

Supply chain challenges, opportunities

BY DEEP R. PAREKH

Latin America has been a region of many gains and many losses over the last few decades. Finally settling into a steady rhythm, this subcontinent is seeing the benefits of capitalism, democracy, and business relationships with the United States and Europe.

Countries such as Mexico have experienced tremendous growth during the last decade thanks to NAFTA. In the south, countries such as Brazil, Argentina, and Chile have prospered on their own, more through partnerships with the United States and Europe than through the Mercosul agreement, although the latter has begun to bear fruit in recent years. Yet others, in the north, such as Colombia and Venezuela have gained from the Andean pact.

All this progress has brought in a significant amount of foreign investment, and has attracted several multinationals to expand and reinvest in Latin America. Mexico is now at a point where it is actually outsourcing to Brazil on some key automotive and auto parts manufacturing segments. Outsourcing has started to appear between Latin American countries.

Low-cost products and services are now available in Brazil, Argentina, and Colombia, although not to the same degree of magnitude as India and Eastern Europe, but however, emerging.

There are several challenges yet ahead within this emerging market. The currency fluctuations, general economic uncertainty, the foreign debt burden, stagnant segments of industry, governmental and economic developmental bureaucracy, corruption, and infrastructure issues still plague the region as a whole, and prevent the wheels of commerce from turning with the speed they should be and could be turning at. However, offsetting these challenges, are an abundance of opportunities, which, we believe, will provide significant gains if exploited correctly. We hope to give our readers a better articulation of the challenges and opportunities in the various supply chain areas through this article.

Supply Chain Context

All these positives and negatives provide ample opportunity on various supply chain fronts, for those not bitten by fear of the place. For those who have invested and stuck it out, the results have been worthwhile, when they have leveraged their business acumen combined with their supply chain street smarts. With choices abound, companies lack no shortage of finding adequate suppliers to source raw materials from, distributors and customers to purchase and stock their products, consumers to buy their products, and other outlets to cross-sell and market their products.

Business Environment, Importance of Supply Chain

As the Latin American market and American/European orientation develops further, we find that customers (and consumers) are getting more and more demanding. Today, Wal-Mart or Carrefour's leading practices around the world are being implemented in all the countries where they have a presence. This means, that poor

service, inefficient handling of the supply chain, and an inability to exploit margin gain improvements are simply unacceptable.

Furthermore, local competition has also climbed significantly during the last decade. Today, Exito is Colombia's largest retailers, and bigger than any other global competitor in that country. Same with Lider in Chile, who partially acquired Carrefour's presence in that country.

So, not only are the global competitors forcing a great necessity for improving the supply chain, but local players are now expecting the same efficiencies and improvements. The goal is to eke out more margin in the fiercely competitive landscape, where even a 0.1 percent margin improvement can mean the difference between a strong or weak growth profile. By virtue of the fact that these retailers are the outlets for almost all consumer related products, the reverberations of this mandate for supply chain enterprise agility is felt in many industry segments — consumer packaged goods, durables (white-goods), high-tech & electronics, foods, agriculture (meats & fertilizers).

We observe that the importance of a company's ability to innovate (in a marketing sense) its product portfolio is reducing in importance, and what's becoming critically important instead is the enterprise's ability to:

- Bring products to markets quickly, and deliver them in the most efficient way.
- Turn on and off supply, switch technologies, innovate with the customer.
- Use the optimal geographic network and respond to local changes.

In other words, companies don't compete with each other anymore — their supply chains do. Product innovation is becoming less differentiated — it's become a game about how much product a company can deliver accurately and on time, at a competitive cost.

In the growth environment that we find Latin America in today, this also has its implications on the service offerings of logistics providers, logistics infrastructure, and overall performance expectations in all the various areas of the supply chain. Most companies don't respond very well to changes in demand and supply. We believe that in order to meet the challenges, and exploit the opportunities with supply chain management in Latin America, a company needs to explore each of the mega-processes of PLAN, BUY, MAKE, and DELIVER, in order to have a holistic competitive supply chain.

