RESULTFOCUSED

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Openness...why?

By Anton Nieuwoudt

A recent family breakaway to the Kruger National Park offered me the opportunity to not only stand in complete amazement of the beauty of nature and how everything was created for a specific purpose, but also to dust off some long overdue reading material.

A colleague suggested reading *What Would Google Do?* a couple of weeks ago. To say the least, I'm finding it fascinating...I still have a couple of chapters to go however.

One item the author, Jeff Javis, touches on is that of openness. In short: Openness creates transparency which is the prerequisite of trust. Trust is the cornerstone of any relationship whether business or personal.

One aspect of applying a culture of openness in our business is being truthful and open about our abilities and capabilities. We cannot be everything to everyone. If you need support identifying and addressing physical handling inefficiencies in a specific are of your business, we can help. If you need to understand your global supply chain and the intricacies in the various flows, we can certainly be of service. If you need need support to drive a change management initiative or improve company morale...it's not us but we know who you should talk to.

And herein lies the strength of engaging with us and so many other experts in their fields: We do what we do best, and we link to the rest (also highlighted by Javis). The days for organisations to invest in skills and capabilities to ensure the best people in all the relevant organisational functions are on their payroll, is dying a slow and painful death. Organisations should specialise in their specific chosen field, and have a network of trust worthy advisors with whom they've built longterm relationships to fill in the gaps.

Here's the bottom line: Openness eliminates hidden agendas, it highlights integrity and ultimately unlocks opportunities which will yield more knowledge and value in commercial relationships.

Try it for yourself, I'm sure you'll be pretty impressed with the results.

In this edition of RESULTFOCUSED we look at a case study on inventory optimisation at Schneider Electric, we highlight the four skills required to truly excel as a future supply chain leader, we look at the benefits of mapping your supply chain, and how saying "yes" when we should be saying "no" can seem like a small thing in the moment but how such compromises can create a life of regrets over time. Enjoy the read!

Owning pipelines, people, products, or even intellectual property is no longer the key to success. Openness is. - What Would Google Do? by Jeff Jarvis

Schneider Electric

SCHNEIDER ELECTRIC INVENTORY OPTIMISATION JOURNEY - A CASE STUDY

By OPS Rules Management Consultants (supplychain247.com, April 2014)

Background

Schneider Electric is the global specialist in energy management. Their mission is "to help people make the most of their energy." The company provides technologies that make industries, IT, energy, and cities more efficient. Schneider has over $30B in annual revenue and 140,000 employees across over 100 countries. Some of their well-known brands in North America are APC, Juno Lighting, Square D and Telvent.

The company was motivated to make a fundamental disruptive change in the way it manages its inventory. Their executive team believed that there were inventory opportunities based on the local inventory optimisation techniques currently in use. For example, recent fluctuations in demand had led to extensive spend in terms of expedites and overtime to meet customer requests which further motivated finding a more radical solution. As Kyle Hamm, VP of Supply Chain Performance & Development North America at Schneider Electric said, "we were concerned with the cash tied up in inventory in the supply chain and high service level expectations from customers about these products. So the question was how to position inventory in the right part of the system while meeting customer expectation and maximising the benefit for the company."

OPS Rules Methodology

To realise the supply chain opportunities, the company chose to work with OPS Rules to deploy an end-to-end inventory optimisation process and to compare it to its current efforts. In this white paper, we will show how the OPS Rules methodology was applied to provide important actionable results for Schneider Electric.

End-to-end inventory optimisation, also called Multi-Echelon Inventory Optimisation (MEIO), looks at inventory levels holistically across the supply chain while taking into account the impact of inventories at any given level (echelon) on other echelons. It calculates the required levels of inventory across the entire network based on demand and its variability, inventory policies, service levels, lead times, and performance for all products at all echelons. MEIO can help companies answer the following questions:

- How much inventory should I hold of each product, and where is the most cost-efficient point to store that inventory?

- My products are often seasonal or cyclical in terms of demand — how do I most efficiently plan and deploy overall inventory?

- What business policies are driving inventory investment across the entire supply chain?

- If I improve service, how much incremental inventory investment will I need?

- Conversely, if I decrease service level, how much inventory can I free up?

- How will a change in a supplier or production location impact my overall inventory cost or customer service levels?

- Can I increase margins and improve service by holding inventory in a different location?

- What will be the impact of improving forecasts on total inventory levels?

- What will be the result of changes in production frequency on total inventory levels?

- How much are supplier delays costing us in both inventory and transportation costs?

- How can I best deploy a push-pull supply chain or an inventory risk-pooling model?

OPS Rules has extensive experience in applying analytics to solve operations and supply chain problems. We have developed the following 9-step process as a guideline:

1. Define the problem and plan

2. Create the baseline model

3. Validate the baseline model

4. Quantify key drivers and find quick wins

5. Identify and create scenarios

6. Optimise scenarios with model

7. Consolidate results and iterate

8. Drive operational change

9. Create both a repeatable and scalable process

Step 1: Define the Problem and Plan

Schneider Electric was interested in knowing the answer to several key questions: Why should we reduce/increase our inventory in a location based on the initial supply chain analysis? What supply chain variables have the greatest/least impact to overall inventory levels? How can we repeat the analysis with our own supply chain operations groups?

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The initial project focused on the Square D miniature breaker product line, which is an industrial technology that helps control and distribute electric power. Major customers include large global retailers and wholesalers. The line has a large product mix with many shared component parts, with a stable demand profile at the portfolio level. All of these characteristics make it a good candidate for inventory optimisation.

The network includes more than 2,500 finished goods over 10,000 component parts, 2 plant facilities and 2 Distribution Centers (DCs). There are over 4,000 unique customers and over 100 unique suppliers.

