

# MODERN SUPPLY CHAINS AND PORT STRUCTURE TO PROMOTE EFFICIENCIES

BY

MS PHUMZILE SITHOLE

## INTRODUCTION

The Supply Chain world is evolving at a rapid rate. For our customers, we, the service providers, are often seen to be slow and unresponsive. But as Supply Chain service providers, we know that our world is changing, sometime faster than some of us know.

In this changing world our customers are looking for us to help them achieve two objectives:

- Increase supply chain velocity, i.e. move product through the supply chain faster; and
- Drive costs out.

To the service provider, these two objectives often conflict - increased service levels at lower costs. Particularly because of the asset-intensive nature of our business, for us to achieve increased service levels we have to invest in faster and better equipment, probably at higher cost.

In this paper, the characteristics of today's supply chains are explored and the emerging supply chain models are outlined. We draw on these characteristics and emerging models to understand the implications of these for port models.

## CHARACTERISTICS OF MODERN SUPPLY CHAINS

John Gattorna, during his discussions with us during 2002, shared a number of observations regarding today's supply chains. We concur primarily with his views and have given our perspective of these:

- No longer is competition company versus company, but Supply Chain versus Supply Chain;
- Supply chains are operating in "Networks of Networks";
- Collaboration is a necessity and no longer an option;
- Cargo owners are recognising three different operating horizons: operating excellence; collaboration; and new business models; and
- The future has more uncertainty that we are used to dealing with.

Each of these areas is described further in the paragraphs that follow.

### Supply Chain vs. Supply Chain.

The export of Ferro Chrome and Ferro Manganese out of South Africa is a prime example of how we are being impacted by this phenomenon. With the Ferro Chrome supply chain, we compete directly with supply chains out of Kazakhstan, China and India into the prime. Although we have approximately 70% of the world chrome

reserves we are located far from our major customers and users in Europe, Japan and Asia. There are important quality considerations, but for the most part, we compete on landed cost. To do this, we have to ensure the entire supply chain, from the Ferro Chrome producers through to the users is competitive with the supply chains stemming out of Kazakhstan, China and India, all of whom are closer to our customers than we are.

In Ferro Manganese, South Africa competes with suppliers in Australia. A company such as BHP Billiton, can choose between two of their own supply chains, one with its source in South Africa, the other in Australia. BHP Billiton turns the two supply chains up and down depending on the competitiveness of each. Factors such as exchange fluctuations influence these decisions and are additional important considerations in the competitiveness of the two supply chains.

### **Collaboration is no longer an option.**

All players in the supply chain, the producers, Spoornet, forwarding and clearing agents, port authority, port operators and the shipping liners have to work together to improve the supply chain. To achieve economies and efficiencies across asset intensive rail and port operations, the locally based exporters of commodities such as Ferro's are starting to work together so that we can ultimately improve the competitiveness of the South African supply chains.

Another area where we are seeing collaboration as an imperative and not an option is in the fruit industry. In order for us to better operate, we are working closely with companies that we once thought were competitors. Levels of collaboration will provide the local fruit industry with export supply chain options that were not previously available.

### **Three Operating Horizons.**

The Automotive industry highlights the extent to which we are seeing the three horizons:

- *Operating Excellence.* Without world-class car terminals, the automotive industry would not be in as strong a position in exporting their vehicles. Operating excellence must be considered "a given". SA Port Operations' car terminals, of which there are three, are considered amongst the best in the world.
- *Collaboration.* Our customers and ourselves are starting to see the benefits of increased levels of collaboration amongst the different players, particularly in the ports. Today we work a lot closer with stevedores/drivers C&F agents, Spoornet and the shipping liners than previously.
- *New Business Models<sup>1</sup>.* We are starting to see signs amongst some of the local Automotive exporters and other Logistics Service Providers a willingness to investigate alternative models. In some international ports, the car terminals are owned, controlled or integrated into the automotive company concerned. With the ongoing restructuring of the port operations industry, the implementation of different models is becoming more and more of a reality.

Other industries such as granite and the fruit industry are also showing increased willingness to explore different business models.

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<sup>1</sup> New Business Models can sometimes be thought of as a forth party in the supply chain. We have chosen not to use 4PL™ is sometimes thought of as a non-asset owning company, something we believe is difficult in our asset intensive business.

### **Increasingly uncertain world.**

The Supply Chain industry is particularly dynamic. We have identified two primary sources of uncertainty, one concerns the service providers and the other the cargo owners.

Whilst we see an increasing number of cargo owners exploring how they can best outsource aspects of their supply chains, this trend is not clear. Studies in Europe and in North America show surprisingly low levels of customer satisfaction with third party logistics companies (3PL's). In the United Kingdom satisfaction levels in the low 30's were reported. Gattorna attributes this to a number of factors:

- Substantial management time is often required;
- On-going cost reductions are limited once the initial "honeymoon period" is over;
- Customer service levels are not consistently achieved; and
- Industrial action in the 3PL continues to affect the cargo owners business.

These issues create uncertainty amongst cargo owners. Whilst the number of 3PL relationship is increasing, the pace and trend is not consistent across different sectors and industries.

