SUPPLY CHAIN MANAGEMENT PROFESSIONAL

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editorial

Lead, Kindly Light, Amidst the Encircling Gloom

> "The structural imbalances that face us cannot be resolved with short term measures. Hope the government stays true to the course."

Global trade growth is slowing down – from the 7.1 percent during the pre-crisis days to just about 3 percent in 2015. For the past five years, global trade has been growing at slower pace. Part of this can be due to the pressures from the financial crisis and the resultant slow down. In most countries that matter, demand is muted. Consumer confidence is low. But that alone does not account for the slowdown in trade. According to economists, the financial crisis has a yet to be understood fallout- the trend to move manufacturing back to places close to the markets.

There was a time when manufacturers sought out the cheapest place to produce and then shipped products across the globe. The steep fall in shipping tariffs should reinforce outsourcing. Instead, we see firms choosing to move manufacturing close to their markets. Experts believe that one factor that has led to a fall in global trade is China's move to shift component manufacturing back to China. Instead of importing parts for final assembly, it has shifted to sourcing parts locally. Result – dip in imports into China.

Capital creation can rain on this parade. Investment sentiment has practically dried up. This may fore firms to send some lower value add manufacturing to cheaper countries. This is where India comes in. We are still a low wage country – our GDP per capita is one third China's. If we get our act together, we could become the growth engine of the world. World Bank and IMF are betting on this. They regard India as a silver lining in an otherwise dull scenario. There is a chance for a new player like India to take a firm foothold in global trade. The one shining light in gathering trade slowdown.

The budget has acknowledged it – and focused on boosting rural income. Marrying the Prime Minister Narendra Modi's Make in India with Raghuram Rajan's Make for India. Hope we can get the other enabling legislations passed.

On another note, we bring you the proceedings from the 2nd ISCM Supply Chain Strategy Summit. We hope you like the topics discussed. As ever, we await your feedback.

Happy Reading

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Target to invest USD 2.5 Billion in Supply Chain

For any retailer there are twin nightmares – stock outs and excess inventory. The US based retailer Target has had its fair share of both. That is until it started on an ambitious plan to address stock outs. In its annual report for the year 2015, CEO of Target Brian Cornell says that they managed to reduce stock outs by 40 percent by addressing its supply chain constraints, by investing USD One billion. According to Brian, this was because Targets supply chain was organized around its physical stores and did not take into account its online sales. And having tasted success, Target has unveiled an ambitious USD 2.5 billion investment in its supply chain beginning 2017. To help them in the supply chain transformation, they hired Arthur Valdez, a 16-year veteran of Amazon.com, to head its supply chain and logistics operations. The goal is to integrate their 1800 odd stores and the relatively new online platforms. The investments in its supply chain is to focus on improving sales online and on mobile, localize assortment in stores and open more smaller-format stores in urban markets, Cornell said. Ladies and gentlemen – please note – supply chains are your lifeline. Invest in them to prosper.

A Structural Shift in Global Trade

A recent report in the Financial Times highlights a worrying factor – 2015 saw the biggest fall in global trade since 2009 – when the financial crisis was at its peak. The report goes onto say that global trade will be below par in 2016 – the fifth year of poor growth on a trot. The reasons for this is not too complicated. A weak global demand and anemic growth in China is one reason for this. This, in turn has depressed commodity prices, pulling down other emerging markets. This is an obvious explanation. On the other hand, economists believe that the real reason for the slowdown is far more structural. That the forces that have driven globalization have begun to shift. China is moving away from its manufacturing intensive export led growth to consumption led one. The same report goes on to say that another factor could be digital revolution is changing the old business models. Economists at the Mckinsey Global Institute believe that "What we see in front of us is a globalization that has morphed into a very different and more digital direction." The only silver lining will be if other emerging economies expand to take up the slack. Else, we are in for some slow growth.

IoT – The Going Could Get Messy

Every seminar on supply chain will have one track on IoT. We in SCMPro have covered it multiple times. Our position has been that IoT will become the industry standard. Sam Ransbotham in the MIT Sloan Management Review writes "We are attracted to, and ready for, the insights that will likely come. But being ready for the benefits isn't the same as being ready for the associated changes. Before the smoldering ingredients of IoT catch fire, preparation for the coming market power shifts, increasing complexity, pervasive security, and process change would help most organizations make the most of the IoT potential." Sam believes that basic substratum for IoT is in place – low cost sensors, cheap and omni-present communication networks, and analytic engines. But there are some spoiler alerts. For one – will firms be able to collaborate with other stakeholders in the value chain to unlock the value from the data? Or more important, who owns the data so collected? Second, IoT will increase the complexity of the value chain. For example, manufacturers will have to provide free firmware upgrades as and when it becomes available – but in a global value chain this will be a problem. If such upgrades are not universally rolled out, firms will end up with multiple versions to support. Third, the sheer amount of data that will be streaming in from various devices will overwhelm firm's analytic engines. Firm will have to spend to stay on top of this data deluge. Clearly not easy tasks! IoT may be the current buzz, but needs considerable investment to operationalize.

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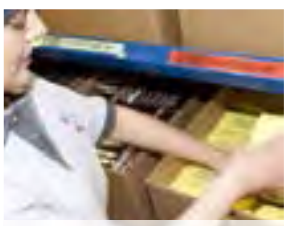
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2nd Supply Chain Strategy Summit 2016

Building Supply Chain Alignment in a New Networked World

The Institute of Supply Chain Management organized the second ISCM Supply Chain Strategy Summit on 26th February 2016 at Mumbai. ISCM Supply Chain strategy summit is a thought leadership event, conceptualized to bring senior supply chain professionals and service providers to discuss and debate the emerging paradigms in supply chain. The theme for the 2nd ISCM Supply Chain Strategy Summit was - Building Supply Chain Alignment in a New Networked World. SCMPro brings you excerpts from the proceedings in this issue.

Digital revolution is over turning every established business norms – from customer acquisition to manufacturing, to supplier management to supply chain. The forces that defined globalization are changing. The old paradigm of container loads of goods manufactured at the cheapest location and transported to markets across the globe is fading away. It is replaced by a digitally enabled manufacturing process - robotics, 3D and possibly 4D printing, and digitally enabled supply chain – driven by IoT. A study by McKinsey suggests that we will send 20 times more information around the world, than what we did in 2008. For example, GE is 3D printing fuel nozzles for jet engines. By 2020, it expects to make around 100000 parts through 3D printing. The global trade of the future will not be container loads of goods moving across the seas, but cross border information flows destined for 3D or even 4D printing. Studies estimate the contribution of data in incremental global GDP is higher than the value add by manufacturing – USD 2.8 trillion vs. USD 2.7 trillion. In 2014, IMF and World Bank had warned about a shortening of global supply chains. The digital revolution has hastened that process.

The convergence of Supply chain and digital technology enables transform supply chains into a flexible, agile, collaborative structure. A globally inter-connected supply chain network needs data, visibility, and speed - the new paradigm of 'digitization'. This has enabled firms to move away from traditional one-size-fits-all supply chain, to omni channel design. Today customers want to access products and services through channels they find convenient. The fulfillment can be through different supply chains according to their specific preferences and propensity to pay. The result: happier customers, serviced to their satisfaction; and happier enterprises because the new finely tuned alignment allows them to achieve better margins while serving customers (through lower costs-to-serve and higher sales revenues). Supply chain digitization involves moving all aspects of the supply chain – from procurement to payment process on-line.

In this background, ISCM in association with Supply Chain management Professional organized the second ISCM Supply Chain Strategy Summit. The theme of the summit was "Building Supply Chain Alignment in a New Networked World" – a look at how supply chains of the future need to be orchestrated in view of the digital economy.

Through a series of structured talks and panel discussions, a range of issues – from the macroeconomic and geopolitical influences in the supply chain to supply chain resilience, from the challenge of globalization to the technology frontiers, the changing contours of the supply chain were discussed. We bring you excerpts.

Happy Reading

Challenge of Globalization – Charting our Growth Path

One of the fundamental challenges facing the supply chain professional and organization is discussions about best practices when we are facing a global slowdown. The current OECD data tells us that global growth is slowing down. The world is moving towards chaotic times – as can be seen in the Middle East and Europe. Even US economy is showing signs of a slowdown. China, once acclaimed as a driver of world growth, is slowing down – by design or default. Another aspect that has affected the supply chains as much as geo-political developments is technology. Amidst this gloom, India is a lone growth economy. There is a euphoria bout India overseas. But India has passed through three years of drought. It is in a similar shape as China is, with a large population still dependent on agri income. This is the back ground in which the panel discussed the challenge of globalization.

Panel Members: Pramod Sant, Vice President –Head of Imports /Export and Export Control and Customs at Siemens India Ltd.,
Dr. Rakesh Sinha, Head Global Supply Chain, Manufacturing and IT, Godrej Consumer Products Limited,
Alagu Balaraman, Partner in CGN & Associates and the Managing Director – India Operations.
Moderator – Dr. Rakesh Singh, Director IMT Dubai and Chairman -Governing Council, ISCM

What are the major disruptors for supply chains in India?

Pramod Sant: India looks attractive as a manufacturing hub for the world. But as we look closer, there are a few challenges, specifically from the supply chain. Customers across the world are clear about their requirements. For example, Siemens manufactures a product called smart relay. The product, made in Berlin, was delivered across the world – within 10 days. We decided to shift production to our facility in Goa. Manufacturing was not a problem. We ran a pilot with delivery to 20 countries. The product moves by air. The first challenge we faced was knowledge – we had to train our staff on IATA courses. The second issue was transparency. We found that tracking the product from Goa to Mumbai was difficult – we were never sure, when it would arrive. The third issue is infrastructure – Goa cannot handle international cargo which contains lithium batteries. The initially we took 22 days against the 10 days expected of us. By sheer perseverance, we managed to reduce the lead time to 8 days.

Dr. Rakesh Sinha: The biggest challenge Godrej faces, is the political stability in our markets. The second challenge is cost control. From time to time, countries develop some cost advantages. If we shift our production to those countries, and that country faces political uncertainty, the entire supply chain is destabilized. We need to look at political stability and develop an alternate facility if things go bad. We need to be able to balance production between these facilities, without alienating either of them. The third challenge is cultural – running a plant in African countries is different from running it in South America. We need to be constantly learning how to manage cultural diversity.

Alagu Balaraman: A fortune 500 firm was facing trouble –its customers across various segments were facing a slowdown. Cost reduction became the first goal, more so in their supply chain. The second goal identified was – help me sell better to my customers. There is a shift in focus here. Early on, firms focused on network planning, improving supply base, line optimization, and the like. Today the focus is on improving intelligence within supply chain to identify the need, where the need is, and how can the supply chain respond to it. At the other extreme, there are global consumer product firms whose top line has remained flat for some time. These firms focus on cost reduction. One firm wanted to know how to sell to individual customers – how do they buy, when do they buy, why do they buy and how to fulfill it – in short the ability to service an individual customer in a customized manner. Customers today want to order customized gems chocolate with their kid's photo on each piece. There are two challenges – one to have a flexible manufacturing process that can deliver this level of customization and second, to get the data to the point where the process can be completed. A third evolution is the precision and time adherence by e-commerce firms raising the bar for other service providers. Broadly, these point to the direction in which our supply chains will evolve.

The role of technology in changing supply chains in a decelerating global economy.

Dr. Sinha: There are two areas where technology can re-shape supply chains. One is in picking up consumer demand. At Godrej, what is happening at the consumer level forms the basis for supply chain. We try to pick up these demand signals from as many points as we can. As on date, we pick up 500000 demand signals every day. We use these signals to find out the velocity of consumption of a product at a specified geography, and the acceleration or deceleration of demand. These two – velocity and acceleration/deceleration are critical to a supply chain. Demand signals drive the supply chain – from production planning to procurement to logistics. Picking up the demand signals, as close to the end customer point of purchase is crucial. In India, retail outlets are not technology enabled. Accurate demand data is not available from such outlets. A good proxy is the data from the distributor. The second area where digitization is helping is manufacturing. IoT is one such promising technology. Energy consumption is one area where we use it. The payback is not more than six months. IoT in manufacturing is a big ticket development, with endless possibilities.