Step 2: Create the Baseline Model

Creating the baseline model is a data intensive process that considers many important supply chain variables for calculating inventory requirements. The product family Schneider Electric chose, its miniature circuit breaker line, which has two primary manufacturing sites, several internal manufacturing sites, a handful of key suppliers, and two distribution centers.

We started the journey in the middle of 2013 and worked through the challenges of finding the right pieces of data so that we could begin to analyse the model and see what our opportunities really were. After the data was both collected and validated, it was loaded into a software tool designed for MEIO modeling.

The main issue for the inventory model was the complexity of the data inputs, and effectively acquiring and interpreting the data. Schneider Electric had excellent data so the main issue was to make sure the data we collected was well-understood and satisfied strict definitions for the MEIO model to perform properly. In many cases, the MEIO tool defined elements differently than how Schneider's ERP system defined it, so there was a lot of art in connecting the two and making sure they lined up. After that, we needed to make sure that the behavior pattern between the data elements was correct and was all there.

When you look at analysis at this level, the inventory level for each product and location combination is a solution that comes out of the software tool. While it can be tactful and actionable, it is also very sensitive to the going in assumptions and to the quality of the input data.

Step 3: Validate the Baseline Model

There are numerous tests to ensure that the data is entirely consistent with itself, because in many cases this is the first time a company has taken data simultaneously from various data sources (financial system, data from the logistics system, data from the ERP) and tried to line it all up. For instance, it is rare that when you multiply the standard cost across the bill of materials that you actually get the right value (what is stored in the accounting data). In the case of Schneider Electric, we did not uncover major issues in the data structures as we often do through this process, which simplified the modeling process. The validation of the baseline model is done in two phases:

Phase 1: Compare the baseline with information about historical inventory levels – the model provided output that included information of fill rate by facility. When comparing the difference between the fill rate based on the historical inventory from the model and the actual fill rate, we look

for relative differences of about 3-4%. If the difference is greater than 4% then to understand where the difference is coming from and adjust the inventory model accordingly.

Phase 2: The model is provided with both historical fill rates and historical inventory levels and

it determines where (location/products) there may be insufficient inventory to achieve the historical fill rate, or where the historical inventory levels implies a higher fill rate than the historical fill rate. For each SKU there are three possible outcomes:

- Exact match: Achieve historic fill rate with historical inventory

- Inventory More Than Sufficient: Historical inventory implies a higher fill rate than historic fill rate

> **Scenario analysis is an iterative process because there is not a single factor that drives inventory, and the optimisation process is complex in nature.**

- Inventory Insufficient: Need more inventory to achieve historic fill rate

Phase 2 allows you to identify the specific facilities with problems and then understand why there are gaps in the model – as a result uncovering problems in the data or assumptions.

Step 4: Quantify key drivers and find quick wins

The team both identified and ranked the major supply chain factors that influence inventory and estimated their initial impact.

After creating a baseline model, we are able to run scenarios against an optimised baseline, by changing certain parameters while keeping others fixed. This process can help identify future supply chain opportunities.

The output from the model that says if everything is working in synch, here is what your curve could look like. If the company wanted to maintain the current service level, it could reduce inventory by almost 30%. If

they wanted to take service level up to a higher level, there are inventory optimisation opportunities as well. There are many of opportunities around service level and MEIO scenario analysis provides flexibility to determine impact under various inventory management policies. For instance, you could run a model around varying service level on product families, as opposed to the entire product line.

Looking at where the savings are coming from, we see that raw material inventory was the largest identified opportunity (2/3) and as suspected, a small number of parts made up half the opportunity. This obviously makes the process of implementation far more manageable as well as the process of validating the models.

Kyle Hamm describes the importance of these findings: "There was some skepticism with Schneider when we first started doing this type of analysis since they had fairly advanced single echelon, the more traditional type approach. What is the real opportunity here? What is this black box model work? Are we sure we trust what's going on? One of the things I found particularly interesting as we worked on this with OPS Rules was that in the findings, almost 50% of the opportunities were within 41 parts, even though we looked at thousands of parts.

Our goal is not to take inventory out, but in many cases this was about repositioning inventory within the supply chain to make it more responsive, more reactive to supply chain issues and demand."

Step 5: Identify and Create Scenarios

In this phase, we need to list the various supply chain scenarios that are going to be analysed. In order to do that, we interviewed many of Schneider Electric's executives and ran a workshop to determine the problems and perceived drivers of inventory. We came up with a list of scenarios to help us quantify the different drivers identified in the previous step.

Scenario analysis is an iterative process because there is not a single factor that drives inventory, and the optimisation process is complex in nature. The final result is a strategic output which takes every idea that comes from the team and testing around it. Then we ask the question, does it have the potential to bear fruit and be significant or is this something that isn't that valuable?

After the first pass at the scenario workshop, the whole team comes together including the stakeholders from the interviews and the core project team and we list out the scenarios that we need to dig into. Once we come up with an agreed upon list of scenarios or fundamental business questions asked of the model, we run the

> **Very often, lead-time variability can have a larger impact on inventory than the length of the lead-time itself.**

first batch of scenarios. For the especially interesting or unexpected scenarios, we run a sensitivity analysis. For example, if we ran scenarios that said the business was 20% sensitive to a 20% change in demand variability, we would want to test both 10% and 30% to see what the area around that looks like, to avoid any data fitting or scenario biases.

Step 6: Optimise Scenarios

In most cases, we go directly to a multi-echelon analysis since over time it has shown to be consistently stronger. However, in many cases we are asked how we would compare it to other methods.

This was an important part of the analysis in this project since the team felt that there was already a strong process in place applying Single Echelon Inventory Optimisation (SEIO). The result was that MEIO provided significant improvement for inventory management. With MEIO, the company saw three times the opportunities that they had previously identified with their existing SEIO processes. Because these were significant savings, implementing the MEIO results was a valuable proposition to Schneider Electric.