Table 1 shows the product flow framework of the typical supply chain in Latin America. In this article we will discuss the challenges and opportunities in each of these mega-processes within the supply chain, within a Latin America context.

In order to understand some of the challenges and opportunities better, and in an appropriate context, we must first consider some of the strategic factors that are in play here:



Macroeconomic Uncertainty

- To mention some examples:
- Argentina’s GDP fell 20 percent between 1999 and 2002.
 - Mexico’s “Tequila” crisis of 1995 devalued the peso.
 - Brazil’s currency depreciated 35 percent in 1999 and further in 2002.
 - In the Dominican Republic, price inflation reached 100 percent in the 1980s and 1990s and then a devaluation in 2003-2004 of the currency by 20 percent.
 - Venezuela’s GDP in 2000 contracted 9 percent.
 - Nicaragua’s inflation during the last decade reduced from 13,500 percent to 8 percent.

Some may view these uncertainties as purely challenges, and bolster their case for why one shouldn’t do business in Latin America. However, imagine the possibilities if you’re set up to take advantage of this uncertainty using arbitrage theories. We state the example of a consumer products company who was considering scrapping one of the major plants in Argentina in 2000. During the course of decision-making, the economic crisis hit Argentina, and it suddenly became much cheaper to export from Argentina than to make the product locally in some other countries. This led to a temporary expansion of the Argentine facility instead of a shut-down, to the betterment of the product margins. Having a flexible production and distribution base in Latin America is critical if a company is considering taking advantage of these macroeconomic uncertainties.

Inconsistent, Inadequate Infrastructure

In many countries within Latin America, freight of product within a country is dependent on its highway and roadway infrastructure. Typically one finds that around the larger metropolises the road system is adequate, but since so much of the population lives in the rural areas as well (and not distributing to them is not an option, by law), there need to be highway systems that reach out to these places. In places where these highways are available, they are typically not well maintained, and in many places, there are just no easy ways to get there.

Infrastructure, whereas lacking in certain areas, is no constraint for some big ports and terminals around the subcontinent, and capacity is growing by leaps and bounds. Our research indicates that the road access capacity to the port of Santos in Brazil has nearly doubled during the last few years, and that Manzanillo in Mexico has nearly trebled during the same period. Bigger ports are being planned for various countries in the region in the near future. With this real and planned growth in infrastructure, many opportunities will become available for new freight routes, additional cargo capacity, and upstream value-added trade services.

Evolution of Country/State Laws, Agreements

Even while operating within a country, a company must be wary of the ever-changing laws within states and between states. These

laws can have far-reaching impacts on infrastructure decisions such as where to build a factory or distribution center, or from where to invoice their product.

To give an example, let’s consider Brazil’s central state of Goias. This state is located in the middle of the country, near the country’s capital, Brazilia, and about 1,000 kilometers (700 miles) away from Sao Paulo and Rio de Janeiro (where approximately 60 percent to 70 percent of the revenue of the country is generated). Not inherently a rich state in terms of natural resources, it deployed shrewd fiscal incentives for companies who would invest in their infrastructure in that state (factories, distribution centers, etc.). This law has been interpreted in several ways, including being able to take advantage of the fiscal incentives not necessarily by investing there, but simply invoicing product from that state. This means that a company might have the financial incentive to make product in Sao Paulo, ship the product 700 miles away, to be invoiced in Goias, and shipped right back to a distribution center outside the factory of the product’s origin in Sao Paulo. The fiscal incentive apparently compensates for all the extra travel, the

extra stock, and the time delay involved, since many companies operate in this manner today. This is all well and good, until there is a new government in place, and then it might mean a repealing of certain laws and agreements.