Pramod: Customer needs drive digitization of supply chains. In e-commerce, it is a must. But when we move to traditional manufacturing firms, you have varied customer needs and segments. Each challenge is different. One of our product is transformers – ranging from 90 to 340 tons. Moving a transformer will take six months. In this case, a GPS is not necessary. The driver will call in with his location. In such cases, technology has a limited role to play. At the same time, if we look at the medical spares sector, technology is a must. For example, an MRI with an uptime close to 98 percent requires a technology enabled supply chain. Using technology, we are able to identify which component has failed, who is the engineer closest to the location, how quickly can the engineer be deployed on-site, the engineer can order the required spares, the spares are air lifted to India, customs cleared and delivered to the hospital within 24 to 36 hours. Technology is vital here.

Alagu: The normal process for developing a supplier base is to study the existing suppliers in the country, put them through a rigorous supplier evaluation process, choose the best fit supplier, agree to quality and other delivery terms, and work together. But the Indian industry is rapidly evolving. New suppliers with better product- price- performance capabilities are coming up rapidly. The new paradigm is – how can a buyer stay abreast of new suppliers as they emerge, and if required shift procurement to these new sources. Manufacturers today want to know who is a promising new entrant, connect with them early on, and derive advantage over their rival. Similarly, on the customer front, technology can change paradigms. Product life cycles are shrinking and intensity of rivalry is high in the market. In such circumstances, we need to understand the external drivers more than internal drivers of demand. We need to move to a forecasting model that does not depend on historical data. For one of our customers, we built a model that mines competitive intensity, marketing spend people are looking at, what are people searching in each geographical location. We studied what is likely to be the demand pattern. This is not possible without technology. We need to develop the capability to meet the changing customer needs.

Complexity in supply chains are bound to increase. And as Indian firms look to increase their global footprint, they will require multiple partners across the globe. The days when firms could choose their logistics partner based on the least cost model will give way to a closer engagement with firms who can deliver under varied circumstances. We will see the rise of closer collaboration between the manufacturer and the supply chain entities. The drivers of this will be changing customer preferences, the need for immediate gratification and technology. Rise of IoT and 3D printing is set to change the aftermarket. Machines will be able to self-diagnose, order the required spares, marshal men and material to pre-empt a breakdown. The required spares will be printed at a close by location and rushed on-site.

Global growth dynamics is shifting in favor of India. We have the core skills. It is India's hour.

Impact of Macroeconomic and Geopolitical Trends on Supply Chains

The world is seeing a structural shift in trade. Where firms chased low cost manufacturing, today the focus is on setting up facilities close to the customer. Where complex global supply chains were the norm, we are seeing supply chains shrink. Off late China has started sourcing intermediate components from within chins – thereby shrinking entire supply chains. Another factor is political stability – with large parts of the world – like Middle East and Africa gripped by political instability. A third factor is the slowdown of global growth. Almost all major countries are facing a slowdown. With the exception of India. Heads of supply chain now need to understand the complex interaction of Macroeconomic and geopolitical trends on their supply chain. We bring you excerpts from Dr. Rakesh Singh, Director IMT Dubai, and Chairman-Governing Council, ISCM, address.

Dr. Rakesh Singh,
Director IMT Dubai, and Chairman -Governing Council, ISCM

If you look at the world today and if you start looking at challenges to supply chain, there are differences between how an organization reacts in terms of its business and how a nation looks at its own growth. A nation is a closed system. If it starts de-growing, the impact is very high. A business is an open system. Even if a nation is not growing, businesses can grow, depending upon their business strategies and their supply chain strategies. In this context, if I start putting the world economy at large, and look at the global trends that are emerging, some very disturbing trends emerge. For instance, we expect India to grow at 7.6 percent and everybody believes that India will do well. I met a logistics service provider in the morning and he remarked that things are not so rosy. This is one indicator of the challenges of global and local supply chain and a businesses' individual supply chain can get affected.

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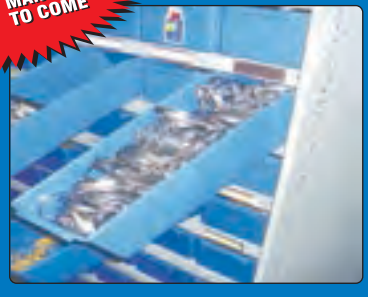

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Let us look at what is happening around the world. If you look at the most recent data from OECD, where they say the world is on the verge of a slowdown, in comparison to 2015. The only two countries which are growing at more than 5 percent are India and China, apart from the African continent. They continue to grow at a higher rate. Look at US – in the last three quarters, the GDP has tumbled from 2.8 percent to 1.3 percent. The yearly average may still hold at 2.4 percent. There is a clear indication – the largest economy in the world, which is supposed to drive global growth, which was the starting point for recession, and to which the world looks to for growth does not look as promising.

Given the infrastructure, given the dynamic of geopolitics, Dubai is one nation state which will create a new framework for ease of doing business

Look at Europe. Europe has been one of the most important levers of growth for China and India, with a 20 to 25 percent share of trade. Europe is slowing down and is expected to grow at around 1.4 percent. From a high of 1.9 percent, there is a 0.5 percent decline. Africa has come down from 6 percent to five percent. Before the Arab Spring, the Middle East and North Africa were expected to grow very fast. Today, Middle East is expected to de-grow over the next one year by one basis point. Saudi Arabia is the fulcrum of Gulf countries. Its growth rate has been downgraded to one percent from 1.9 percent. And the whole of MENA region is to grow at 1.3 percent.

Clearly, the world is facing a slowdown. And this slowdown is coming at a time when two or three major geopolitical trends converge. The first fundamental trend is of the Middle East. The rise of ISIS, the conflict between Saudi Arabia and Iran, Russia as a rouge state – combined, these trends are creating a level of uncertainty in these parts of the world – West Asia including some parts of erstwhile USSR and the Gulf region. This is a major geopolitical trend, affected by ISIS and we do not know how to deal with this. For example, a participant in a masterclass asked me, how do you plan your demand in Libya and territories held by ISIS, if that is your major market? How do you plan your demand in a geopolitically strong nation state? How do we understand these volatilities? And when this region – the Gulf nations become the trade hub or route hub to Europe, we can expect major disruptions. China faces this challenge – Dubai is its entry port to Europe.

The sea freight is at its lowest in quite some time – you can transport a 40 foot container from Shenzhen to Los Angeles in USD 1300. This indicates a major slowdown in trade. The global trade has declined in a big way. It is reaching rock bottom for most economies of the world. I do not know how India is growing. Maybe internal trade propels us. Given this political scenario, let me add another country – China.

China is in turmoil. China is facing protest from its non-developed area in the West, North, and Central regions. One of the major focus of Xi Jing Pen is to balance the nationalist fervor with these domestic rumbles. The South China Sea adventure, the attempt to bully Japan, South Korea, Vietnam, Philippines, and now India are an attempt at whipping nationalist fervor to beat domestic forces. India is one of the most affected countries, because of the long shared border. As recently as on the 26th, he has set up a base in an island far ahead of their legal territory. Why is it doing so? China has historically been an assimilative state. They wanted to put their economy over their military. There can be two interpretations as to why it is behaving so now. One, because

of their economic might, they want a geopolitical might over the world. Or, the second and more worrying explanation is they have nothing to offer to their citizens. Their economic growth is stumbling. Their financial markets are in turmoil. They are balancing their nationalistic fervor through these conflicts – South China Sea, border dispute with India, Island conflict with South Korea and Japan, and conflict with Taiwan. They do not have an economic policy to offer to their citizens that economy can do better and citizens will prosper. They are talking of moving from an export led to a consumption led economy. I fail to understand how consumption will increase in a slowing economy. Probably, someone can explain this.

If you look at all these – China, Europe, US and India – the world is moving toward a unique situation. It is called secular stagnation. Except in one country, we have never seen low inflations and low interest rates. Today, everywhere we see low inflation and low interest rates. An economist, way back in 1937 had described this as true stagnation. Look at the landscape today. Why is inflation low, when interest rates are low? You can borrow at low rates, create demand, and create income. We are following what Keynes said in 1929 – Stupid, it is the demand. We are waiting for the Government to invest. And as Government invests, demand will pick up, business inventory will get absorbed, and businesses confidence will improve. Here we are in a situation where most of the states are delinquent and they cannot do this.

What should be a policy response, from an economic perspective? We need anew normal in public policy, rather than sticking to the time worn policy stance. We need a balance which goes very differently. As I said, if there is no demand, and global demand is declining, and there is low inflation and low interest rates, when there is no new investment, we are caught in a low supply low demand equilibrium. How are we planning to go ahead? Remember, businesses are all about disaggregating these macro trends into micro trends. How do we meet supply and demand?

I was wondering how the supply chain will re-emerge from this? I can see two zones that will emerge in a big way. And they require certain precedents for re-emerging. One – Dubai. There is a recession in the MENA region. Saudi Arabia, which is a major customer of Dubai, is in recession. How will Dubai re-emerge? How slowdown, recession, and growth will really make new emergence of destinations which will redefine supply chains? Given the infrastructure, given the dynamic of geopolitics, Dubai is one nation state which will create a new framework for ease of doing business, even if it means introducing taxes. Firms are relocating to Dubai. Nations can create demand and spur growth in this way.

The only two countries which are growing at more than 5 percent are India and China, apart from the African continent

Second is India. Here we have grown despite the gods. Our government does not understand the need to provide basic amenities. India is a market – which China was in 1979. And still it is seen to be a very vibrant market. What should India do? Sadly, India should do all that congress blocks. Allow GST for easing the supply constraints, allow land acquisition to set up large enterprises, so that rural India can get better roads and LSPs can go there, create infrastructure that will be world class. Create economies of scale for businesses to flourish. India can do this. We need to get our political will to put nation first. And that is anybody's guess.

Supply Chain Resilience - A Practitioner's View

Dipak Subudhy,
DGM - Outbound Supply Chain and Logistics, Larsen & Toubro Ltd.

Increasing complexity of supply chains exposes them to vulnerabilities. Quite often, they lack visibility, are prone to disruption, and subject to multiple regulations. Every firm, big or small acts within its supply chain. Supply chains are evolving rapidly, buffeted by technology changes, resource scarcity, and globalization. To survive and prosper in such an ecosystem, firms need to assess the resilience of their supply chains. We need to move the dialog from board room to the shop floor. Dipak Subudhy, from L&T Ltd shares his perspective on supply chain resilience – a practitioner's view. We bring you excerpts from his presentation

Resilience is the ability of the supply chain to re-organize and deliver its core function continually, despite the impact of external and or internal shocks to the system. Firms are not able to predict the next shock, or next disruption. But business sustainability requires uninterrupted delivery of goods and services. In the present perspective, supply chains and transport networks form the backbone of the industry. Disruptions to the supply chain can prove costly - as we have seen severe production loss due to floods in Chennai. Supply chain resilience is an important issue for firms for two reasons – a supply chain impacts the effectiveness and efficiency of an end to end value chain. To preserve the value addition by supply chains, we need to ensure our supply chains retain the ability to bounce back from disruptions. We are living in a VUCA (Volatile, Uncertain, Complex, and Ambiguous) world. Supply chains, by their ability to collaborate with the multiple entities in the value chain can ensure stability.

When faced with such volatilities, simple classification of supply chains as efficient or agile will not work. Firms need to adopt a fusion of these methods, as their supply chains. Our global supply chains add a level of volatility and complexity we have not experienced before. Survival in such business environment depends on the ability of the supply chains to come back to a new normal in the aftermath of a disruption.

