



Emerging Trends in Global Business

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The last few decades have witnessed dramatic shifts in the manner in which business is conducted globally. Companies are moving away from hierarchical, one-dimensional supply chains, to a fragmented network of strategic partnerships with external entities. This global phenomenon causes ripples throughout the old supply chain. And to make matters more complex, much of this disintegration of the "old supply chain" has not been conscious or planned.

This fragmentation and disintegration can be seen in the abundance of outsourcing of many processes, which previously were internal company functions. From information technology management to customer service to supply chain management, companies have given up "control" to their partners.

Disintegration has led to a much more complicated network configuration. While the number of layers in the supply chain (from component to finished goods) can remain the same, the level of interaction and coordination dramatically increases with this fragmented network.

In addition, the ownership and control of assets and functions in these supply chains have also changed hands which can lead to a significant sub-division, or redistribution of the responsibilities of handling, material transformation, and delivery of end-product to customers. This disintegration process has a huge impact on all the players in the network, but most of the negative effects are felt by the smaller entities in the lower tiers of the supply chain. Their size and distance from the end customers subject them to variability, which is further exacerbated by their lack of authority and control. And their impact on the entire process can be extremely detrimental to the whole network if not managed closely.

Reasons for Fragmentation

Cost

The emergence of powerful retail channels, such as Wal-Mart, has led to greater pressures on profit margins of many of the consumer goods manufacturing firms. But this also holds true for technology firms, especially in the areas of personal computers and electronic consumer goods. This in turn has had a ripple effect on the component manufacturers for these hi-tech products and probably most important the contract manufacturers. And as you go further into the supply chain, this effect is felt on the raw material suppliers as well.

Thus the labor component of the manufacturing process has been outsourced to emerging companies in India, China and other parts of Asia. The major reason for this has been to reduce cost and in turn hope to raise profit margins.

More and Better Information Technology

Major trends in IT which have helped this fragmentation process can be summarized as a) Data storage costs have been reduced dramatically, while the volume of data gathered for business analysis has increased exponentially; b) The cost per transaction as well as the networking and communication costs within supply chains has been greatly reduced while simultaneously the capabilities and content involved in the communication and their numbers and relevance have enabled business transactions to increase; and c) Greater analytical capabilities and design technologies has had a positive impact on new product introduction so that product life-cycles are shrinking and this information can be communicated more effectively to the downstream supply base.





Downside of Fragmentation

While fragmentation has produced significant positive results for many companies, it is also fraught with problems and challenges, especially created when outsourcing has been done without careful planning and execution.

Companies have viewed outsourcing as the solution to their inefficiencies and incompetencies. Outsourcing poor processes, regardless of the type of process, insures that the poor process will get worse as the ability to manage it becomes more difficult with time and distance. Used in this manner, this "solution" will lead to a total disintegration of the company.

Disintegration cannot sustain itself and these companies will cease to function. However, disintegration, in the form of the development of a demand network, i.e. where groups of companies working together, tied together through information technology and an "integrator", and sustained through sharing of costs and benefits, can take this disintegration to a new level of integration.

Demand Economy

In the United States and Europe, due to the proliferation of information dissemination, an "on-demand" economy is also developing. This change is being fueled by the increasingly knowledgeable consumer who has an enormous amount of product, price, service, and delivery information in combination with ever-lower cost products available from a highly diverse set of sources.

From a process perspective, a demand economy requires that businesses change the way they approach demand fulfillment and thus all the accompanying processes. In a supply-based economy where a supply chain is a serial process, production dictates what is available to purchase and cost is the key economic driver. Conversely, in the demand economy, customers will dictate what they will purchase and value is the key driver.

A demand economy looks vastly different from the vanishing supply economy. Customers insist upon specialized products for unique situations and tastes. Product-line complexity is increasing. Demand variability per product is higher by orders of magnitude and service levels are skyrocketing.

To support this new type of environment, the supply chains, which have been designed and implemented over the past period of time, are rapidly becoming obsolete. These supply chains were designed to optimize costs, not value. Long replenishment lead times were tolerated at the expense of flexibility. Suppliers are forced to react to a high velocity of change orders, rather than become collaborative partners. Supply chains are sequential, linear, and resistant to further complexity.

A new operating approach is required. The fragmentation of business is the key in this approach. The new approach is planning around networks rather than chains. These networks (which have developed almost unconsciously with fragmentation) will be characterized by orchestration of the actions necessary to meet customer demands. Adaptability, collaboration, and networking will be the key design objectives and will become increasingly more valuable.

Given today's globalization, the development of this demand network cannot be done by individual companies alone. There is a requirement for some type of "third-party integrator" that enables coordination and governance of this demand network so that the goals and objectives of the network as a whole are achieved. This neutral third-party could create new demand network services that enable or sustain the heterogeneous models of collaboration between the decentralized network partners; allow rapid integration





of new partners into the network; and allow the different parties to communicate and coordinate their activities in support of the end-customer fulfillment objectives.