Acquisition Biased Growth Strategy

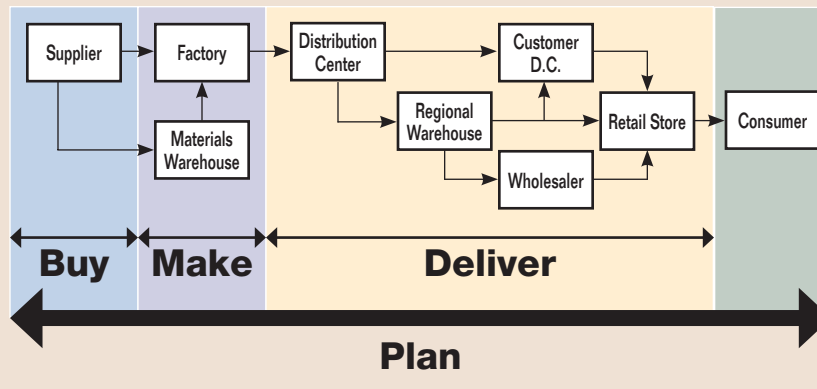
With the evolving local players already in the game, and having already captured market share, they make easy prey for multinationals coming in to expand their market share. This makes it easy for multinational companies coming in to establish a supply chain structure on top of an already existing foundation, and simply giving it the required funding to scale it up. So much so, that companies are now “renting out” their supply chains and distribution networks. One such example is a widely known alliance between Unilever and Pepsi, with the latter distributing and stocking Lipton Ice Tea at various retail outlets.

Skill Set, Knowledge Base of Resources

Today, one of the most common complaints of Latin American executives is that there are not sufficient people with adequate supply chain related skills and experiences. There are few robust university programs that provide an adequate grounding and thorough training in the different areas of supply chain management. Two strong educational institutions worth mentioning in Brazil are Ibmec, a private university (www.ibmec.br) and COPPEAD Business School, part of the Federal University of Rio de Janeiro (www.coppead.ufjr.br). These schools have MBA programs in Supply Chain Management, but the students coming out of these competitive programs are few compared to the need. The lack of strong management experience in logistics areas implies a natural shortfall of expertise, and an opportunity for consulting firms to provide temporary training and subject matter knowledge and

Table 1

Typical supply chain product flow



Source: NACA Logistics (USA) Inc.

expertise to fill gaps on a short-term basis. It also shows an opportunity for experienced firms to come in and create significant outsourcing potential.

Month End Sales Push

One of the typical Latin American trade phenomena is the “push” business environment. This means the manufacturer usually pushes the product through the supply chain, as opposed to the consumer “pulling” product from the store. This creates a demand signal that is impure and blemished with discounting to incentivize the consumer to buy more and the customer to stock more product, at eroding margins. The push environment creates a high percentage of sales occurring during the last week of the month, making it difficult for the supply chain to cope with the high instantaneous demand.

The opportunity attached to this is the fact that most of this month-end push is created by the manufacturers themselves, and is induced very little by the consumer. There is an enormous amount of working capital locked up in inventories and days sales outstanding through this push environment.

Challenges, Opportunities in PLAN

By “PLAN” we refer to the part of supply chain management that deals with the balancing of demand and supply in a tactical horizon. The future customer demand is predicted through time-series forecasting techniques. This forecasted demand drives a distribution and production plan, where constraints are applied to simulate the real-life situation of capacity restrictions, lead times, production cycles, and so on. The materials plan is also generated through this constrained production plan. Creation of an inventory plan is also part of this section of supply chain management.

Demand and Supply Planning

Demand and supply planning lies at the heart of the PLAN mega-process. It is about the forecasting of the demand, and the anticipated use of resources to fulfill the predicted demand. Many companies operating in Latin America do not perform the processes required for demand planning. They simply operate on a reorder point policy or fixed order policy, and make more product based on this. There are significant supply issues associated with this, when there is inadequate capacity to meet the customer requirements, and much of the demand lies unanticipated.

There are several opportunities in using demand forecasting software to assist and enable this process. Besides software, it’s really about developing the processes behind to make them more robust, and able to endure and perform well during times of high business pressures.

Hand in hand with demand planning, are strong processes and technology enablers for supply planning, i.e. ensuring that capacity is modeled effectively and accurately, supply constraints and details (routes, lanes, production line capabilities) are taken into consideration during the planning process.

We believe, however, it’s not just about demand and supply planning, but about a comprehensive Sales and Operations Planning process, as discussed in the next section.

Sales and Operations Planning

S&OP is a means of aligning targets and objectives, across functions by taking businesses sales & marketing ambitions, supply possibilities and financial goals and balances them to create a single, achievable plan.

