform in Oulu to enable companies to test their wireless products before they go to market.

Global companies thus need to be careful while configuring their global value chain. Low-end activities such as assembly of parts, routine back office transaction processing or software translation into local languages are best performed in locations with a comparative advantage. On the other hand, in the case of core value adding activities such as R&D, more than input costs, it is the potential to innovate and add value that needs to be given more importance.

Conclusion

The way a global company configures its value chain can strengthen or erode its competitive advantage. Both comparative and strategic advantages are important considerations while configuring the global value chain. If a company is following a cost leadership strategy, comparative advantages are more important. If it is following a differentiation strategy, strategic advantages are more relevant. Global companies cannot overlook the importance of local advantages, which clusters like Silicon Valley provide. A truly global firm follows a flexible approach that allows value chain activities to be relocated quickly, in response to shifts in strategic and comparative advantages.

[1] In their book, “Managing across borders.”

[2] Ghoshal and Bartlett, “Managing across borders,” refer to it as “central innovation.”

[3] Ghoshal and Bartlett, “Managing across borders,” refer to it as “local innovation.”

[4] Harvard Business Review, March – April, 1997.

[5] Sangita Shah, Nandita Datta and M Anand, “Recovering from shock,” Outlook Business September 5, 2007, pp.40-48.

[6] Interview with Baba Kalyani, Outlook Business, September 20, 2007, pp. 90-92.

[7] Receivables refer to the expected foreign currency inflows.

[8] Payables refer to the expected foreign currency outflows.

[9] Action taken to protect a company from foreign exchange rate fluctuations.

[10] Harvard Business Review, November – December, 1998.