It is unlikely that even the best supply chain analyst could individually find the types of relationships uncovered by an MEIO tool. When Schneider Electric worked with their supply chain organisation, the processes used were not wrong, but rather the formulas were not providing an optimal solution in a global setting. Note that theoretically, there is an opportunity to look at this from an advanced mathematical perspective, by running thousands of scenarios each time and for every part, considering all of the variability. Practically however, this is just impossible for a single team working with the data set alone to be able to accomplish.

Step 7: Consolidate and iterate

This led to devising several scenarios to

see what was driving the raw material inventory. These included:

- Improving demand forecasts

- Scheduling at plants

- Supplier performance

- Analysing the impact of lead times

By changing the supplier lead times for the raw material by either reducing or increasing it, we found there was a relatively minor impact on the amount of inventory held in the plants.

Then we looked at another factor that is often neglected by inventory planners - lead-time variability. We discovered that reducing lead-time variability by even 10% had a significant impact on supply chain costs.

There is growing recognition that a reduction in supplier lead-time variability has a larger impact on inventory levels and supply chain performance than do equivalent decreases in average lead times. But can this perception be quantified? The answer is yes. In this case, a 50% reduction in lead-time variability resulted in potential inventory reductions of about 3%, while a similar reduction in average lead times would reduce required inventory levels by less than 1%.

Very often, lead-time variability can have a larger impact on inventory than the length of the lead-time itself.

Step 8: Drive operational change

In the beginning of the process, we showed the results of a qualitative survey of the primary factors that drove inventory levels at Schneider Electric. We were able to quantify those factors through scenario analyses using the inventory model. The results from the analyses enabled us to quickly assess the specific impacts of a factor on inventory levels. This allowed Schneider Electric to move away from an inventory management approach based on operational theories using qualitative data, to a more scientific approach with quantitative data.

Everyone may have his or her own opinion on the major drivers of inventory, but when you build a model like this, you can really see what happens to inventory levels by changing a combination of factors simultaneously. And since relationships of most supply chain data is non-linear, the model may be used as a tool for management teams to quickly understand the interdependencies of one factor on another. The Schneider Electric team's estimate of what was a major driver and what was a minor driver was not completely

inaccurate, but it wasn't the same as the model results.

An understanding of inventory drivers was essential to making the right changes to the supply chain. OPS Rules' proven approach and methodology can be the key to successful projects that may lead to developing internal capabilities for continued use of analytics to make the right decisions for your business.

Step 9: Create a repeatable and scalable process

End-to-end optimisation transformed the way the Schneider Electric team thinks about Inventory Management. Some of the outcomes that OPS Rules was able to drive are as follows:

- Improved understanding of the drivers of inventory in the mini-breaker supply chain,

- Yielded surprising results compared to previous assumptions,

- Proved the advantage of Multi-Echelon versus Single-Echelon Inventory Optimisation,

- Delivered understandable optimisation results that are being implemented, and

- Piloted a process that is repeatable and scalable, allowing it to be expanded to other product lines. - *RF*

IN AUTOMOTIVE AND AEROSPACE **EVERY PART COUNTS**

By Kevin O'Marah
(supplychain247.com, May 2014)

Think it's tough tracking finished goods from source to sale? Trying doing the same for the millions of parts that go into them.

Consider the growing complexity of manufactured products, soaring costs related to global sourcing and demand uncertainty, and the critical nature of so many parts today. It all adds up to a hugely complex supply-chain challenge.

Exhibit Number 1: the automotive sector. For evidence of the importance of good parts management, look no further than the 9 million vehicles that have been recalled so far this year in the U.S. For General Motors, it was faulty ignition switches. For Toyota, allegedly defective gas pedals. Other automakers with large recall programs this year include Nissan, Honda and Ford Motor Co. As of this moment, the industry is on track to break its record of 30.8 million vehicles recalled in 2004.

> A finished product is only as good as the parts that make it up. The same goes for the supply chain that supports it.

Why is it so difficult to get a handle on the automotive parts supply chain? Partly it's due to the complexity of a typical vehicle today. "Versus 20 or 30 years ago, it's an apples-and-oranges comparison," says Fred Thomas, industry director with Dassault Systèmes. The modern automobile is essentially "a rolling electronic device," with some 50 separate control units. As these systems "talk" with one another, the possibility of error grows exponentially.

A good part of the solution rests with the supplier industry. Decades ago, U.S. automakers were much more vertically integrated, producing major components in addition to assembling vehicles. Then, in 1999, GM spun off its Delphi Automotive Systems subsidiary, and a year later, Ford cut loose Visteon. Other rivals followed suit.

Along with the separations came the challenge of forging tightly managed supply chains involving multiple independent partners. But with the industry focused so heavily on cost, quality sometimes fell between the cracks.

Suppliers today face the task of upgrading information-technology systems, especially as they relate to traceability and defect containment. Having caught the cost-control bug from downstream customers, "many elected not to invest in internal manufacturing systems, to the degree their OEM [original equipment manufacturers] might have wanted them to," says Thomas. Now they're being called on to manage a parts universe of unprecedented scale and complexity.

"A lot of people would say the pendulum swung too far," Thomas says. "Today we are swinging back, to saying that the lowest cost isn't the only component that has to be considered."

Pendulum or not, we're far from returning to the age of vertically integrated producers. In its place are software tools that can enable collaboration within each link of the chain. Suppliers and OEMs are working more closely together than ever before in areas such as product design and lifecycle management. In theory, at least, an automaker can see in advance what a supplier is building, match that to the specs of the vehicle's original design, and determine whether the parts meet quality requirements before they're even shipped.

In theory. For the most part, Thomas acknowledges, the auto industry is far from achieving that level of collaboration. "I would give it a B-minus or C-plus," he says. "There's a lot more to be done in this area." The two sides need to synchronise their manufacturing efforts, to plug the holes where defective parts can slip through.