When considering demand forecasts for products, the different business functions are developing their own estimates of what the forecast should be, and there is a breakdown in communication between the various functions. This creates significant disconnects and service issues when things go astray, as they do so often. There is a need for different functions to align themselves using Sales & Operations Planning.

The opportunities in having an effective S&OP process are significantly reduced trade working capital, higher service levels, lower production failures, and better business target achievement (indicated in higher revenues).

Inventory Management

Another challenge involves the working capital related to inventory management, which we find lacking in several enterprises in Latin America. Until a cash crunch emerges, companies don’t look too closely at inventory, as it is not one of the common boardroom agenda items. However, in recent years, as competition becomes stiffer and as margins erode, companies are looking to squeeze their supply chains to become more efficient and work with less working capital in terms of inventory.

Since inventory management is a somewhat complicated subject, and often time consuming, there is a lack of control in this area. We find that in many cases, there is no one who can identify how

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the inventory came to be however high it is! There is no logical or fact-based calculation methodology in place, and people manage stock using rules of thumb. Whereas in a simple environment heuristics are fine, in an emerging complex environment, they lack the necessary sophistication. Added to the sometimes inadequate skill sets of staff,

inventory management gets dropped along the way. The opportunity that lies herein is one for software vendors and knowledge experts to provide content and simple ways to calculate, update, and manage stock.

Customer Segmentation

One of the other challenges is dealing with very different levels of sophistication of customers. For consumer goods companies, it is truly a mixed bag — from corner stores to Carrefour, there are all types of business partners to be dealt with. The manner of ordering for smaller customers is markedly different from those who are larger. Even OEMs are facing a similar situation, where their customers are of all sizes and not necessarily ready for more advanced commercial relationships. Electronic transmission of data is more advanced in some sectors than in others, but most business still occurs through phones, faxes, and e-mail. We find that either customers are not segmented, or when they are, the segmentation is not properly enforced. When this happens, all products are offered to all customers, regardless of the cost to serve them, at the risk of losing margin, share, and reputation. The opportunity here is simple — measuring customers in various respects, starting with profitability, and planning based on that. Segregation of sales methods to “high-touch, low-touch, no-touch” will increase those margins, and make dealing with the customers more overall value based. Using more and more automation to deal with customers and implementing methods such as e-catalogs and online discounting programs.

Challenges, Opportunities in BUY

We refer to BUY as the processes dealing with the acquisition of materials, managing the relationship with the suppliers, and monitoring the pricing and performance of the suppliers.

Buying Practices Based on Pricing

In the current market, we see that companies buy materials and services based primarily on price. The holistic nature of the purchase, whereby the price is just one of the considerations in the total equation is not common. Whereas reliability of supplier, flexibility of changing supply schedules, and network of supply ship-from locations, are considered, they are done so only superficially.

Quality is one of the only factors considered quite seriously, but still, not as seriously as pricing. Consolidation and increasing imports have put pressure on regional Latin American supplier power, but focus on supplier competencies and efficiencies remain outside the scope of most companies.

We have seen an example of this in Colombia, in a supplier relationship where even though the company purchasing materials is dominant in their relationship, the supplier is still providing them with only 85 percent service (materials on time and in full) level.

The opportunity herein lies with creating awareness about the amount of working capital tied up in materials stocks and losses due to supplier inefficiency. There is tremendous scope in companies partnering to define an adequate service level agreement, and companies investing in their suppliers, and viewing them as extensions of themselves. Further, there exist opportunities in developing holistic programs with suppliers to gradually increase their efficiencies and scale up so as to become economically more attractive.

Supplier, Materials Segmentation, Rationalization

Most Latin American companies purchase their materials in the same way for all materials. They tend not to discriminate between fast and slow moving materials. There is little awareness on impact on working capital, material obsolescence costs, and formulation harmonization. Further, besides materials, over time, a company acquires many suppliers, whereby new suppliers are added to the portfolio, but old ones are not rationalized. Finally, companies end up with several suppliers providing the same materials, with minute variances. This leads to both materials and supplier proliferation.