Segmentation is a key tool to understand a customer, partner, channel partner, or vendor. In India, we speak of festivals being the sales period. In reality, every month end is a time for higher sales. Ignoring such patterns in sales will give firms a skewed demand signal.

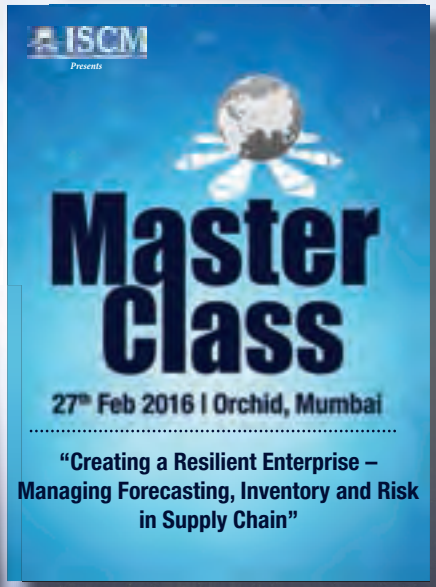
A few initiatives can help create resilience in supply chains. First off is Sales, Inventory, and Operations Planning – an adaptation of the traditional sales and operations planning. A second is the ability to manage critical components. Critical components can cause major setbacks for firms. Firms need to constantly monitor their availability and price. The need of the hour is a dynamic mix of forecast and agility to respond to situations

as they arise. For example, at our division in L&T, over the past year countries like Sudan, Kenya, and Bangladesh turned up as growing markets. Our forecast did not include these countries. The ability of our supply chain to respond to these unexpected growth spots saved the day.

The bottom line is – firms need to adopt a judicious mix of planning and responsiveness to emerging situations to create resilience in their supply chains.

Master Class

by Dr. Antony Paulraj



Women in Supply Chain – Breaking the Fortress

Ms. Sharmila Amin,
Managing Director - South Asia India at Bertling Logistics India Pvt. Ltd.

When ISCM and SCMPro organized it first LSP awards, one of the award categories was "Women in Supply Chain" Unfortunately, we received very few nominations. Probably because supply chain is a male dominated field. Women, quite often, do not choose to be a part of this sector. There is nothing in supply chain domain that can be an impediment to women exceling. Across the globe, women are making their mark in the supply chain domain. There are quite a few organizations in India, where women head the supply chain function. In its quest to push the envelope, ISCM invited Ms. Sharmila Amin, Managing Director - South Asia India at Bertling Logistics India Pvt. Ltd. to speak about Women in Supply Chain. SCMPro brings you edited excerpts from the talk. We hope to cover more such women in supply chain soon.

This is a topic, "Gender Diversity" which I believed would not exist by the time I retired. But it continues. I am sure, by the time I retire, we will not have much to talk about. It is very important to trace my beliefs and career graph – it is very important to know that there are a lot of men behind my success. We are used to the opposite – behind every successful man is a woman! I would like to start with examining stereotypes in business. It is a well-known fact that women are not as strong as men. There are a few stereotypes when it comes to women – women do not play sports – not true. Women do not make good politicians – again look no farther than our former President Mrs. Pratibha Patil or our former Prime Minister Mrs. Indira Gandhi. Another stereotype about women is – they are quieter than men, and will not speak up. Again, not true. Yet another stereotype we have is – women are meant to be housewives – I tried to use another term for housewife, but could not come up with one. Today, women have stormed the corporate board room in large numbers – look around you and you will find them heading major corporations – Ms. Chanda Kochar MD of ICICI Bank, Ms.

Shikha Sharma – MD of Axis Bank, to name a couple.

A few days back, at a panel on women in business, Ms. Swati Piramal made a very nice statement- She ran a study in their group and they found that women are trained for four M's. I had to write it down, as I never came across it in my life.

She says girls in India are trained for four M's – The first one is Marriage, second one is Maternity leave, third is Matriculation and the fourth was Medical. And she defined it very nicely. Girls are trained from a young age – I am not talking about what is happening now – things are changing rapidly. Girls are taught to think of marriage at a very early age. And once you get married, it is all about maternity, children, and looking after them. Another issue was education – you need to study only till your "Matriculation" and then the parents will take a call on what to do with her. And, god forbid, if someone in the family is sick – it ends up with her – she has to take care of the sick person – the fourth M- Medical. I said – "no, things have changed." Ms. Swati Piramal said – "we see it from another perspective. What percentage of the women population of India are doing this? It is very miniscule." I met a Baroness at the same function and she said, "If all the women in this country decided to do some work, our GDP will go up – much more than the projected 7.5percent." She gave it in trillions of dollars.

Let me look at the role of women in logistics - Indian logistics business is estimated at USD 92 Billion – about six trillion rupees. And we are expecting it to grow at one to 1.3 percent of our GDP. The transport and logistics business in India grew at 7.2 percent compound, between 2002 and 2009. Our growth was flat over these past few years, as the economy was not doing well. In the last couple of years, it was between 4 and 5 percent. The freight traffic will grow by about 2.5 times by 2020. And the ratio of women to men is about 1:4 today. Women only constitute 20 percent of the workforce today.

If we have to define logistics activities with a broad brush – like we do for supply chain, we have on field activities, off field, corporate activities, equipment maintenance, customs clearance, material handling, servicing, and other fields like marketing, HR, finance that women can get into.

Let me look at the unique problems that we women face – we are dominated by men – 80 percent. We do a lot of back office work in logistics – like HR, admin, operations, finance etc. Logistics is a big turn off for women – with the men and the swear words they use! A lot of logistics activities are on the field – involving odd hours – another barrier for women. To add, we draw lower pay scales compared to the rest of the industries. We also suffer from a well-defined career path and role models to follow. Two other issues are a barrier – a reluctance among vendors to negotiate with a woman and the lack of hygiene in many work places – many of these are in remote areas. If you go to a port building in Nhava Sheva, there is no toilet! I can never forget a trip I did, when I was setting up a fertilizer plant in Chambal – I asked to use a washroom and was told – this is a project site and we do not have a washroom for women!

The solution to this is the A-R-T framework for fostering gender diversity. A for Attract – create enough attraction for women to choose it as a preferred career, rather than being forced into it. R for retain – define policies and frameworks for retaining women, and make it a safe, secure and happy place for women to work. T for transform – create an environment where women talent is given enough opportunities to grow and express their capabilities. We need to make a change that women come and stay with us. There are a few areas where women can excel – like sales, marketing, admin, finance, and HR. We need to identify roles where women hold a natural advantage.

I am not for a moment saying women are better than men. We are all equal here. All I am saying is that – if we can manage the finances at home, we can manage a business just as well.

Smart Warehousing - Design Elements of a Warehouse in a Networked World

Arif Siddiqui,
Founder and Director,
Coign Consulting

As India integrates into global trade, we will need to spare considerable attention on our warehouses. We need to move away from the antiquated notion of a dump to store materials for a short period, to a connected, modern, digital place where considerable value addition can take place. We need to start our journey to smart warehouses. Is Smart Warehouse one that uses maximum automation? Is it where robotics and smart conveyors manage store and pick processes? Or do we look at it as a warehouse that operates efficiently, under business and budget constraints, but still managing to employ best practices in a volatile environment? Arif Siddiqui, Founder and Director, Coign Consulting spoke on Smart Warehouses. We bring you excerpts from the talk.

Over the past few years, there is huge change in the way in which supply chain is organized. Given the large strides we have made in supply chain, it is appropriate that we speak about the "time" today. The past 15 years has seen fast growth. Firms have transformed by 10 times in turnover, service levels, in number of employees, technology adoption, investments and so forth. Over the past two decades, India has managed to bridge the gap from where it was to what the world expected it to do, in a substantial way. And the transformation was at high speed and high velocity. Due to which, we were successful in managing the business. But failed to organize the business. Businesses delivered the numbers, but the process was messy. The back end was chaotic. Businesses did not invest adequately in scalable and sustainable infrastructure. Businesses could not invest in training people, and could not get talent to manage the next level of growth.

The marginal slowdown in the global economy and its fallout on India, will mean, we will see a moderate growth in our economy. This is the right time to clean up the house. Because, after a couple of years India will witness

a higher growth rate. It is in this context, businesses need to look at smart warehouses.

Smart warehouses are not about large capex. It is not about investing huge amounts. It is about smart with the existing investments. There are already warehouses – smart or not - operational. To understand smart warehouse, we need to look at some numbers. For example, India still spends 14.4 percent of the GDP as supply chain costs. This number has remained steady over the years. The comparable figure across the developed world is 8 percent. And it has remained so. The first trend visible is that logistics firms are moving from a traditional to a contemporary model in doing business. Businesses have adopted technology, are using remote scanners and barcodes in the warehouse, have sophisticated warehouse management systems linked to the S&OP systems, there is a huge amount of transparency and customer connectivity through the warehouse – all these are happening. In spite of all these advances, the industry is still dreaming of end to end supply chain solution to its customers. The interesting fact is that it is the customers they service who are pushing the logistics service providers. The customer believes the service provider has not arrived at the levels they expect.

Customer expects the service provider to be a specialist. They want their outsourced partner to be a specialist. At the same time, the customer expectations are also changing. The customer outsourced logistics activity to reduce costs. For the industry to gain the benefits of improved supply chain, both the customer and the service provider need to work together to realize the potential of smart warehouses. A second challenge is – the unorganized players are now competing with the organized players. The organized players are constantly losing to unorganized players. This is because there is no differentiation between the organized and unorganized. The reason is not far to seek – the organized players have not differentiated themselves as specialists. Merely buying a few sophisticated tools and equipments does not constitute specialization. It is a function of investment – not expertise. As long as the organized players continue to be providers of manpower, resource and infrastructure provider, they will be forced to compete with the unorganized sector. The unorganized players have realized this. They are confident that they can compete with any organized player, because they too have the resources to throw at infrastructure.

Studies have shown that if the industry adopts smart supply chains, there will be a clear 20 percent savings. Analysts forecast that 3PL market in India will grow at a CAGR of 21.6 percent over the period 2013-18. And if the trend continues, the 3PL business in India will be worth USD 309.1 Billion by 2020. The warehouse sector is set to grow at a CAGR 10 percent and the freight forwarding business at CAGR of 12 percent till 2020. This is a huge opportunity.

The smart warehouse has to exist in a networked scenario. The network is not an electronic network. The network in this context is where an action by an entity in the network will have its impact on every member of the supply chain. The process string starts from the raw material supplier to the end customer. The first element in a smart warehouse is skills. For example, the customer expects a logistics service provider to know the distance between two destinations off the cuff. The second element in a smart warehouse is measurement. The primary focus on measurement is TAT. It is time to get beyond TAT, to other critical measures. The third element is continual analysis – the warehouse should constantly monitor the supply chain for deviations, and come up with possible disruptions or value add. The fifth element is resource utilization. Warehouses need to work consciously towards reducing people, as a planned effort. And deliver on it. The sixth element is selection of technology. Usually, the technology vendor – not the business user, does selection of technology. Warehouses end up buying technology suggested and recommended by a technology vendor. The common refrain among warehouse developers is – we were told, this is the right technology, or we were told, this is the right MHE.

Other aspects of a smart warehouse – more or less a given – are its location, it has a building with all approvals in place, it has an infrastructure with all required external connections, it has functioning services and has quality infrastructure specifications and flooring. At a recent conference of warehouse developers in Bhiwandi, near Mumbai, the organizers went on to state that their customers accept whatever they provide. Therefore, they are looking at external inputs. The developer is saying that they

are unable to grow because they do not receive constructive feedback on the customer requirements. It is unfortunate that the developer is looking at external sources to give them the right inputs.