Automakers, meanwhile, are addressing the complexity issue by reducing the number of platforms on which they build their models. With fewer configurations to service, suppliers should have an easier time tracking and managing critical parts.

Exhibit Number Two: aerospace and defense. Here, the big challenge lies in staying profitable and efficient at a time of deep federal budget cuts. Meanwhile, the demand for quality parts is more intense than over, as airlines replace older planes with more fuel-efficient models.

The high number of retirements on major routes is creating a fresh opportunity for aftermarket parts, to support the continued operation of older aircraft, says Thierry Tosi, vice president and general manager of service solutions with Rockwell Collins, Inc. And not just in developing markets, he says: many of the older planes being grounded aren't that old. A retired Boeing 737-500 could be as young as 10 years.

Buyers are cutting aftermarket parts and aircraft no slack. The same quality standards apply. "'Used' means an aircraft has been flying but is in good shape, recertified to fly and tested by a qualified service center," says Tosi. The rules are no less stringent for the parts that go into those planes.

In addition, aftermarket parts suppliers must also adjust to a change in the nature of repair operations. Traditionally, says Tosi, customers preferred to deal with service centers that were geographically close. They bought their own spares and maintained direct relations with the retail center.

Today, about 40 percent of the market consists of "one-stop" integrated services. Buyers "don't care where the repair is done in the network, as long as [the provider] manages logistics and spares," says Tosi. "Each time a unit fails, they're guaranteed to get another." That service model is becoming increasingly popular, he says, noting that budget-conscious customers no longer want to own or buy their own spares.

Tosi says customers are increasingly drawn to platforms for the sale, exchange or lease of used parts, such as Rockwell Collins' own Intertrade offering. It buys, recertifies and resells parts, the great majority of which originate from outside Rockwell.

A finished product is only as good as the parts that make it up. The same goes for the supply chain that supports it. - *RF*

FOUR SKILLS
TOMORROW'S SUPPLY CHAIN LEADERS WILL NEED

**By Greg Kefer
(supplychain247.com, May 2014)**

I recently had the privilege of attending the University of Tennessee Supply Chain Forum, an event organised by the business school that brings together a group of academic and corporate leaders. The UT supply chain program is among the best there is. I was told that 100% of their supply chain MBA graduates had already found jobs in the industry, which is impressive.

As careers go, this one looks promising. Those who understand how to run global supply chains and related operations are poised to do very well in years to come. Most jobs are well-paying; you get to travel the world; you will be challenged. Not to mention, we've only started seeing the effects of globalisation–the world is becoming more networked every day. The demand for these skills is bound to increase.

Over the course of the two days at the event, I spent a lot of time talking to professors and peers about what it takes to become a future supply chain leader. To truly lead in this field, it seems like there are four broad categories of skill that people need to have:

1. **Operations** – The most obvious and core background. Planning, sourcing, executing, and measuring success is probably the closest thing to the foundation of a supply chain career definition. What's new here is understanding global commerce and supply chains. Running a global operation is a radically different situation, requiring full understanding of executional mechanics at a network level. There has been a great amount of focus on planning in the past, but that only gets you so far in the global arena where extended lead times and complex chains of custody create an environment of constant risk.

2. **Finance** – This has historically been part of the supply chain leader's core skillset. They must understand robust performance analytics and how operational activities impact the bottom line. There are a number of new capabilities around procure-to-pay automation in direct sourcing that the procurement/sourcing teams need to learn about, as it's directly related to the way products are paid for, supplier solvency, and inventory financing options.

3. **IT** – Shockingly, many major corporations still use e-mail and spreadsheets to run big chunks of their supply chains. This is changing. Advanced supply chain technology is moving away from ERP systems, which are typically owned and operated by corporate IT. In global supply chain management, where processes are inherently related to things taking place between companies around the world, a new class of cloud solutions can be obtained on a subscription basis by the business unit, not IT. Supply chain leaders must have an understanding of IT beyond traditional software, as these decisions will drive their future success–and

technology network models and data quality are the true keys to success.

4. **Marketing** – A global company's supply chain spends a lot of time on defense, reacting to unexpected problems and ensuring operations run smoothly. There are lots of great stories across the supply chain. Marketing is one vehicle to shift from defense to offense. Socialising a crisp message related to operational excellence can change perceptions – potentially at a shareholder value level. This is marketing. And this is what makes the organisation and its leaders shine. It's what too few companies embrace today, but what industry leaders wholeheartedly understand.

Operational and financial experience will always be core for a supply chain executive. But IT and marketing are new. I see many executives getting pulled into IT decisions because the scope of the technology is mission-critical, and it's not something they can wait on the CIO for. Marketing is still a fairly untapped opportunity, dominated by individuals who understand their own professional benefit of being proactively vocal, visible, and innovative.

The people who master all of these skills won't just be supply chain leaders, they will move into corporate leadership. Supply chain is now a big, strategic domain that will increasingly churn out new presidents and CEOs. Just ask Apple's Tim Cook. - *RF*

WHAT DOES YOUR SUPPLY CHAIN LOOK LIKE FROM 30,000 FEET? MAP IT

By Nick Schneider
(supplychain247.com, May 2014)

Mapping supply chains often reveals issues that affect the total landed cost of a product, although it may not be immediately apparent without thorough questioning.

Start wide, go narrow. It's a good rule for a new outsourcing provider to follow, just as it is for real life.

For instance, say I met a man from India at a conference in Europe, and he asked where I was from. I wouldn't say "Minneapolis" right away. I would say the

United States, then Minnesota; if he knew where the state was, I might add the city, Minneapolis. With each clarification, he can better envision exactly where I live, in relationship to the country overall.