We have observed a consumer packaged goods company in Mexico, which used about 18 varieties of salt and some 23 varieties of sugar. Further, another company in Brazil had some eight to 10 suppliers providing the same materials. Whereas companies are beginning to consolidate their supplier base, there remains abundant opportunity in this area.

Materials and supplier segmentation are also not seen frequently in Latin America, another area of opportunity. Segmentation based on total spend, or perhaps lead times, product classification, strategic materials, reliability, flexibility, or any other criterion, is only recently beginning to emerge, but yet far from prevalent.

Challenges and Opportunities in MAKE

The practice of manufacturing or "MAKE" is one of the big opportunity areas as well. Though Latin American manufacturing practices are leading class in many respects, and the quality most major companies is exemplary, there remain opportunity areas in this supply chain vertical.

Interaction With Other Supply Chain Functions

Global companies such as Nokia, IBM, GM, Volkswagen, and Novartis have created world-class manufacturing facilities in various countries in Latin America. Whereas superficially they all look great and have advanced manufacturing practices, there remain opportunities when you consider some of the details in their operations

and through interactions between other functional areas.

One such global foods company that we worked with in Brazil discovered they had large lot-sizes, and were unable to bring down their inventories. They used concepts such as "Run Strategy" to help them do this. Run Strategy is an operating model that synchronizes manufacturing with demand, and enables tradeoff decisions between building inventory and making a production changeover. Using this, they were able to actually bring down inventory by almost 30 percent, increasing operating efficiency from 68 percent to 75 percent, and actually serve their customer better, bringing down out of stocks from 5 percent to 2 percent.

They did this through better coordination with the PLAN functional area. They also reconsidered their internal MAKE parameters such as their minimum lot sizes, calculation of changeover costs, creating actual trade-off calculations between changing over their production lines and building additional inventory, and breaking the old paradigms of manufacturing of focusing on long runs and increasing efficiency.

Regional Manufacturing

One of the significant supply chain-related opportunities in Latin America today is creating few large regional factories instead of having one in each country. Companies were forced to create factories in different locations due to the closed nature of countries' trading policies. However, with expanding globalization, countries are opening their borders more and more to international trade. In the same vein, with logistics companies increasing their presence globally, it makes it more and more possible, feasible, and even economic to think about this regional manufacturing strategy for Latin America.

Challenges and Opportunities in DELIVER

The DELIVER area deals with the physical movement of product. This area covers distribution and customer service. We have encountered many challenges in the distribution area within Latin America. This area is one of special interest to us since it is one which there are several opportunities, many of which are relatively low-hanging fruit.

Achieving technological advantage in the Distribution area is relatively easy when compared to the other supply chain functional areas such as PLAN and MAKE. However, Latin American market dynamics tend to offset what advantage pure technology plays might have.

Fragmented Marketplace

We see a situation where the logistics market is very fragmented. There are many small and mid-size players in the market. Most import and export trade (except Mexico) is using maritime channels, whereas most domestic freight movement is primarily by truck and a distant second by rail. Due to intense competition within the small and mid-size players the prices remain in check. However, the offset of that is that there is little reinvestment in better equipment, which then impacts average velocity, faster loading and unloading times, and safety. Though the market for the logistics industry is tremendous, there is little consolidation due to fragmentation and governmental regulations. Productivity of the carriers is another factor that impacts the competitiveness of the players within the market.

There are many local and subregional players, who dominate their markets. Often, through corruption and basic monopolistic practices, they remain that way, blocking anyone else from entering the market. There is shortfall of truly national logistics carriers, due to the formidable up-front investment and high financing charges.

Governmental Regulation

Each country within Latin America is protectionist about its logistics industry, whereby they restrict ownership of local logistics and transport companies by foreign parties.

We refer to an example of Colombia’s government not allowing Ecuador’s drivers to drive in Colombia. Therefore loads coming into Colombia have to physically unload from their Ecuadorian trucks and load onto Colombian trucks to be able to deliver within Colombia. Another example is Mexico, which explicitly prohibits a majority stakeholding of a local logistics or transport company by a foreign party.