In a mart warehouse, process and function has to marry. A warehouse will never be able to achieve high efficiency, productivity, and effectiveness of the processes, unless and until function marries with infrastructure to deliver ROI. The design should deliver high productivity from assets and resources. Productivity is not a number. It is efficiency and effectiveness. They should provide smart integration of value added manufacturing services. People believe a warehouse to be an inventory dump, from which it will periodically take out some stocks. But the future warehouse will perform a host of value added services. Some of which are already performed. Warehouses are opening the box, labelling, kitting, re-packing, bundling, and re-filling, and so on. This means the SKU now stops before it is stored at the warehouse. Or it stops before dispatch. This activity needs space, and this has to be provided for in the design phase.

The final challenge is scalability and sustainability. Users cannot afford to uproot themselves and move to a bigger warehouse every other year.

A smart warehouse needs smart planning. The smart layout will integrate overall design process with functional processes. Layout planning involves designing the layout of the warehouse in line with the operations to be carried out in the facility, including warehouse office and support services. It should accommodate, receiving area, processing area, storage area, dispatch area, offices, and services area, and provide scalability to future growth. Most designs are mere copy of the nearby warehouses.

Smart warehouses need skilled design engineers. For years, warehouse industry has been talking of tri-mix and VDF flooring. Most professionals do not understand what it means – least of all that these are obsolete technologies which will fail in warehouses that are more than nine meters tall. Equal care should be accorded to the external connectivity for a smart warehouse. In a smart warehouse, there will be no queues of trucks waiting to load or unload. Adequate parking bays and docks are a minimal requirement for a smart warehouse. Inadequate docks will increase costs – including demurrage and waiting fee for drivers. It reflects poorly on a warehouse if the goods take 42 hours to travel from Delhi to Mumbai, but has to wait 14 hours for unloading.

Across the globe, Smart warehouses have delivered stellar results – a 20 percent hike in order fulfilment, 18 percent reduction in dock to stock turnaround time, 15 percent reduction in human resources employed, and 50 percent reduction in dock occupation time, 10 percent increase in average MHE speed, reduction of damages to docks, minimal crossing of man and materials leading to fewer accidents, and reduction in mix ups and wrong dispatch.

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- When Put away operators **cannot commence put away** activity due to delay in receipt closure causing congestion on the dock.
- When **inaccurate inventory information** lead to recurring pick delays.
- When Pick locations are identified by multiple paper documents, making it **difficult to understand for new employee** and cause errors.
- When outbound transportation documents such as shipping labels, manifests, bills of loading are **manually generated**.
- When outbound orders are released for picking throughout the day and there is **no process to consolidate multiple orders** going to same ship address.
- When the **process of handling returns** from customer collection, receipt and sorting to final storage in the warehouse is not stream lined properly.
- When wrong shipment is recurring scenario

Pushing the Frontiers - Big Data & Analytics in Supply Chain Management

Dr. Neeraj Hatekar,
Director & Professor of Econometrics at Mumbai University

For a very long time, analytics was confined to structured data stored in neat packets. Analytics involved unearthing the patterns in the data. However, with the advent of social media, and visual media, data sources have become too unwieldy for a structured database and structured analysis. Today, data is often unstructured, contains visual elements or audio elements. And managers need to make sense of this data deluge. Enter the world of big data. Big data is now a part of mainstream analytics. In a special address at the ISCM Supply Chain Summit, Dr. Neeraj Hatekar, Director & Professor of Econometrics at Mumbai University explains the power of big data in supply chain analytics. We bring you excerpts from his address.

Big Data is a term used for data set – both structured and unstructured - that is very large and complex. It requires special data processing tools, as the traditional tools are inadequate. More than the size of data, what organizations can do with big data is fascinating. A company's supply chain is rich with data. As with other disciplines, supply chain optimization will drive competitive advantage in global markets. According to a study, the scale, scope, and depth of data supply chains are generating today is accelerating, providing ample data sets to drive contextual intelligence.

Big data has several benefits in supply chain management. If an organization has large chunks of data and it can classify them well, it can plan its logistics better, it can do its demand forecasting better, and it can look at the bottlenecks in real time. The idea is the firm gets a real time view of processes, so that the firm can make optimal interventions. That is the theory.

However, if the firm wants to realize the promise of this theory, if it wants to really the benefits from big data and analytics, firms should exercise great care. (Big Data and analytics are two separate processes and tool sets which come together in the domain of computer sciences) As somebody who has been working in this area for some time now, I would like to ring a warning bell. I would like to highlight the dangers that will befall a firm if it does not take the right care in looking at data properly. The current paradigm is – the data is out there, it is up to the firm to

learn from this data. I believe that approach is a little bit of a problem. A firm can maximize the benefits of Big Data and analytics, not by trusting machines entirely, but by using data with a lot of judgement, which is non-machine learning.

Working with an example, imagine the firm has data of every purchase made across every outlet of a supermarket chain, on a real time basis. Even then, the firm does not have data on the entire population. A data scientist will look at every purchase made as one possibility from a large range of possible purchases. The firm has data of what people bought from its outlets. It does not have data on similar purchases from other competing outlets. Therefore, the one data set the firm has is just one instance of several other similar datasets with other firms. Data scientists tend to look at this as a sample of many possible purchases. The problem, therefore, is not one of merely classifying, of, to use the jargon, portioning the data throws up some knowledge, but estimation and understanding how reliable these portioning od data are, given that we will have some sampling variability, even if the firm tracks every sale

When it comes to estimation and the key to using large chunks of data is the ability to condense large amounts of data into single usable, actionable number. For example, even if the firm has every single purchase at various price points, unless it can compress that data to understand how the sales of a product will change for a change in price, the firm cannot act on it. However, if the firm is aware that the transactions in its database are just a sample of the entire set of purchases, the reliability of the number is questionable. The data from other stores may be different. This is a very important perspective to have – something that you have to keep in mind when you are trying to learn only from data.

For example, if a firm wants to model its sale as a function of the price of the product, whereby it can estimate the impact on its sale for a change in price. In simple terms, by how much will my sale drop, if the firm increases its price by a unit? However, the price measured may not be accurate. Very often, the observed price is different from the actual price by a small random component. Assume that the firm has a model which states that for every change in price, the sales will change by 3. In analytics, the firm generates possible sales figures for various price points. From this dataset, it will pick up a sample, and do a regression analysis to estimate the value of the variable. We can assume that the price data has some random error in it – like a rounding off error. But if you run a simulation using these data, the value of the variable does not even come close to what the firm believes it to be. This is because, the sale of a product is not dependent on its price alone, but also on the price pf its competition. Since firms do not include their competitors price in their models, the relationship they will derive from their data will have a large deviation from reality.

This theory tells us that the firm cannot learn from the data alone. The firm cannot rely on data alone or depend on some machine learning algorithm to come up with an actionable input.. They need to have some pre-understanding of what is generating that data. That is the firm should have some understanding of the drivers of sales, what way will the variables relate to each other, are there some variables that the firm is dropping, which should have been included. There are no standard guides for this. It has to come from the internal organization experience. In addition to market intelligence, firms should look at standard economic theory, behavioral theory. What is needed is some pre-machine understanding of the market forces.

Planning for the Unforeseen - Coping with Disruptions

Panel Members:

Rajesh Neelakanta
Executive Director & CEO at BVC Logistics;

Reshma Zaheer,
COO, TT Aviation;

Kundan Raut,
CFO / Head SCM
Pizza Hut, South East Asia;

Jeevan Guruprasad Rao Sahib,
Director,
Indelox Services Private Limited.

Panel Moderator:

Girish V S
Editor SCMPro.

World trade is increasing every year. Increasing global trade needs the support from a complex and multi-layered supply chain. But this extended supply chain brings with it numerous risks. When supply chains were local, disruptions were also local. But today, an event in one part of the world can disrupt supply chains half way across the world. And due to the interlinks, even a local event can disrupt the entire chain. Firms need a method to stay on top of such disruptions. And build a supply chain that will bounce back from any disruption. An elite panel discussed supply chain resilience at the Supply Chain Strategy Summit 2016. We bring you edited excerpts.

Jeevan: As a service provider, we have to provide predictable services in the face of disruption – either internal or external. We are constantly learning and building our capability in that direction. This is a neve ending journey, but a very challenging one.

Kundan: The first thought that strikes me as I think supply chain is risk. As a user in the food processing industry, ensuring safe, hygienic, and wholesome food is a priority. Anything that can threaten that is a cause for concern for us. This makes resilience an important factor for us.

Reshma: The biggest test for an organization is how they recover from disruption. If you fail to plan, then you plan to fail! We plan for sales, finances, resources, but fail to plan for disruptions. That is critical. There are a number of examples of disruption. Disruption brings stress to managers. And when you think during stressful times, you tend to make mistakes, and the organization implodes.

Rajesh: Coping with disruption is a must for every organization. If the organization fails to manage disruptions – from any source and of any type – the organization will not exist for very long. There are supply side and demand side disruptions. The need of the hour is to build a resilient organization rather than risk management.

Given that firms have pieces of solution in place, what more should a

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Mentors

V S Girish
Executive Director, ISCM

Dr. Vaidy Jayaraman
Associate Professor, University of Miami.

Dr. Antony Paulraj
Globalization Professor in Supply Chain Management at University of Southern Denmark

Arif Siddiqui
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firm do to become resilient. Kundan believes firms put in a lot of effort, energy, and investments in their supply chains. But there is never a completion date. Firms need to constantly monitor their supply chains. Constant vigilance is the only way to stay on top. Firms need to have the basic tools to monitor their supply chains. For a firm like Pizza Hut, which deals with food products this is critical.

To the question, who has to ensure resilience when supply chain is outsourced, Reshma opined, she will answer that with her trucking hat on. Trucking is disorganized, fragmented, and full of challenges. Trucking has to constantly deal with unforeseen circumstances and disruptions. The one thing that has bailed them out – irrespective of the disruption – is communication. Communication, during disruption is being open, honest, and transparent. Firms should communicate with their customers on the nature of the disruption, and what the firm is doing about it. The more you communicate with the customer, the more confident he will feel. At the end of the day, the customers understand it is a business, and things may go wrong. It helps build credibility; the customers know that if things go bad, the firm is not going to run away. The one thing sales people should do is to pick up the call when the customer needs it most. The second factor is processes – the firm needs to have detailed processes covering every scenario, and periodically test the processes. It boils down to having a tried and tested business continuity plan.

Rajesh: Logistics is the tail of supply chain. The tail can never wag the dog. If there is an operational disruption, it is well within the 3PL provider to come up with a solution. Or put in place mitigants that help it recover fast. No 3PL will abdicate their responsibility to reduce the impact of a disruption. But they require empathetic behavior from the contracting agency.

Another connected issue is track and trace capability. To ensure quick recovery, the 3PL has to trace the cargo at every point in time. That said, there is a high level of maturity in 3PL operations in India – in terms of use of technology, social media, etc. Tracking is a given – it is a necessity. The bigger question customers ask is – how quickly can you recover? That is where the resilience of an organization would play a major role. The appropriate mantra for businesses is BCCP – Business continuity and Contingency Plan.

Firms, normally, have a hall of fame. At our office, I have a "hall of shame"

Jeevan: Resilience is must have for logistics. But where should a firm start? The obvious starting point is the internal processes of the firm. Is the firm capable, and does it have the strengths to meet the objectives defined by the management and its customers. As a second step, firms need to evaluate the external business environment, and map the changes to the capabilities the firm has to build and sustain. This means

identifying the changes in customer perception of their evolving needs, as a result of business ecosystem changes.

On a question about collaboration in supply chains, if collaboration is by design or accident, Kundan believes firms have to first focus on their internal capabilities first. A firm cannot collaborate with the other entities in the supply chain unless it builds internal capabilities. A firm cannot expect the supply chain to perform unless its internal processes perform. The first step in effective outsourcing is for the firm to understand the process internally. For example, Pizza Hut has two big partners – they are suppliers, but are called business partners. The relationship with them is not transactional. Pizza Hut invites the marketing and R&D team of these business partners to be a part of

Pizza Hut's business planning efforts. Pizza Hut will provide these partners with the information they will need, and it will ensure these partners perform to the stated service levels. The relationship goes far beyond a buyer- supplier relationship, both firms work together to a common defined goal.