The other key uncertainty concerns the logistics service providers. Global giants, such as Maersk-Sealand, P&O Nedlloyd and even traditional courier companies such as UPS, are becoming increasingly dominant. So much so, that South Africa's three giants, Transnet, Bidvest and Imperial, look insignificant in the global industry. Whilst Bidvest and Imperial have operations outside South Africa, we carefully monitor their ability to compete successfully in the global supply chain marketplace. As SA Port Operations looks towards a restructured industry, the ongoing merger and acquisition process creates significant uncertainty.

## **EMERGING SUPPLY CHAIN MODELS**

From a logistics service provider perspective, there are four emerging supply chain models:

- Specialist service provider model.
- Regionally integrated model.
- Globally integrated model.
- Integrator model.

Each of these models is described briefly in the sections that follow.

### **Specialist service provider model.**

In this model, different players in the supply chain specialise in focused aspects such as rail, road, warehousing/storage, and port operations. The cargo owner, who retains ultimate responsibility for the success of the supply chain, manages integration across multiple service providers.

### **Regionally integrated model.**

Here, the larger service providers try and achieve economies of scale by owning and controlling the different supply chain elements. As with the specialist model, the cargo owner retains integration responsibility. To a large extent, this has been the dominant supply chain model in South Africa. The three giants, Transnet, Bidvest and Imperial have yet to dominate the provision of integrated services to customers.

### **Globally integrated model.**

Global organisations, such as Ford, Nike, and Dell, outsource a large part of their supply chains to global organisations such as UPS Logistics. These global logistics giants have operations and assets across the world globe providing them with global reach. Significant investments in IT, integrated organisation structure, a common value set, and integrated processes ensure they provide an integrated service. The investment by organisations such as Transnet, Imperial and Bidvest to achieve this level of integration will be significant.

### **Integrator model.**

Cargo owners that are willing to outsource aspects of their supply chain operations but do not find logistics service providers that are sufficiently integrated or global move towards the integrator model. Here, a company assumes the integrator role and moves in between the customer and multiple service providers to integrate the different operations. A number of these operations are emerging in South Africa. For many new entrants unable to afford the assets but who have strong relationships, this model provides an attractive entry point into the supply chain business.

### **Customer integrated model.**

Model instances are emerging where new ventures are created where cargo owners and logistics service providers come together to create single entities that are jointly owned and operated. Here the customer and logistics service

providers share in the risks and rewards of increased supply chain velocity and lower supply costs.

These different supply chain models have direct implications for port operations.

## **IMPLICATIONS FOR PORT STRUCTURES**

The port industry in South Africa is well into a wave of change that started with the separation of the operations and authority functions into two different organisations called SA Port Operations and National Port Authority. This wave of change recognised the existence of many privately owned terminals in the different ports. For example, Rennie's, a member of the BidVest group, has been a major operator of terminals in the port of Durban.

With the concessioning of some terminals in SA Port Operations, the next wave of port restructuring is eminent. The supply chain models described previously provide the framework for the emerging port models in the restructured industry.

## **Specialist and Value-Add Terminals**

In some sectors, specialist cargo handling terminals will operate as “workhorses” within the supply chains. The specialist terminals will require that cargo owners or supply chain integrators effectively integrate the terminal’s operations with the upstream and downstream supply chain operations.

An example of such a terminal may be a high-speed specialist container terminal. Where customers or Integrators do not effectively integrate, to the detriment of the terminals cost efficiencies, the customer or integrator will have to carry the cost of poor integration. This will help drive up the efficiencies of the terminals.

SA Port Operations has recognised that **merely adding services to traditional terminal handling services does not necessarily meet the logistics needs of a cargo owner**. SA Port Operations sees that as cargo owners seek to consolidate their service providers, they also outsource more decision making to their logistics partners.



These terminals will continue to exist alongside Supply Chain Integrators. In regions, such as South Africa, where volumes may imply a limited number of such container terminals, it is unlikely that they will be owned or controlled by one of the international container operators such as Maersk-Sealand or P&O Nedlloyd. The so-called Inter-Modal Marketing Companies will also possibly continue to operate alongside these specialist terminals.

Other terminals may result that specialise in break-bulk for multiple industries and customers would operate in a similar manner. An example of this may include a car terminal that serves multiple automotive suppliers.

## **LSP/Customer Joint Ventures**

The other model that has emerged and is expected to continue is one where customers and service providers establish joint ventures.

Examples of such a terminals exist in Richards Bay in the coal terminal, and more recently the Rennies/Isco terminal in Durban.

## **Regional and International Operators**

In some instances terminals will be integrated into either a regional operation or an international operations. Efficiencies will be achieved in that the terminal will be integrated into the organisation structure, the process and the systems that are used in providing an integrated service to customers. Examples here may include a car terminal that in integral to the supply chain of one or two automotive customers.

These terminal will loose their independent terminal position in the port and take on the branding and image of the supply chain that they are part of. This may include the branding of an automotive company or a Ferro company that it services exclusively.

## **CONCLUSION**

The supply chain world is evolving at a rapid rate. Supply chain professionals will face many complex challenges in the near future. The key challenge is the integration of often fragmented and uncoordinated activities in the supply chain. Without this integrated approach, there will always be some inefficiencies in the system.