Examples of Disintegration and the need for Integration

Impact on OEMs

MIT Sloan School of Management performed multiple field studies, which showed the impact of disintegration on OEMs and small and medium sized businesses. In both case, they saw the need for a third-party integrator.

In the case of the smaller OEMs, their pain point was inbound flow of semi-finished goods from their contract manufacturers. Due to their size, they lacked the leverage to influence their CMs to deliver on time. In addition they have small suppliers who have little IT or communication capability. A third-party integrator could, with the right information, enforce discipline among the CMs to meet delivery schedules and consolidate the aggregate suppliers from various locations and provide support and visibility to the OEMs.

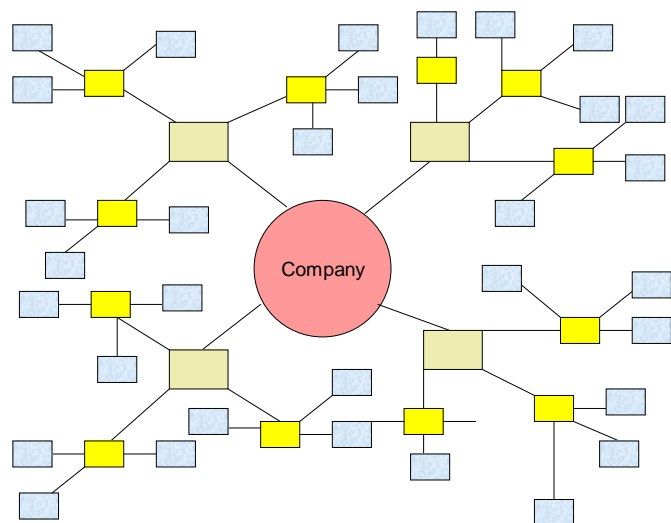
Larger OEMs have much power and influence over their suppliers. As a result, they are more concerned about the outbound flow of goods. With the advent of the demand economy, time becomes essential in the fulfillment of orders. Larger OEMs will look to third parties to provide innovative and cost effective delivery mechanisms, which will include transportation agility and product postponement capability.

Impact on SMEs

SMEs have numerous areas where they could benefit from a neutral third-party who worked as the integrator amongst various demand networks. This third party could assist in smoothing out capacity fluctuations by assisting the SMEs in finding new customers and thus selling excess production capacity. These companies could also benefit from a third party who could provide financing (such as UPS is doing today with inventory financing) to help with the “leaner” times as well as provide increased sourcing scope. The SMEs, many times, suffer the greatest impact from demand variability and uncertainty given their position at the edge of these networks. They are forced to absorb the bullwhip effect of poor demand planning and forecasting. Viewed in this context, it is clear why these companies would be willing to share intimate information to allow a third party to assist them.

Mini Maestro (MIT Sloan School of Management)

A typical representation of today’s supply network is pictured to the right. Due to the fragmentation of the network, a company must deal with many entities to make and distribute a product. Increasing product proliferation (and more customization in the demand economy), retail driven competition, inter-twining of these networks, and the complexity and cost of coordination has made it challenging for a company to exert the same level of control and influence over their network as was done when they were hierarchical. In addition, managing internal business functions and relationships with external entities in the demand economy calls for a different approach. It is here that a



(First Tier Brown; Second Tier Yellow; Third Tier Blue)





Maestro – a neutral third party – would come into play and coordinate the entire network. This is probably more than any company would desire. However, the role of a Mini Maestro who could manage a lot of the demand network would be desirable.

Sharing of Costs and Benefits

In a vertically integrated model, the company itself was responsible and had a strong profit incentive to take a greater stake in the coordination of the fulfillment business chain and to ensure proper alignment of the incentives of the business chain partners (operating within the organization boundaries) to support the strategic objectives of the business chain. However, with the vertical disintegration of the business chain, there is now a larger question of whom, or which of the independent or semi-independent partners within the demand network is now responsible for the coordination activities and for setting appropriate incentives for the demand network.

Given the fragmented and competitive nature of these demand networks, it is challenging for the diverse partners within the network to align themselves with the global objectives of the network and more importantly the end-customer. Thus the question of network governance and that of leadership is increasingly becoming a critical one for many demand networks.

Such a question will be critically important to a mini-maestro. The success of the mini-maestro depends upon the support it can garner from the network participants. As such, the mini-maestro must create mechanisms for sharing the net costs and benefits of partnering.

Typically, as the mini-maestro starts to focus on system optimization, business processes undergo reconfiguration. The big picture becomes equal to more than the sum of its parts as some players may need to forego profit in the short-term in order for the network to be more profitable in the long term.

Examples of cost and benefit sharing can be found in Li & Fung's operations – a textile mini-maestro. (This example from the MIT Sloan School of Management working paper.) The company who has no assets, but manages a complex network of textile companies, who manufacture clothing to order, shares cost by assisting with production planning and by advancing letters of credit to the suppliers. The company maintains a very comprehensive performance benchmarking system that allows it to track performance levels of each player. Although very time-consuming and expensive, benchmarking has provided Li & Fung with a deep knowledge of the supply base, which in turn allows them to allocate work optimally. A player who consistently performs better than its peers will be rewarded with compelling financial incentives in the form of steady and substantial business. For suppliers who under-perform, they assist by providing in-depth feedback which allows them to achieve stronger performance.