This type of regulation makes it less attractive for global logistics providers to enter countries and participate wholeheartedly in the local logistics market. However, we believe the scope is tremendous for the global players that do take the plunge, and find innovative ways to develop the market further.

In spite of this, some carriers have entered and are prospering in spite of the regulation, and have set their sights high. One such company is Panalpina, which has established itself as a global and regional player, with a presence all over Latin America.

Outsourcing, Third Party Logistics

Outsourced logistics revenues in Latin America remain among the lowest in the world, at less than 10 percent¹. This indicates significant potential in this market for interested players. Our experience with third parties in Latin America has shown that besides Mexico, the well-known players who have invested in creating service bases in various countries are falling short of customer expectations. This is partly due to lack of sufficiently trained and expert resources, but also an overall lack of knowledge of how to best serve the market.

There seems to be a lack of overall strategy, and the means of obtaining the market seems to be typically “get any customer that we can,” without thought to what specific services they want to offer to each customer. Once the relationship has been set up, then execution is to expectation, but not much in terms of developing innovative solutions to reduce overall cost, or to fully outsource the service to the third party. As a result, many companies have outsourcing relationships, but these services are at the low-value-generating end of the business, i.e. purely transport plays, as opposed to holistic solutions.

We see a tremendous opportunity for outsourcing to occur, since many companies are seeking comprehensive solutions, as they want to focus less and less on logistics operations and more on their core businesses.

Corporate Strategy Impacting Logistics Decisions

One of the impacts of the North American Free Trade Agreement has been the overall increase in money circulation in Mexico.

FOOTNOTES

¹ Bernard L. Bot and Carl-Stefan Neumann, “Growing Pains for Logistics Outsourcers”, *The McKinsey Quarterly*, 2003 Number 2, pp. 1, Exhibit 1.

² Diana Farrell, Antonio Puron, and Jaana K. Remes, “Beyond Cheap Labor: Lessons for Developing Economies”, *The McKinsey Quarterly*, 2005 Number 1, pp. 2, Exhibit 1.

Average wages have gone up, and there is sometimes actually a shortage of required labor at the maquiladoras (contract labor factories). Today, hourly compensation for manufacturing is at \$2.40 an hour, compared with 70 cents an hour in China and 40 cents an hour in India². This drives corporate decisions on where to manufacture product. With manufacturing in Asia expanding further, we see companies pulling out of Mexico and investing more in Asia.

Another consideration in corporate strategy is something we spoke about earlier in the MAKE related section in this article — regionalization of manufacturing. When companies decide to create regional factories instead of local ones, this impacts cross-border logistics tremendously.

Companies are seeking one-stop shops that can address their complete Latin American regional needs, and no longer just the local distribution. There are very few logistics players today who can handle such needs. This type of strategy decision bears abundant opportunity for parties interested in capturing the market on this front.

Future Supply Chain Challenges, Opportunities

As we have highlighted, although the Latin America market is formidable in terms of numerous challenges of PLAN, BUY, MAKE, and DELIVER, these challenges have tremendous opportunities at the back end, which, if exploited, are bound to bear many riches.

One of the biggest opportunities in the Latin American market, and one that will have a far-reaching impact on supply chain management in the region, is the potential for technology leverage. We believe the average productivity of companies is short of where it should be, due to insufficient use of technology. Looking at any of the four pillars of supply chain management that we have addressed, we find that technology is either not used at all, or used rather inefficiently and ineffectively. Whereas technology is not the overall answer to all the problems, we strongly believe it is an important enabler for any and all opportunities within the region.

One of the other opportunities, which may not necessarily seem obvious, but has a strong influence in the future, is companies paying sufficient attention to their overall strategies.

We find many instances where strategies are completely disconnected from their real operations. There is much attention on the here and now, vs. planning for the future, and really thinking through where the company is going to go in the future, and what is the comprehensive regional strategic plan of growth, market penetration, acquisition, and expansion. When this is laid out sufficiently, the rest follows suit in an orderly fashion.

We maintain Latin America is a growth market, and we will see a strong rise in companies’ presence in the region, and along with it, an expansion of the need for supply chain related people, process knowledge, experience, technology, and strategy in the years to come.

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