Rajesh added: one of the key elements of a 3PL's service offering, in some cases, is that the service provider is the face of the brand. The brand may not have a presence in the country. For example, a global ultra-luxury brand requested BVC logistics to be its representative in India. Such partnerships will require a different set of skills – like good communication skills. Such partnership opportunities will keep recurring. For such luxe products, the delivery personnel will project a sophisticated image. The 3PL becomes a part of the brand.

Another issue that firms face when tasked with building resilience in their supply chain is the lack of data. Firms may not have a huge database of disaster and disruptions on which they can base their scenario building. Such data is not in public domain. No one would like to own up to be a party to a disruption. Asa sector, supply chain professionals need to commit themselves to sharing such data.

Reshma believes, most firms use the experience of its professionals to build disruption scenarios, based on the organizational learning. In some cases, firms may use consultants to help them. Another rich source of potential disruption is the customer. They may have experienced disruptions in the past. And as firms build partnership with their service providers, they become a rich source of knowledge. Most brand conscious firms will not engage with service providers on a transactional basis – they will prefer to forge partnerships.

To build a database of potential disruptions, industry needs to share information. But firms consider such information sensitive. Firms, normally, have a hall of fame. At our office, I have a "hall of shame" This contains all incidents where we failed, did badly, or did not perform to expectations. The minute you hold that mirror of failure to yourself, that is the biggest learning. Firms will never repeat it again. As professionals, supply chain managers should not shy away from admitting to mistakes. It is the nature of the beast.

Rajesh: There is a trade body for the trucking industry – the AIMTC, as well as local bodies, where truckers report these matters. Trucking business in India is predominantly in the unorganized sector – close to 87 percent. Due to this, information sharing between firms does not take place. But with social media platforms becoming ubiquitous, where the driver himself has a social media presence, information sharing will become easier.

Supply Chain resilience requires a number of factors to be in place – communication, trust, openness, collaboration, partnership, and an industry wide knowledge bank which the industry can use to look at scenario building.

Technology Frontier in Supply Chains

Panel Moderator:
Girish V S
Editor SCMPro.

Panel Members:
Sanjeev Aggarwal,
Head, Supply Chain, Viom Networks;

Sandeep Padoshi
Co-founder and Director of WOW Express.

Milind Tailor
Head, Supply Chain Management, Diebold Systems Private Limited;

Technology has re-defined the contours of every department within an organization. The difference is some departments adopted technology early on. Some areas of the supply chains have been laggards in technology implementation. Others like production had embraced technology a long time ago. There is an interesting observation – the technology vendor seems to be the only one with a solution to all problems. Buy more technology, and rest easy. The other way of looking at technology is as an enabler – how it will affect and can change businesses. In the final panel on Technology Frontiers in Supply Chain, a distinguished panel discussed some of the technology initiatives and its business applications.

There are two views on technology – one is to acquire technology because it is available – buy the latest, upgrade to the latest technology bandwagon. The second is technology is merely a tool for improving the business efficiency, and therefore, firms do not need the best, but should buy the appropriate technology.

Milind: A supply chain starts as a basic fulfillment transaction. It then moves into a cost savings plane. It then moves on to risk mitigation and finally as an enabler for growth continuum. The challenge for a supply chain professional is to guide the firm up this path. To become a trusted partner for the business, or to become a part of the growth engine, technology adoption is a must. From being a standalone function, technology has now become a strategic driver, embedded in functions. The convergence of technology – called Nexus of Forces – is changing the types of products and services firms deliver. It is changing the way in which firms deliver these. It is changing the structure of organizations. As supply chain professionals, we should scan evolving technologies and check if they can add value to the firm.

Sandeep: We are a new, e-commerce focused logistics firm. When we started our business, we took two major risks – one is to call ourselves WOW Express. The other is to adopt the tag line – technology enabled deliveries. To put it simply, we need to use technology in everything we do. Technology does not mean large investments, or costly infrastructure. We look at three frontiers – the first is hygiene. These are the givens

– like track and trace capability, visibility enablers, real time updates, and fast cash management. The second frontier is to use technology to be more productive. For example, can technology help the service marshal – our delivery guy – increase the number of deliveries per day. The third frontier is not to deal with disruption, but to be the disruption ourselves. Firms should use technology to be the disruptor, and gain competitive advantage.

Sanjeev: A little mentioned aspect of technology is in the product supply chain. Today, a product is designed in US, manufactured in China, and sold in Germany. The delivery chain becomes very complex. The ability of the firm to reduce time to market counts. Technology helps firms manage multi location product development, offering round the clock collaboration. For example, in Agilent HP, the firm lost an estimated USD 40000 every day delay in product launch.

On the hardware and software technology, that logistics industry should adopt.

Sandeep: There is a long list of technology initiatives for the industry to adopt. I will start with stressing on technology that will enable clear visibility of the product in transit. Most e-commerce players have moved to a market place model. They seldom have stocks in their warehouse. In such a business model, there is no first mile visibility. WOW express developed a hand held scanner to overcome this challenge. Another challenge is in having a low cost, hand held fake note identification device. It is very difficult to detect fake notes by visual examination. The third item on the wish list is analytics. Simple analytics like knowing if a buyer is a habitual rejecter – who places an order for the fun, but does not accept deliver, or if a buyer places an order for 10 items, and keeps only one, returning the other nine. These insights can help the seller identify and weed out such erratic behavior, or at the very least, charge the buyer for costs involved.

Milind: On a lighter note, e-commerce players need a technology that will detect a fake customer as well! Customer experience will be the key to business success. The supply chain team has a role here. Earlier on, a 98 percent uptime was acceptable. Today some customers expect 100 percent uptime! Which means firms have to move from a preventive maintenance to a predictive maintenance mode – an area for machine learning algorithms. These algorithms will be able to tell the manufacturer which part of an equipment is likely to fail, and by when. This has some impact on the supply chain. The manufacturer can then schedule maintenance to avoid a breakdown. The manufacturer can identify the specific part that needs to be serviced, and can send the part along. This saves considerable sum of money. In case of a breakdown call, the firm will have to expedite the transport of the part. In predictive maintenance, it becomes a planned activity. The firm can schedule the engineer and the part, and chose an efficient transport mode, not responsive. This results in considerable savings. Another benefit is, firms can employ centralized inventory

model, reducing the number of locations at which they have to hold spares inventory.

Sanjeev: I would like to sound a note of caution. When devices start talking to each other, sending and receiving data, it will strain the communication networks. Reports suggest that by 2020, some 50 billion devices will be sending and receiving data- this apart from the four or five billion mobile handsets. This data transmission will not be confined to metros, but will be across the globe. This will require large bandwidth. The Internet of Things enabled supply chain will stumble at the bandwidth frontier.

On internal capabilities to use technology

Sandeep: The start of any analytics program should be with a clear understanding of the business objectives – why am I doing this and what do I expect as its outcome. This includes developing an analytical mindset among business users. A major step in analytics is collecting real time information. Firms need to capture information at the point of generation. Firms should not expect someone to enter it into a system somewhere along the way. For example, in WOW Express, we have teams that pull data about traffic congestion from google maps, and use this data to change the delivery route. Going forward, we expect analytics to tell us that Monday is a holiday in a specific area therefore traffic will be light. Or Tuesdays see a spike in delivery in another locality; please increase the delivery marshals in that place. It will have its challenges – we cannot predict where the municipal corporation will dig up roads, or when truckers will go on strikes. But overall, analytics can help logistics service providers improve their service quality.

Milind: Firms need to understand a simple fact – technology, when applied to an inefficient process will magnify the problems. And if applied to an efficient process will magnify the efficiency. Before embarking on complex technology initiatives, firms should get the basic technology right. If the basics are absent, no technology can help us. A second challenge is to evaluate technology from a business objective – will the technology we are contemplating help us achieve our strategic goals. And more so, are we investing the right amount – nothing more, nothing less.

Girish: Technology is a good slave, but a lousy master. The focus of the firm should be in harnessing available technology, to create improved value to its customers. Unfortunately, a supply chain is a network of independent entities, but working to a common goal. Each entity looks at technology in a different framework. For supply chain to become efficient user of technology, we need to create a ecosystem, where every member of the network will reach out and offer support to the other members. Examples of this are available in India too – where a firm extends its technology solution to its supply chain partners. The second challenge is to focus on appropriate technology, not necessarily the best technology. And in conclusion, firms should try and be the disruptor, not be victims of disruption. Technology can help firms here. We are just a click away from survival or bankruptcy.

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Winners and Losers in the Supply Chain as Oil Prices Tumble

In any volatile market situation, there are going to be winners and losers. The decline in oil prices will have broad implications for transportation and logistics companies - some positive, some negative. Clearly, the impact can vary greatly on a company-to-company basis and the impact of the dramatic price fall in the oil sector will eventually work its way down the supply chain. Darryl Judd writes about the effect of oil price shock on supply chains.

Darryl Judd,
COO, Logistics Executive

At the recent Logisym Singapore 2016 Supply Chain conference, the subject of the boarder impact of the volatile oil prices on our supply chains took centre stage with mixed views of what it meant and just how we will see ourselves through this challenging cycle.

What is clear is that suddenly the world is awash with oil. When oil was trading above US$100 a barrel and new technologies made extraction of shale oil possible at an affordable cost, we saw a rush of new supply onto an already flattening global market. Stockpiles grew well beyond daily demand and yet producers still pumped greater and greater amounts of crude. Oversupply and under demand - The perfect storm?

It is little wonder that a surge in production and weaker than expected global demand for crude has sent oil reserves soaring and prices tumbling. The drop in the oil price over the past 12 months is by far the biggest shock global economy has seen since 2008. Similar episodes in the past tell us the consequences are likely to be both profound and long lasting. Normally, economists would add "positive" to this list, but doubts are surfacing as never before.

A fact underlined by Mr Tony Nash, Managing Director of Complete Intelligence, a specialist economic advisory firm at Logisym. "Global trade in 2015 fell by over 14%. It's therefore no surprise that demand for oil is soft and without output high, this is not about to change anytime soon".

The scale of the current oil shock is difficult to exaggerate. While financial markets and commentators were obsessed by rising geopolitical tensions and the latest twists in central banks' policies in the US, Europe and Japan, even larger forces in oil markets went largely unnoticed. A "key concern" of the International Monetary Fund was the risk of an oil price spike caused by geopolitical tensions. Instead, rising production and weaker demand growth have left suppliers competing to find willing customers.

Yet most economists still agree with Christine Lagarde, IMF managing director, who last month said that "it is good news for the global economy". The positive effect on growth should arise because oil consumers tend to spend more of their gains than oil producers cut their consumption.

What Ms Lagarde failed to mention is that trade is down and the trickle down to consumers is being offset by job losses, lower salaries and markets struggling to maintain

any form of positive growth (when inflation is taken into consideration).

Stephen King, chief economist of HSBC is likely to be closer to the mark when he says that lacklustre demand in China, Japan and Europe over the summer was the primary cause of the collapse in prices so the traditional "lower oil prices good: higher oil prices bad" story is "no longer so obviously true".

He argues that optimism following an oil price fall in economic estimations is based on positive supply-side developments for the western developed world, but "there are plenty of situations where falling oil prices are merely symptoms of a wider malaise".

And so just who are the winners and losers

First, companies that spend a significant part of their resources on transportation benefit from lower oil prices by making considerable savings in the supply chain. So do logistics and shipping companies, because they are able to save directly from lower fuel prices. The airline industry is a winner from the low oil prices with around one third of the industry costs associated with fuel.