Mutual Dependence and Trust

To the degree that there is interdependence among the players in the network, success will be achieved. The mini-maestro must ensure that the players are mutually dependent for their success and failure. Mutual and well-balanced dependence, i.e. collaboration and assistance, helps build enduring relationship while unevenness in mutual dependence increases the possibility of mistrust and thus conflict within the network.

For example, for each of the 7500 suppliers in the vast network that Li & Fung maintains, they target to consume 30-70% of its production capabilities and capacity. This particular range allows Li & Fung to obtain priority attention from the factories for its end-customer (or retailer) orders, while at the same time avoiding complete dependence of the factories on Li & Fung orders. They also cultivate trust by visiting the factories during the production process. These visits include raw material inspection and acquisition (when needed); quality checks after the first batch of garments; and lastly for packing supervision and final quality assurance. Suppliers can replace defective products when necessary and if the end-customer accepts these products, the





factory must lower their price. In addition, Li & Fung provide continuous training to the suppliers so that they develop the knowledge and skills to support the company requirements.

Li & Fung have created a mutual dependence between themselves and their suppliers in the network. Li & Fung provide monetary incentives, performance feedback, guidance and training while the network provides Li & Fung to fulfill orders.

Systems, Standards and IT

Standardization of processes is essential if Li & Fung are to have uniformity in product. It must be completely transparent to the Li & Fung's customers where the product was manufactured and by whom. Thus it is incumbent upon Li & Fung to create those standards to ensure that all players can confirm to the same set of requirements. They have done this very successfully.

The orchestrator (or mini-maestro) must first define the requirements that the network participants must meet in order to become a network partner. The orchestrator then structures communication mechanisms for seamless information transfer and exchange within the network.

Li & Fung manages the network on a macro level and is not involved in the micro day-to-day management of the factories. This is because they have brought standardization and communication to the processes. The network partners need very specific information from Li & Fung: detailed information on product specs, the schedule of raw material arrivals, the quantity of the end product, and the required delivery date. Li & Fung needs regular information on the network partners' progress on the delivery commitment. Li & Fung has accomplished this by providing a standardized order executing and tracking system used by all network partners.

Lastly, Li & Fung provides maintains a comprehensive benchmarking system. Performance of the network players is constantly monitored and compared to its peers. The information is shared among the network partners giving them an understanding of their performance gaps, ideas for addressing them, and strong incentives for doing so.

Network Infrastructure

Unlike the normal hierarchical organization, Li & Fung must operate under a different infrastructure and relationship. They have stripped away the hierarchy and encourage the individual partners to reach their potential by being equals in the design, manufacturing, and delivery components of the process.

Li & Fung has customer-focused divisions which are small and entrepreneurial. Li & Fung provides the financial resources, but the divisions have a great deal of autonomy.

The New Network needs a Conductor

As the process of disintegration and reintegration continues, it is becoming clear that emerging aggregate players will become the companies of the future. The mini-maestros can bring innovation and efficiency to the network by orchestrating the flow of goods, information, and funds between multiple entities and by dynamically reconfiguring the network. In fact, many third-party logistics companies today play that role in important parts of specific companies' inbound flow of raw materials and outbound flow of products.

Clearly, becoming a part of the network will be important, especially for small and medium sized companies. But developing conductors, and becoming a conductor, will be more important. However, much has yet to be done to accomplish this and only time and competitive pressures will insure its success.

Because of the global nature of business today, a critical element in the development of these conductors will





be more on-demand software and the ability to share important information among the partners. Sales and Operations Planning capability which includes network partners, whether customers or suppliers, will be critical in creating successful networks and insuring that the conductors can successfully orchestrate through the processes.

While much software exists today, it will be necessary to provide visibility to all network partners, regardless of their technology sophistication. New applications, which provide visibility into demand, will be necessary in order for the operations planning to be realistic to support that demand. Supply partners will need to provide their input into that process. Logistical elements, such as transportation costs and any duty or customs costs will need to be taken into account when determining from where to ship a product. Transportation lead times, manufacturing lead times, and any other time element will need to be calculated to really determine when a product can be produced and then when it will be delivered.

On-demand applications will become the norm, as companies no longer can afford to spend the millions of dollars necessary for enterprise-wide applications, which don't or can't link to the demand network. Integrating, orchestrating these demand networks are critical to global companies' success and technology will be a crucial enabler given time, distance, and cultural differences.

In a demand-driven economy, the ability to tell your customer when a product will be delivered and be exact, will become commonplace. Today, without an orchestrated demand network, that is not possible and as such these issues are covered over with inventory. But, if we subscribe to the theory that more and more products will be customized, then we know that flexibility from the demand network in a time-sensitive environment will become the norm.

Specific companies, such as third-party logistics companies, are in a perfect position to become the "Mini-Maestros" of tomorrow. The 3PLs that understand this and begin the process of creating these services, will be the winners in this new economy.