When an outsourcing provider looks at your supply chain, they need to do the same thing. They need to grasp the geography of where you're coming from, with all the peaks and valleys. They need to understand the big picture. Then, the provider can gradually add details until they have a complete picture of your supply chain and where you might go from there.

As an outsource provider, we can't fix what we don't understand. And because each solution must be as unique as the company it belongs to, we start to understand by mapping the entire supply chain. As part of our discovery process, we look at our clients' supply chains through the lens of the Supply Chain Operations Reference Model (SCOR). It says there are five functions of a supply chain: Plan - Source - Make - Deliver - Return.

Each of these steps could be considered the moving parts of the customer's supply chain, and each has its associated processes and steps. The question is, how smoothly do the moving parts work together, and what is the relationship from one part to the next?

Getting to that information requires a serious review of the entire enterprise—one that includes a cross functional team from all groups that make up the complete supply chain. There's a simple reason for this: although each person may have deep knowledge of how their part of the supply chain works, even the most knowledgeable

> **As an outsource provider, we can't fix what we don't understand. And because each solution must be as unique as the company it belongs to, we start to understand by mapping the entire supply chain.**

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expert will not know every step in the process.

In many companies, people from transportation, purchasing, manufacturing, finance, and other areas works in relative isolation. In essence, each group does what they do, but doesn't exactly know what the other groups do. Bringing everyone together in one room often reveals surprises that can add steps to the process—sometimes, those steps can be eliminated.

Mapping a company's supply chain requires information about each of the moving parts:

- How are suppliers segmented (e.g., international goods vs. domestic, raw goods vs. finished goods)?
- Where are goods manufactured and how are they distributed?
- Who is in control of the freight at each point?
- Which modes are utilised?
- Where are the packing houses, distribution centers (DCs), warehouses, and other facilities located?
- In the DC, does any repackaging occur?
- What does the customer segmentation look like? (e.g., direct to customer vs. distribution network)
- Do manufactured goods need to be processed by a value-add supplier before end customer delivery?

Once the map is created, we identify opportunities for process improvements. Any solution we help create must align with a customer's strategy and provide a potential competitive advantage. In an outsourcing engagement, it's critical that we know every potential move in order to identify and mitigate risks. Changes made to one part of a supply chain can have unintended consequence upstream or downstream.

Mapping supply chains often reveals issues that affect the total landed cost of a product, although it may not be immediately apparent without thorough questioning. For instance, a manager who works exclusively with suppliers might explain their supplier network to the provider, but might not mention what the Incoterms 2013® are with their vendors. Incoterms 2013® are crucially important to a complete understanding of the supply chain. These predefined commercial terms, published by the International Chamber of Commerce, clearly communicate the tasks, costs, and risks associated with the transportation and delivery of goods. They are regularly incorporated into sales contracts worldwide to describe who bears the risk in the transaction, and when the risk transfers from buyer to seller. - *RF*

GREEN SUPPLY CHAIN

WALMART COVERS AN AMAZING RANGE OF PROGRAMS AND INITIATIVES IN 2014 GLOBAL RESPONSIBILITY REPORT

By The Green Supply Chain Editorial Staff (thegreensupplychain.com, May 2014)

Walmart has released its Global Responsibility Report for 2014, a massive 186-page document that tracks its goals and success across an amazingly wide variety of sustainability and social responsibility initiatives.

We'll summarise some of the highlights here.

New CEO Doug McMillon noted in his introduction that early in Walmart's sustainability journey, it realised it probably needed to start listening a little bit more to its critics. That, of course, is hard for any company to do.

"In fact, some of our critics then are some of our best advisors now," he said.

In a related interview at the front of the report, McMillon also addressed the apparel factory disaster in Bangladesh, and program Walmart led to drive safety inspections in the country (there is a rival European program that goes even a little further), saying that Walmart "has made the results of more than 200 Bangladesh factory safety assessments publicly available as of March 2014."

McMillon also says Walmart is working to remove certain chemicals from the products it sells when it believes there is a more environmentally friendly alternative. He implies Walmart is forcing suppliers to detail what chemicals they use, so Walmart can work with them on potential alternatives. He adds that Walmart will report on this initiative in 2016.

To tackle both environmental and social issues, Walmart has created a series of what it calls Sustainable Value Networks (SVNs), which are global networks of Walmart merchants, operators and finance leaders. There are SVNs for food and agriculture, soft goods, energy, transportation, etc. The SVNs are charged with creating and executing sustainability/social initiatives within their focus areas. The goal is to identify solutions and "embed" them in Walmart's day-to-day operations.

Better trailer utilisation and truck routing saved the company nearly $65 million and avoided almost 25,000 metric tons of CO2, which is the same as taking 5,000 cars off the road.

Below, we look at some results across different areas of Walmart's business:

Compliance

Walmart now has 2000 people in its global compliance team, which includes everything from anti-corruption efforts to food safety to responsible sourcing. This group has recently been consolidated into a single organisation from 11 regional ones.

In the food safety area, Walmart is now using the SPARK (Sustainable Paperless Auditing and Record Keeping) system, through which associates complete food safety tasks in stores and clubs. The SPARK system utilises innovative hand-held technology, Bluetooth communication and a state-of-the-art temperature-measuring device connected to a real-time database and various analytics.

In the area of employee safety in Walmart's massive distribution operations, Walmart has developed a training and certification program for the use of lift trucks of various types. Almost 61,000 workers have been certified for safe use of electronic power jacks, for example. That program is powered by a new system that tracks both training and accidents in the warehouse.

In September 2013, the Walmart US West Business Unit launched the" I Own Safety" program, which was created to further reduce accident exposure and costs through recognition and accountability. Under the program, salaried members of management write up an I Own Safety card and publicly deliver it to an associate when they observe him or her exhibiting safe work behaviors. In addition, Walmart now tracks conversations between management and DC staff relative to safety – so far, there have been some 230,000 conversations just in the West region stemming from the I Own Safety program, and 75% have been positive ones relative to desired behavior. The program will be expanded to the other US regions in 2014.