The impact on manufacturing businesses is mixed. Sectors that rely on imports (e.g. manufacture of machinery, transport equipment, computer and electronic products) could benefit as transport costs fall and overseas suppliers pass on the savings from lower oil prices. However, exporters could experience stiffer competition from overseas businesses that also become more competitive due to lower production and transport costs. The question being asked in supply chain circles is clear – is the rush to near-shoring now dead?

The financial services sector also benefits from the increased economic activity, as it facilitates the reallocation of capital and other resources to the sectors that want to invest in response to rising levels of demand. Although the other services sectors will benefit through a small increase in demand for their products, the rate of output and employment growth in these sectors will likely be outpaced by growth in the winning sectors.

Net importers of oil, such as European countries, benefit from lower oil prices. Energy imports to the EU cost around $500 billion in 2013 and 75% accounted for oil. With average prices for Brent at around $109/barrel in 2013 compared to the 2015 average of $54/barrel, the EU is experiencing 50% savings. China, the world's second-largest net importer of oil, is an obvious winner despite the slowdown of the economy. Based on 2013 figures, every $1 drop in the oil price saves an annual $2.1 billion, according to the Economist. While Chinese export prices remain at the same level, in the long run low oil prices will benefit the economy on the whole and enable the government to reduce energy subsidies.

Clearly the losers are the oil and gas companies with debt to service. The oil service sector will also likely face a phase of transition, given the reduced amount of capital expenditure invested by oil and gas companies. In the United States, there are now virtually no wells that are profitable to drill.

Chevron, Royal Dutch Shell and BP have all announced cuts to their payrolls to save cash, and they are in far better shape than many smaller independent oil and gas producers. Job losses will impact local economies in the short term.

Electric vehicle manufacturers lose. While the medium-term trend towards the electrification of road transport should continue, cheaper fuel for motorists is likely to slow down the uptake of electric vehicles in the short term. The same applies to alternative fuels such as biofuel.

So how far do we have to go?

With global trade heading downwards and capital drying up, it's clear we may have a way to go before the cycle turns. Adding to that analysts at Deutsche Bank said that "history shows the potential for geopolitical tensions in the Middle East to push oil prices higher", and the possibility of instability in the region could interrupt production. Low prices themselves could provide a catalyst, as cheap oil undermines the outlook of Middle East economies.

According to the International Energy Agency (IEA), "There may be light at the end of what has been a long, dark tunnel" for oil". In its latest monthly market update, the global watchdog speculates prices may indeed have bottomed when international benchmark Brent crude fell to $27 a barrel early last month. Since then, there have been signs of a natural attrition on supply and, crucially, a deal to freeze production at January levels, which could eventually rebalance a heavily oversupplied market.

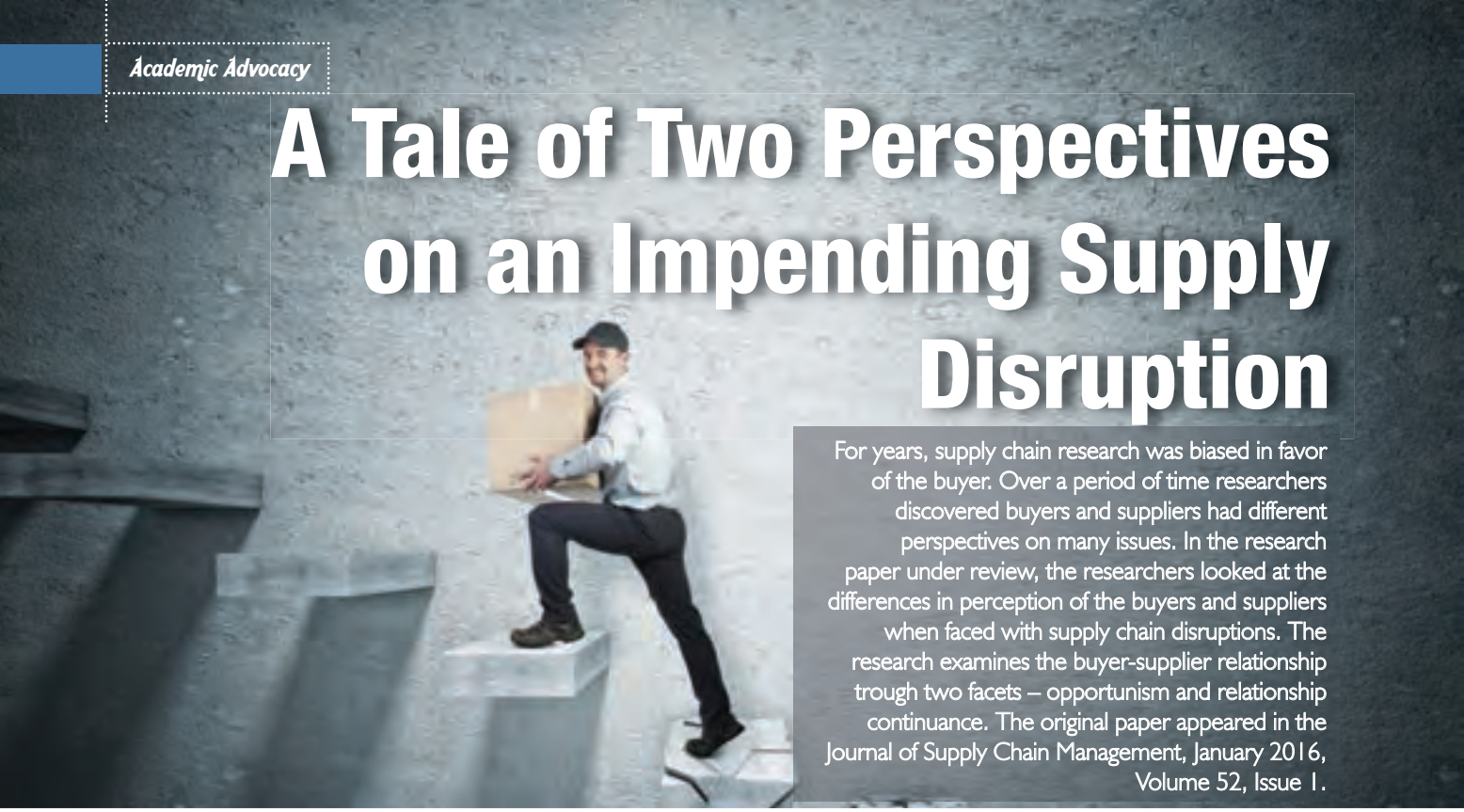
It pointed to outages in Iraq, Nigeria and the United Arab Emirates that took 350,000 barrels a day off the market in February alone, as was reported in the Financial Times. Iranian production post-sanctions is also rising more gradually than expected, adding 220,000 barrels last month compared to claims it would boost output by 500,000 immediately.

Overall, global supplies eased 180,000 barrels last month – and exports from high-cost exploration areas such as the US and South America could fall more sharply than expected this year. But the IEA also noted that stockpiles are at record levels and that it would take the remainder of this year for supply and demand, currently out of kilter to the tune of two million barrels a day, to reach equilibrium.

In short, prices will be more stable at current levels around $40 a barrel and will not plough depths of $20 or below as some analysts once predicted. But neither will they rise substantially until next year.

While the negative impacts of oil arrive immediately, the positive effects take longer to materialise. While oil might act as a depressant for now, it will become a stimulant later. One thing is clear - It's going a long waiting game.

A Tale of Two Perspectives on an Impending Supply Disruption



For years, supply chain research was biased in favor of the buyer. Over a period of time researchers discovered buyers and suppliers had different perspectives on many issues. In the research paper under review, the researchers looked at the differences in perception of the buyers and suppliers when faced with supply chain disruptions. The research examines the buyer-supplier relationship trough two facets – opportunism and relationship continuance. The original paper appeared in the Journal of Supply Chain Management, January 2016, Volume 52, Issue 1.

Traditional research on Supply chain management ignored the differences in perception of the buyer and supplier. Different perceptions of buyer and supplier can have major implications on how they behave. Later on, researchers corrected this anomaly when they studied buyer and supplier perspectives on product development, supplier management, and similar topics. Surprisingly, researchers noted divergent views among buyers and suppliers, more so in cooperative as opposed to competitive relationships. Supply chain theory tells us that buyer – supplier alignment can lead to cost reduction, quality improvement and on-time delivery. Will the perception gap prevent the supply chain from unlocking the value in the relationship? Will it prevent firms from realizing the full potential of their collaboration? Buyer supplier relations ship has two distinct foci – supplier sees buyer as a revenue source and thus would like to nurture relationships. The buyer sees supplier as a cost center and hence would like to manage cost better. This is at the root of perception gap.

If not managed effectively, these perception gaps can lead to strained relationships. This is the normal scenario. When faced with a supply disruption, perception gaps will magnify the differences and cause further damage to the relationship.

In the face of such potentially damaging possibilities, the researchers study buyer supplier perception gap through scenario building and analysis. This study examines perceptual differences surrounding a potential supply disruption of a critical component, resulting from a labor strike occurring at the supplier's plant. In this scenario, the researchers study reaction of buyer and supplier to the potential disruption, specifically focusing on opportunism and relationship continuance. The authors chose these two variables as other researchers have studied it extensively.

The researchers developed a three hypothesis, with a buyer and supplier perspective in each. One – "The supplier's expectation of buyer opportunism is greater than the buyer's stated opportunism." They posit that the supplier will blame himself for the disruptions and would want to disengage with buyer, believing the buyer will turn opportunistic in the relationship. The buyer, on the other hand, will see the disruption as an external event, and would be inclined to adopt a less severe response, or even play a constructive role in the relationship. Buyer perspective was "The supplier's expectation of relationship continuance is greater than the buyer's stated relationship continuance." This means that supplier sees buyer as a source of revenue and would like to keep their customer happy at all times. The second set of hypothesis was "The supplier perceives a weaker effect of relational norms on buyer opportunism than the buyer." And "The supplier perceives a weaker effect of relational norms on relationship continuance than the buyer."

The third dyad of their hypothesis were "There is no significant difference between the supplier's and buyer's perceptions of the impact of buyer dependence on opportunism." And "The supplier perceives a lesser impact of buyer dependence on relationship continuance than the buyer."

The authors used a scenario based approach, as opposed to a survey based approach. The participants were industry professionals, both among buyers and suppliers, some of whom were with purchasing related experience

The article can be accessed at: http://onlinelibrary.wiley.com/doi/10.1111/jscm.12100/epdf