As a result of all this, Walmart has been able to lower its rates of incidents in its US DCs versus others in the industry.

All told, lost time due to injury is down some 50% from a variety of safety efforts over the past few years.

In terms of responsible sourcing, Walmart now has 140 responsible sourcing staff members operating across the globe. This staff is of course on top of its huge team of regular buyers.

Walmart also now has something it calls the Responsible Sourcing's Supplier Development Program, in which it proactively works with our suppliers to help improve standards and effectively manage their factories. To participate, a supplier must be nominated by someone within Walmart. A consulting team then works with the supplier to conduct a thorough analysis of every area of the business that impacts performance in responsible sourcing and develops a customised plan that drives meaningful improvement. In 2013, 68 suppliers took part in the program.

The report does not make clear why this is, although it appears it could be related to tougher fire safety standards.

Social

Under the food area within social-related programs, in 2013 Walmart continued its roll out of the "Good for You" icon for its own private label food items, and allowed the icon to be used by branded companies as well.

Walmart opened another 96 stores in areas of the US deemed "food deserts" by the Census Bureau, or areas that have no solid grocery options nearby. That brings the total to 224 such new stores, with more to come.

Walmart is committed to greater sourcing from women and minority-owned businesses. That includes recent development of scorecards to ensure merchants and senior managers have visibility into the women-owned businesses

and diverse suppliers they work with and how each area of the business is tracking against its target.

In January 2013, Walmart announced that within 10 years, it will source an additional $50 billion annually in products supporting US manufacturing. "That's an estimated $250 billion spent on products that support more affordable US production and create American jobs," the report says.

Walmart adds "We think U.S. manufacturing is poised for a comeback and believe this revitalisation is essential to rebuilding the middle class."

Environment

Walmart's goal is to be powered by 100% renewable energy and have a 100% waste-free operation. Towards the former goals, it plans to Drive the production of procurement of 7 billion kilowatt hours of renewable energy globally by Dec. 31, 2020.

With regard to driving environmental improvement in its suppliers, Walmart has rolled out its famous Sustainability Index to more than 700 product categories across its business. Hundreds of buyers from Walmart US, Sam's Club and several international markets are now using this tool to work with their suppliers on improving product sustainability.

For seven consecutive years, Walmart has reduced its Scope 1 and 2 carbon intensity, and says it is on track to hold absolute emissions flat over this decade, despite continued growth. Greenhouse gas emissions per sales dollar have dropped about 20% since 2006.

Perhaps surprisingly, the vast preponderance of Walmart's renewable energy projects (86%) as measured by energy production come from wind. Just 6% comes from solar energy. That said, Walmart notes it installed its 250th solar energy system in the US, with each system providing 15- 30% of a store's electricity needs.

With regard to its fleet operations, in 2013, Walmart delivered an additional 181 million cases in the US while driving 167,000 fewer miles than in 2012, primarily through better network efficiencies in reducing things like empty miles (implies greater use of customer pick-ups from vendors). Walmart also cited better trailer utilisation and truck routing.

That efficiency saved the company nearly $65 million and avoided almost 25,000 metric tons of CO2, which is the same as taking 5,000 cars off the road.

As SCDigest recently reported (see [Walmart Unveils New WAVE Concept Truck - a Very Different Design for Sure](#)) Walmart noted its new prototype of what is called the Advanced Vehicle Experience tractor and trailer. The truck has a very

aerodynamic design (20% improvement), uses carbon fiber for the trailer to reduce its weight by 4000 pounds, and uses a hybrid engine.

Perhaps oddly, it seems that Walmart is a bit behind others in the move to natural gas powered trucks, saying it continues to test the technologies for both liquid and compressed natural gas, and that it is evaluating performance and reliability of the equipment, maintenance impacts, fuel economy, access to fuel, overall cost and life cycle sustainability.

There's a lot more, but you get the idea. The full report, which covers simply an amazing scope of activities, is available here: [Walmart 2014 Global Responsibility Report](#) - *RF*

MANAGING OCEAN-AND AIR FREIGHT IN A TMS

By Dough Surrett
(logisticsviewpoints.com, March 2014)

The definition of transportation management systems (TMS) continues to evolve. In the early days of TMS solutions, the primary goal was to manage truck-based freight. Over time, point solutions were developed to support particular modes for particular industries such as ocean and air freight.

At the same time, traditional TMS providers began to incorporate basic multi-modal capabilities into "truck-centric" solutions. Migrating from a truck-centric solution to a truly multi-modal solution is no small task and many vendors have chosen to rewrite solutions or "bolt on" other point solutions to bring multi-modal capabilities into their platform.

As more companies seek to take advantage of lower labor costs in developing countries, the need for multi-modal transportation systems has become imperative. Many industries now depend on ocean and air freight as natural and vital links in the supply chain. Industries such as apparel and automotive keep the ocean carriers humming, while pharmaceuticals and high-tech keep the air freight industry

busy.

The right TMS can make help multi-modal shippers and logistics companies manage the supply chain more effectively and efficiently. Some recommendations follow:

Consider the schedules

Ocean and air freight differ from truck freight in several ways, but one in particular is the scheduled nature of the movements. When considering which carriers to use, cost and capacity alone are insufficient. Sailing schedules and flight schedules need to be integrated into the TMS to enable logistics practitioners to make informed decisions.

Submit bookings

Choosing the best carrier is important, but if that carrier does not accept the freight, it's vital to quickly locate alternatives. The TMS should also have real-time integrations with ocean and air freight carriers to submit booking request and process booking responses.