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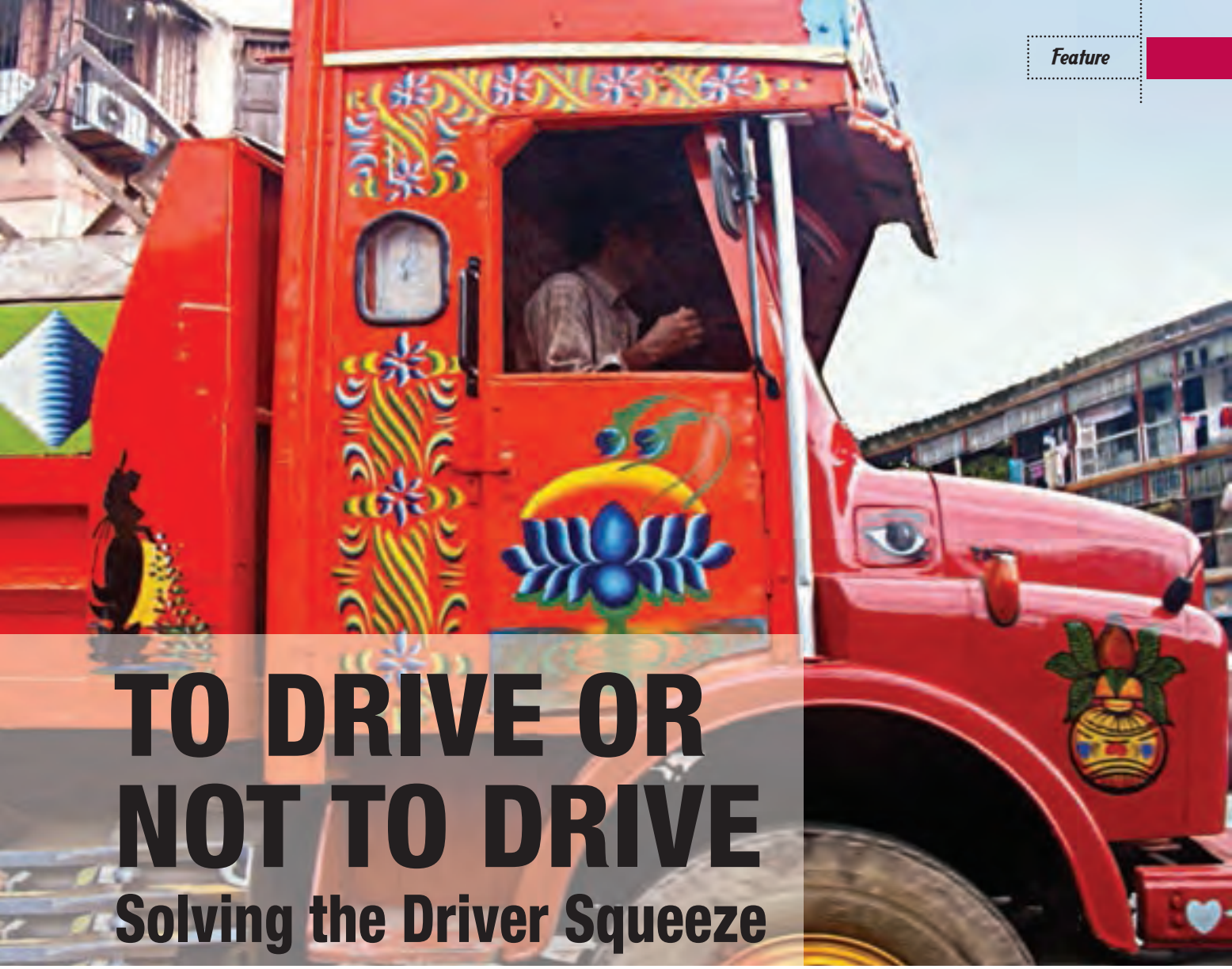


TO DRIVE OR NOT TO DRIVE

Solving the Driver Squeeze

Drivers are the ones who keep the wheels of the trade moving. It is a cliché that a driver's son does not want to become a driver. It is believed that there are more trucks than drivers. It is true that 80 percent of India's trade moves over its poor roadways. The trade is staring at an alarming scenario – too few drivers for its expanding fleet. At a recent town hall convened prior to the Mahindra Transport Excellence Awards in New Delhi, a distinguished panel moderated by Mr. Abhay Damle, Joint Secretary in the Ministry of Road Transport and Highways discussed the coming driver squeeze. SCMPro brings you excerpts from the proceedings.

The driver's profession is one of paradoxes. Drivers are the key to transport sector. But the status and prospects of a driver are bleak. For years, the industry has ignored drivers. At a rough estimate, there are around 6 million truck drivers in India – which is around 2.5 percent of the labor force. (USA with a population of 300 million has 3.5 million truck drivers) Yet, an often repeated lament at every transport meet is lack of respect shown to the driver. This by the very industry that employs drivers! In a country of 1.2 billion people, where unemployment and under employment is rampant, we not able to attract people to become drivers. Yet, the industry claims inter-sate drivers take home around INR 10,000 to INR 15,000 a month. It is estimated that more than 2.5 lakh to 3 lakh trucking firms exist in India. 75 percent of them are small truck operators – with less than 5 trucks. Rough estimates indicate we have 700 drivers for 1000 trucks. Which means 30 percent of the fleet is grounded at any point in

The truck industry is doing its bit to bring in better technology and larger trucks

time. Yet wages seem to stagnate and remain low. Laws of demand and supply require either the wages go up or more people become drivers. Both are not happening. A strange profession indeed.

The need to recognize a driver as an integral and core part of our business ecosystem is a given. It is a much needed psychological boost to the profession, and will serve to attract people to become drivers. When a driver enters the office of his own employer, he is not treated as a valuable resource should be. This, notwithstanding the pious avowal of the importance of the driver. At a town hall meeting organized at the Mahindra Transport Excellence Awards, Mr. Abhay Damle, Joint Secretary in the ministry of road transport and highways, set the tone by pointing out the cumbersome process for obtaining a commercial driver's license could be a contributing factor to people not choosing to be a truck driver. The current truck driver licensing norms are – the driver gets a learner's License, followed by a driver's license. After obtaining his driver's license, he has to wait for one year for the transport license. A person from humble origin, but who wants to be a transport driver cannot sustain himself for a year without income. The result – he moves to other professions. (We, at SCMPro would like to call driving a profession not a vocation) One way to address this problem is to reduce the time taken to issue a transport license – the government is mulling issuing a license in around 100 days, said Damle. Along with this, if the industry can offer an apprenticeship to the prospective driver, pending his license, he can make a living while waiting for the license.

The industry needs to explore every avenue to reduce the driver shortage. A direct economic consequence of driver shortage is underutilization of transport assets – the truck. This is over and above the loss due to idle time – waiting for a load, or carrying LTL. According to G Raghuram, Dean (Faculty) and Professor Public Systems Group, IIM Ahmedabad, the driver's profession lacks a few basic elements. One is the lack of status in the society. The second element is skill – in terms of safety rules, understanding the nature of the goods transported, or overseeing the loading and unloading activities. Another reason to upskill drivers are the sophisticated trucks now entering the market. To compound matters, driver skills are poor. Drivers need to understand the type of cargo they are carrying, the way to load and unload it, basic first aid, and the right response to disruption.

A third element is social connect – rather, the lack of it. The driver is away from his home and family for long periods. This creates a social disconnect – with drivers missing the important moments of their family and social circles. The fourth element is stress. Driving on Indian roads is a nightmare. Poorly maintained trucks, overloading, crowded, and poor quality roads, poor ergonomics, and lack of truck stops all contribute to the rising stress levels of truckers. The fifth element is safety and security – most drivers sleep in the truck, or worse stay awake to guard their cargo, as they are liable for pilferage along the way. The solution to these issues are part government – related to creating better road conditions and part corporate – by building truck stops with ample parking, security and all necessities from health care to maintenance available, ensuring adequate remuneration and upskilling their drivers.

The India growth story is still building steam. We will see a sharp rise in the amount of goods transported across the country. And most of it will be along the road networks of the country. This will pale additional stress on the existing infrastructure and increase congestion on the roads. According to Rajan Wadhera, President of Truck & Power Train Division, and Head of Mahindra Research Valley, the only way to tackle congestion on roads is to reduce road transport. But that is not feasible, as we do not have an alternate in place. One way out is to introduce larger trucks. From the 12 to 16 ton vehicles of yore, today we have 31, 35 and even 40 ton trucks – which essentially means a load that requires three 12 ton trucks now requires one truck. This will reduce road congestion and require fewer drivers. The truck industry is doing its bit to bring in better technology and larger trucks. But this calls for better quality of drivers and better training.

In a country of 1.2 billion people, where unemployment and under employment is rampant, we not able to attract people to become drivers

If the trucking industry does not get its act together and create a pool of skilled drivers, India will see a migration of goods transport to other modes – like rail or waterways. There is no debate on the connectivity roads provide. But the humble driver can crash the party. In the interest of the country and consumers, we need to take a hard look at our drivers. The cliché of "a driver's son does not want to become a driver" should fade away. The solution is predominantly in the transport sector's court. With the Government playing a supporting role.

Reducing Supply Chain Complexity – the Next Frontier

One of the paradigms of the 21st century is globalization of trade. Firms chose to locate their manufacturing at locations that accorded them the maximum cost reductions. The sole aim of global supply chain was reduced cost. As a result, countries like China emerged as the factory to the world. India is now trying to catch up. But such strategy of globalized supply chain brought new challenges. From simple, regional supply chains, industries landed up with complex global chains with multiple entities. And now it is time to reduce this complexity. Editor of SCMPro, Girish V S looks at complexities in the supply chain.

In their inexorable search for profits, firms moved their manufacturing to counties which accorded them with maximum savings. Developing nations and less developed nations were a natural choice. A wave of investments moved into these countries. Till 1997, it was the four Asian Tigers – South Korea, Hong Kong, Singapore, and Taiwan, along with Thailand, Malaysia, Philippines, and Indonesia to play the role of factory to the world. Once the bubble burst, the world discovered China. These wide spread location of factories also included extending the supply chains to these developing countries. Firms which were used to the precision of their supply chains now faced an uncertain supply chain ecosystem. Where they had organized service providers, they now deal with unorganized service providers. Each challenge was met by adding more entities to the chain.

After the first wave of euphoria over reduced costs, global trade woke to a new dawn – supply chain Complexity! Inter-dependencies between the various entities in supply chain introduces complexity. There was a time when a disruption in one part of the world – most important a third world country - was confined to that country. Now a flood in Thailand has its repercussions in USA and even India. Welcome to the global supply chain. Global supply chains are complex entities.

Firms need to worry about complexity – it increases costs of the supply chain and exposes it to vulnerabilities far in excess of those in simpler chains. The interactions between the multiple entities, probably far removed from the firm, can cascade through the chain. And like a river, it gathers force as it moves along the chain. The firm has no way to either understand or predict the way these ripples will travel through the system. Complexity has two forms – "static complexity" which is related to the structure and connectivity between the entities in the chain. The other is "dynamic complexity" which relates to the operational behavior of the chain. One casualty of the complex supply chain is supply chain resilience.

Common Sources of Complexity in Supply Chains

Product Design: The first source of complexity is the product design. For example, mushrooming number of SKU's add complexity to a supply chain. Hindustan Level found it to their detriment, and are now working towards reducing the number of SKUs they manufacture. Another source of complexity is in the manufacturing model. A

made to stock model is simple. But as manufacturers try to provide infinite choice to their customers – essentially a built to order model - complexity increases. Even firms like Toyota are grappling with this challenge.

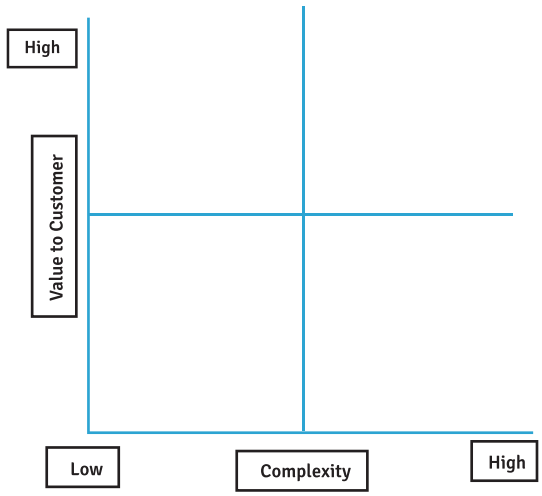
Network Complexity: large supply chains, typically global chains, have a large number of nodes in the chain. As the number of nodes increase, complexity increases. Firms are dependent on external suppliers and service providers. In extended chains, the firm may not even be aware of the entities that comprise the chain. The lack of visibility across the chain compounds the complexity. One way firms can reduce this complexity is by increasing visibility across the chain. Information technology can help firms improve visibility. But ensuring that every node in the chain uses technology is a challenge. Probably, the larger firms may have to underwrite technology tools for the smaller nodes. Cavinkare, an Indian FMCG firm has extended its enterprise solution to its major distributors, to ensure visibility.

Customer Complexity: It is anathema to think of customer as a source of complexity. We are used to the golden words – customer is king. As firms started treating customers as kings, offering them infinite product configurations, customers are now asking for more. For example, M&M, the chocolate candy maker allows its customers to design, pack, and share their candies. Customers can choose to have each M&M imprinted with the photo of their child, if they decide to! Imagine the stress on the supply chain to ensure this.