Generate Documents

Document generation may not be the most exciting part of the process, but it is very important. A truly multi-modal TMS will provide document generation capabilities that can support all the appropriate documents such as the Ocean Bill of Lading, Master Airway Bill, Commercial Invoice, Certificate of Origin, Delivery Order and Arrival Notice, among others. Ease of customisation of these documents is also important to minimise total cost of ownership of the TMS.

Submit Electronic Bills

Once the booking is confirmed, the ocean carrier will be expecting the shipper or forwarder to transmit the Shipping Instructions. Similarly, the air freight carrier will be expecting the transmission of house and master airway bill information. Transmitting the data electronically reduces the opportunity for errors and may help speed the process of clearing shipments through customs.

Track and Monitor

While many of the major air and ocean carriers provide web-based tracking portals, logging into different portals to manage the supply chain is not optimal or effective. Take advantage of those TMS's that can accept electronic feeds from the carriers to provide real-time status tracking of your shipments. This data can be used to facilitate an exception management process, monitor carrier performance against KPI's and proactively notify clients about potential supply chain problems.

Perform Settlement

Maintain good working relationships with carriers by paying non-disputed invoices quickly. A truly multi-modal TMS can automate the process of auditing and paying invoices to keep the flow of goods moving.

Trade is becoming increasingly global. Traditional supply chains are now working in non-traditional ways. Use technology to seamlessly integrate all modes of transportation into your transportation center of excellence to help meet the demands of this complex, global environment. - *RF*

THREE SEASONS POSTPONEMENT IS A GOOD THING FOR FOOD AND BEVERAGE PACKAGING

**By Greg McKeown
(April 2014)**

Why Put Off until Today What You Can Put Off to Tomorrow?

In the grand scheme of things, delays, procrastination and postponement aren't good things. What's more, Benjamin Franklin was decidedly not a champion of putting things off. In fact, his actual words were "Don't put off until tomorrow what you can do today." Wise advice for most areas of life.

Except, that is, when it comes to food and beverage packaging. Few businesses are as sensitive to the vagaries of consumer demand and seasonality. Ups and downs in volume are driven by holidays and seasonal demand for certain foods (think Halloween, Christmas or back-to-school), new product launches, trials or retail promotions.

What's more, consumers want to be able to purchase food and beverages in a variety of sizes, quantities and formats. That means packaging a single product differently for sale in vending machines, convenience stores, supermarkets, restaurants or bulk warehouse stores. For these reasons and more, flexibility is the secret to success in food & beverage supply chains. One way to

ensure that flexibility is with a smart packaging postponement strategy.

Three Reasons Postponing Packaging Makes Sense. By positioning product packaging further downstream in the supply chain, you can:

- Take advantage of different selling and capital allocation opportunities: For example, if a certain quantity, size or format generates 80% of sales, the company can focus on that package – and outsource packaging of the other 20% to contract packagers or a third-party.

- Minimise exposure for one-off projects or new product trials: Not every product is a blockbuster, so you don't want to spend capital to ramp up packaging for the ones that aren't or before you know a product is a winner.

- Catalyse efficiency improvements across the supply chain: Strategically delaying packaging until the last possible moment doesn't just provide more flexibility in the packaging link of your supply chain. It can have a ripple effect across your supply chain. For example, it can help you improve manufacturing efficiency and capital utilisation to maximise yield, enabling transportation and warehousing savings, lower costs for goods sold, lower total landed costs and smarter inventory management.

What Does It Take to Make Postponement Work for You?

Want to add a packaging postponement component to your supply chain? Here are ways to get there:

- Choose the right packaging postponement location: Not all packaging locations are created equal. Before you choose one, consider factors like transportation and logistics costs. Know how much it will cost you to move products between different nodes in your supply chain. With a good understanding of demand and landed costs, you can make a better decision about where to package products.

- Get the flexible capacity you need: Whether the driver is business growth, new product launches or seasonal surges, you want to be able to fulfill orders in the quantities and timeframes required. That means having flexible capacity (in assets, resources and people). More specifically, make sure you have access to a flexible labor pool so you can ramp up and down with demand, multiple packaging lines to fill multiple orders and a co-packer or stable of co-packers on standby.

- Find the right partner with the right resources: Look for a partner who provides more than packaging services. That might include services like research and development for types of materials, product types or graphics or turnkey solutions that encompass everything from packaging to display design and fulfillment.

Could postponing packaging be a good thing for your food manufacturing supply chain and business? - *RF*
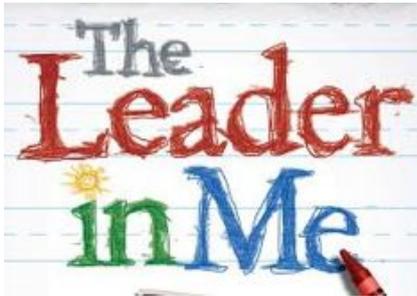
IF YOU DON'T PRIORITISE YOUR LIFE, SOMEONE ELSE WILL

**By Greg McKeown
(April 2014)**

"A 'no' uttered from the deepest conviction is better than a 'yes' merely uttered to please, or worse, to avoid trouble." So said Mahatma Gandhi, and we all know how his conviction played out on the world stage. But what is less well known is how this same discipline played out privately with his own grandson, Arun Gandhi.

Arun grew up in South Africa. When he was a young boy, he was beaten up twice: once for being too white and once for being too black. Still angry, Arun was sent to spend time with his grandfather. In an interview with Arun, he told me that his grandfather was in demand from many important people, yet he still prioritised his grandson, spending an hour a day for 18 months just listening to Arun. It proved to be a turning point in Arun's life.

I had the opportunity to apply Gandhi's example of prioritization to my own life, hours before one of my daughters was born. I felt pressure to go to a client meeting the next day. But on this occasion, I knew what to do. It was clearly a time to be there for my wife and child. So, when asked to attend the meeting, I said with all the conviction I could muster…"Yes."