Supplier complexity: having a large number of suppliers can increase spends, and at the same time create issues in managing them. On the other hand, too few suppliers puts the firm at risk of major disruptions – the floods in Thailand or the earthquake in Japan is an example. The larger the dispersion of suppliers, the larger the nodes in the chain. Firms should try to focus on creating a manageable set of key suppliers, with whom they can have a close partnership, ensuring lower complexity.

Lack of Standardization: Supply chains depend on free flow of information across the network, to deliver efficiencies. But the lack of standardized formats for data exchange add to the complexity. If data cannot move from node to node, with minimal intervention, visibility will be lost. Supply chain design should lay down standardized formats for data exchange. Even a simple label can add to the complexity. Non-standard labels cannot be machine read. To capture data from such labels, entities have to fall back on manual methods, increasing errors, and introducing vulnerabilities.

Jonathan Whittaker, from Accenture advocates a simple way to look at reducing supply chain complexity - envision it as a two by two matrix:



The supply chain should try and eliminate low value, high complexity products, while pricing the high value, high complexity elements higher.

Most firms ask the wrong question when faced with supply chain complexity – how can we reduce complexity? A better question would be – how can we prevent complexity from creeping into our supply chain? It is not possible for firms to avoid complexity. By examining the source of complexity, firms will be able to take a call ether to allow complexity, or avoid it. Another challenge firms will face is the silos that dominate businesses. Reducing complexity in one area – like product design, may increase complexity in another area – marketing. Firms need to build collaboration – both within and to their external partners. Breaking down silos and increasing communication across the supply chain can help firms manage complexity. As one wag put it – it is all in the communication, stupid.

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Supply Chain and marketing – Some Random Thoughts

While teaching a class on the basic of supply chain management, a student asked an interesting question – If supply chain begins at the raw material and ends with the customer, then what is the role of marketing.
I would rather like to think of this as an extension of each other. No doubt, supply chain and marketing do overlap in their functions. They form a necessary dyad in management of a firm. Girish V S, Editor of SCMPro shares some thoughts on the intersection of marketing and supply chain.
But naturally, there are no winners or losers here.

The best way to understand a function is to go back to basics – in this case the accepted definition of supply chain management and marketing. The council of Supply Chain Management Professionals (CSCMP) – the preeminent worldwide professional association dedicated to supply chain management defines supply chain management as "Supply chain management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be

suppliers, intermediaries, third party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies."

Marketing guru Philip Kotler defines marketing, as "Marketing is the science and art of exploring, creating, and delivering value to satisfy the needs of a target market at a profit." According to Kotler, new product development and order fulfillment are marketing functions. The confusion is understandable.

In 2005 A.G. Lafley Chairman, President, and CEO of Procter & Gamble coined an interesting phrase – "Two Moments of Truth" in marketing (this was subsequently expanded to five moments of truth) – the first when the customer sees a product at a store or point of sale. The second is after she buys the product, her experience about its quality and the promised brand value. There are three additions to it. In 2011, Google coined the term Zero Moment of Truth (ZMOT) – for the research carried out by a customer before buying a product. The second extension is Less than Zero Moment of Truth (LZMOT) – the point when a customer decides she wants to buy a product and starts her search. The fifth moment of truth is her reaction and feedback about a product, service, and brand.

Of these the ZMOT and LZMOT are firmly in the marketing domain. But, for the other three, supply chains have a huge impact. I read a quote, attributed to the CIO of Nortel, "Companies don't compete; supply chains compete" If this is true, from the first moment of truth on, supply chains play a major role. You can buy only what you see. (The rise of e-commerce and m-commerce has given firms an opportunity to sell even if the product is not on shelves) Where does that leave our question on marketing and supply chains?

Marketing's function is to create demand; supply chain has to fulfill it. For this to work seamlessly, marketing and supply chains should collaborate. Our warped organizational priorities place marketing on a pedestal and supply chain in the basement. This is the single biggest problem firms' face. Apple is famous for its marketing. People queue up for its product. They are successful in driving demand. But will they remain successful if they do not have an excellent supply chain? In a remarkable move, Apple moved its one time supply chain head – Tim Cook as CEO. The movement has started.

The interplay between marketing and supply chain can create frictions. For example, marketing would like to increase the SKUs to provide more choices to customers. A 50 gm toothpaste for overnight travel, a 100 gm tube for longer travel, a 200 gm tube for family and so on. The supply chain manager looks at this and tears his hair – managing ever increasing SKUs can exponentially increase complexities in the supply chain, apart from a general increase in costs. Time to look at our SKUs more closely.

Another area where I see a convergence of marketing and SCM is in demand estimation. It is the job of marketing to estimate demand patterns. But, it also needs to factor in the influence of influencers in the decision – players like dealers, re-sellers, suppliers, and distributors. This falls within the scope of supply chains. Firms like Walmart have built demand signal repositories – data on real time purchases from its stores. Firms use this data to replenish stock, reducing inventory costs. This data should travel from the supply chain silo to marketing and help integrate real time demand signals in forecasts.

We do hear of statements like – "we do not believe in forecasts" or "forecasts are always wrong" But businesses cannot function without a plan. A reason for this poor rating for demand forecasting could be a lack of understanding the supply chain constraints. To be successful, firms need to focus on understanding both, customer demand, and supply constraints. Unfortunately, demand creation happens without reference to supply constraints. The best laid marketing campaigns can fail if the product does not reach the customer. Anecdotal evidence suggests that nine out of ten product launches fail. I am not aware of any diagnosis for this failure. Changing customer tastes usually takes the blame. I would like to attribute such a large number of product launch failures to supply chain constraints. One way to move ahead is to integrate supply chain managers when planning a marketing campaign. Probably, we may see a difference.

The Sales and operations planning is one effort to bring these two disciplines together. Marketing and supply chain need to work closely, but should not be viewed as an integrated function. It is critical that these two collaborate. Supply chain alignment – a concept popularized by John Gattorna, is a nice way to bring supply chain and marketing on to a single platform. An alignment of marketing and supply chain with the customer, with the customer driving the engagement.

Business models have transformed over the past few decades. Today, the predominant business model is network centric. We operate in a networked environment where businesses, from their supplier to their customer, are nodes in a network. Every entity in the chain is critical for the success of the business. In essence, the emerging business model is an integration of supply chain and marketing strategies. Firms need to realize this, and move their supply chains right next to their marketing departments.

Hope we see this alignment soon.

adidas Group India operationalizes 1 DC

adidas Group India reinforced its commitment to the Indian market and driving business growth in the country, with the inauguration of '1 DC' – the largest centralized facility of sporting goods in India. Spread over 260,000 square feet this facility will be managed by the world's leading contract logistics provider DHL Supply Chain.

Mr. Dave Thomas, Managing Director, adidas Group India said, "Moving to one distribution center in India is an integral part of our business plans for both adidas and Reebok. This DC, the largest of any sports retailer in India, is part of our "Creating the New" approach that will enable us to win more consumers, drive business growth and be better equipped to drive efficiencies across the entire value chain. DHL, with their global experience and expertise in managing retail supply chains, provides us with innovative solutions that will help us manage costs with faster delivery and greater reliability. We are confident that this DC will play a key role in helping the adidas Group India to provide the best-in-class supply chain services to cater to a growing consumer demand across the country."

Located at Luhari, near Delhi, the Distribution Centre (DC) replaces the previous 5 DCs which the Company was operating in India. Seamlessly migrating and consolidating the adidas and Reebok brands from five scattered locations to 1 DC results in tremendous cost efficiencies and flexibilities to the supply chain operations of the adidas Group.

The new state-of-the-art facility has been built to international standards, with a clear height of 11 meters, 19 dock doors, 15 shelving levels and over 30,000 shelves for which over 3000 tons of steel were used for construction. A walk through each of the aisles of this gigantic facility covers a massive 22 km, making it the largest sports goods warehouse in the country. The site is further scalable and well-geared to meet the growth projections of adidas and Reebok in India.

The modern facility is compliant in all respects, adhering to the highest standards in terms of fire safety conforming to FM Global and National Fire Protection Association (NFPA) norms. With both organizations deeply committed to green practices, this site uses RF guns, making it a paperless environment and is equipped with modern energy saving devices to reduce its carbon footprint. These include the use of T5 lights and skylight, rain water harvesting, a Sewage Treatment Plant (STP) for recycling water and battery operated Reach trucks.

New at Industrial Supply: "Emotional Engineering" showcase to foster networking and innovation in lightweight design

The new "Emotional Engineering in Lightweight Design" showcase at this year's HANNOVER MESSE is about enabling visitors to experience innovative design and new materials first-hand. The special display is part of the Lightweight Construction Solutions Area in Hall 6 of HANNOVER MESSE's Industrial Supply show – the world's leading trade fair for innovative subcontracting solutions and lightweight construction. It will be staffed by a group of lightweighting experts who will be inviting visiting industry professionals to roll up their sleeves and work with them to create, optimize and prototype aesthetically pleasing, fully functional and sustainable lightweight components. Key focus areas of the display include mobility/transport, urbanization and robotics.

"Our Emotional Engineering project puts the spotlight on the actual creative process involved in lightweight design and development and the networks necessary to facilitate it," said Dr. Jörg Wellnitz, who is the chair of the lightweight design faculty at Ingolstadt Technical University and Adjunct Professor at RMIT University in Melbourne,

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Australia. "Our aim is to give trade visitors fresh inspiration and ideas for their own in-house lightweight design innovation processes." Ideas and know-how will also be conveyed by means of keynotes by high-caliber lightweight design and lightweight construction practitioners and via moderated workshops on design thinking, construction, manufacturing and innovation. Participation in the workshops is open to all trade visitors, with or without prior registration. Among the keynote speakers will be Lutz Fügener (Professor of Transportation Design at Pforzheim University), Dr. Gerhard Hirzinger (DLR Institute for Robotics and Mechatronics) and Dr. Franz-Josef Villmer (HS Lemgo, Product Development and Rapid Prototyping). "Our showcase has a very strong 'hands on' focus," explained Wellnitz. "It will give our visitors insights into innovative development and optimization processes for different lightweight parts – from the initial idea and concept development stage through to additive prototype production and material testing – right here at our demonstration stand."

JNPT extends Direct Port Delivery (DPD) facility to all ACP Clients

Jawaharlal Nehru Port Trust (JNPT) India's first Container Port built on the concept of operating Container Freight Stations (CFS) beyond Terminal premises has extended its Direct Port Delivery (DPD) facility to all its Accredited Client Programmer (ACP) clients with immediate effect irrespective of their trade volume. Around 143 ACP clients will immediately benefit from extension of DPD facility.

Presently 10 - 14 agencies which are fulfilling the criteria of importing more than 300 TEUs on an average per month are availing DPD facility at Jawaharlal Nehru Port Container Terminal. The extension of DPD will enhance container movement at port thereby increasing cargo volume.

Commenting on the development, Mr. Anil Diggakar said "This decision is in line with directives of the Ministry of Shipping related to policy towards ease of doing business. With this, a long pending demand of the Trade bodies shall be fulfilled. This facility shall benefit importers / CHA immensely as the import laden containers will be delivered to the consignees (in this case ACP clients) directly thereby reducing logistics cost by one third".

Adding further he said, "Extending DPD facility will ensure cost reduction to accredited CBEC importers / CHA, benefiting from declining gestation period of clearing cargo from total 10-11 days to 3 days"

As per existing norms, DPD container has to be picked up by the ACP clients within 72 hours of its landing. Otherwise, the same will be moved to JNP-CFS presently operated by Speedy Multi-modes Ltd after 72 hours to avoid piling-up of containers, if any, leading to multiple shifting/congestion. To facilitate the same, Port is making adequate arrangements in terms of yard and equipment for extending DPD to maximum ACP clients.

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