To my shame, while my wife lay in the hospital with my hours-old baby, I went to the meeting. Afterward, my manager said, "The client will respect you for making the decision to be here." But the look on the clients' faces mirrored how I felt. What was I doing there?! I had not lived true to Gandhi's saying. I had said "yes" to please.

As it turned out, exactly nothing came of the client meeting. And even if the client had respected my choice, and key business opportunities had resulted, I would still have struck a fool's bargain. My wife supported me and trusted me to make the right choice under the circumstances, and I had opted to deprioritize her and my child.

Why did I do it? I have two confessions:

- First, I allowed social awkwardness to trump making the right decision. I wasn't forced to attend the meeting. Instead, I was so anxious to please that even awkward silent pauses on the phone were too much for me. In order to stop the social pain, I said "yes" when I knew the answer should be "no."

- Second, I believed that "I had to make this work." Logically, I knew I had a choice, but emotionally, I felt that I had no choice. That one corrupted assumption psychologically removed many of the actual choices available to me.

What can you do to avoid the mistake of saying "yes" when you know the answer should be "no"?

- **First, separate the decision from the relationship.** Sometimes these seem so interconnected, we forget there are two different questions we need to answer. By deliberately dividing these questions, we can make a more conscious choice. Answer the question, "What is the right decision?" and then "How can I communicate this as kindly as possible?"

- **Second, watch your language.** Every time we say, "I have to take this call" or "I have to send this piece of work off" or "I have to go to this client meeting," we are assuming that previous commitments are nonnegotiable. Every time you use the phrase "I have to" over the next week, stop and replace it with "I choose to." It can feel a little odd at first — and in some cases it can even be gut-wrenching (if we are choosing the wrong priority). But ultimately, using this language reminds us that we are making choices, which enables us to make a different choice.

- **Third, avoid working for or with people who don't respect your priorities.** It may sound simplistic, but this is a truly liberating rule! There are people who share your values and as a result make it natural to live your priorities. It may take a while to find an employment situation

like this, but you can set your course to that destination immediately.

> **Saying "yes" when we should be saying "no" can seem like a small thing in the moment. But over time, such compromises can create a life of regrets.**

Saying "yes" when we should be saying "no" can seem like a small thing in the moment. But over time, such compromises can create a life of regrets. Indeed, an Australian nurse named Bronnie Ware, who cared for people in the last 12 weeks of their lives, recorded the most often-discussed regrets. At the top of the list: "I wish I'd had the courage to live a life true to myself, not the life others expected of me." - *RF*

Note - All credit goes to the particular author and/or publication of the articles shared in this publication

das [R]ESULTAT

integrity • independence • results

Result focused logistics and supply chain advisory services

By Anton Nieuwoudt / Niels Rudolph

dasRESULTAT is a results focused logistics and supply chain management advisory company with greater than 30 years combined experience in various functional areas of logistics and supply chain management across diverse industries.

Our primary objective is to support our clients to reduce operational costs and increase their service offering to their clients through optimising their supply chain, by offering a wide range of services based on our own practical experience.

dasRESULTAT stands under joint leadership of Anton Nieuwoudt and Niels Rudolph.

Leadership

Anton has close to 15 years experience in logistics- and supply chain management across various industries.

Prior to co-founding dasRESULTAT as a boutique logistics and supply chain advisory company, Anton was at Accenture where he was involved in various projects in the Retail, Mining, FMCG and Energy sectors. Here he was able to expand and apply his fulfillment, supply chain management, supplier management, project management and business consulting expertise.

Anton also worked at DB Schenker where he gained experience in integrated logistics management, spare parts logistics as well as inbound- and outbound logistics solution implementation.

Anton holds a Bachelors degree in Marketing from the Rand Afrikaans University and a Masters degree in Logistics Management from the University of Johannesburg.

Niels has more than 20 years experience in logistics- and supply chain management mainly within the 3PL industry.

Prior to co-founding dasRESULTAT as a boutique logistics and supply chain advisory company Niels founded ORAscm as a specialised logistics consultancy company. He also worked at DB Schenker and PriceWaterhouseCoopers in Germany as a project consultant.

Niels spent the largest part of his career at DB Schenker in various roles in Germany, Singapore, Malaysia and South Africa. During his last role at DB Schenker in South Africa, Niels was responsible for logistics development, reporting directly to the CEO. Here he applied and expanded his knowledge to develop logistics solutions across the local automotive, high-tech and retail industries.

Niels holds a Diplom Betriebswirt (BA) from Staatliche Berufsakademie, Mannheim (Germany).

Functional experience

Our functional experience include among others warehouse design & management, transportation management, inventory management, demand planning, supply planning, supply chain planning, supplier relationship management and project management.

Industry exposure

We have had exposure to industries such as retail, automotive, consumer goods and services, petrochemical, mining and defense aerospace.

Core offerings

Through our core offerings we can support our clients to achieve strategic, tactical and operational results. These offerings cover areas such as Strategic Supply Chain Planning, Fulfillment, Sourcing & Procurement, and Project Execution.

Credentials

Since founding the company in the fourth quarter of 2012 we've been involved in various engagements.

Our primary engagement in 2013 has been with a leading global third party logistics company. Here we've been tasked to support them in their turn-around of their contract logistics department, transportation management strategy and operating model design, Africa business development strategy, and procurement strategy development.

Secondary engagements during our first year of operations included a warehouse performance assessment at the Cape Town operations of a global apparel company, supporting a logistics service transition at a German automotive manufacturer, and providing warehouse implementation support for an agricultural equipment manufacturer.

We are currently supporting a transportation consulting company with project management at a South African FMCG company and with a supply chain assessment at a Durban based manufacturer of engineered wood products. - *RF*

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dasRESULTAT is a result focused logistics and supply chain management advisory company.

We partner with our clients to identify and unlock practical and sustainable solutions.

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