Issue 18 | 2018

March

RUSCA and SUPPLY chain

Rutgers University Supply Chain Association

Lessons Learned

"The cardinal rule when you're a supplier is you don't run out of what you need to supply. It's like an ice cream shop running out of chocolate." These wise words from Rick Lopez, chief executive of Franklin Building Supply are to be heeded as we go in depth this issue into the chicken crisis at KFC and the ongoing rush for cobalt, which many see as the new gold. We also delve into the evolving strategy at Amazon and Nike as well as that at Church & Dwight from Executive VP of Global Operations, Rick Spann's perspective.

RUSCA is now a recognized affiliate of ISM, the largest international professional supply management organization!

For RUSCA-specific events, see page 12

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Chris Doyle | Editor-in-Chief
Brandon Daley | Assistant Editor
Newsletter Formatted by: **Michelle Fu**

In Case You Missed It

The threat of trade war continues to escalate between President Trump and many of the U.S.' trade partners, with Trump stressing the need for "RECIPROCAL TAXES." The most recent threat being a 25% tariff on steel imports and a 10% tariff on aluminium imports.

The proposed tariffs would severely impact Canada, Japan, South Korea, the United Kingdom and Germany. Germany in particular has been targeted by Trump's zero-sum trade vision as the U.S. only exports $53 billion to Germany compared to the $118 billion imported. The main focus of the imbalance has been automakers, with the suggestion of a '301 Investigation' being launched, which could result in stricter tariffs.

The latest in the consolidation of the semiconductor industry amidst Broadcom's current attempts to acquire Qualcomm is Microchip Technology, an American manufacturer of microcontrollers and semiconductors, in talks to purchase Microsemi, the largest U.S. military supplier for aerospace semiconductor equipment.

The deal, if it goes through, will be for $8.35 billion. The deal will bolster Microchip's presence in the computing and communications sector where less than 15% of their full-year sales came from, but represented about 80% of Microsemi's revenue. This move will "add strong complementary analog and mixed-signal product lines supporting Microchip 2.0 strategy."

The February 2018 Manufacturing ISM Report on Business showed a PMI of 60.8%, up 1.7% from 59.1% in January. It is the 18th Consecutive month above 50%, which is the threshold showing expansion in the manufacturing economy.

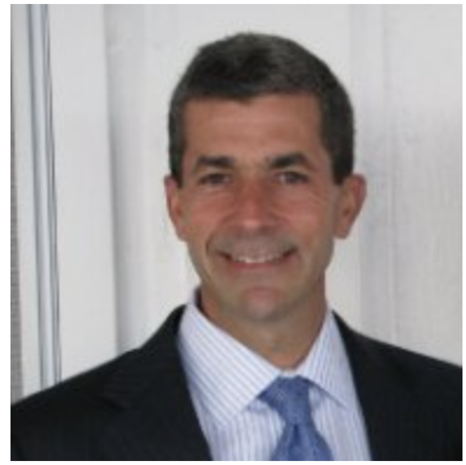
Of the 18 manufacturing industries, 15 industries reported growth. The key PMI drivers of New Orders, Production and Employment showed growth. Meanwhile Supplier Deliveries slowed down and consequently Backlog grew. The PMI also showed Material Inventories growing, but Customer Inventories at too low a level.

The urban logistics of delivering last mile deliveries to London, England has taken steps forward toward facilitating it. Aviva Investors are planning a £32.7 million development of three warehouses in the Uxbridge Industrial Park.

However, Aviva are not alone with multinational REITs, Prologis and Segro, also exploring locations in West London. The scarcity of space in crowded, urban locations is forcing companies to be astute in finding locations that can benefit from motorway connectivity into the city. Prologis has also explored multi-story warehouses as recently as 2016 in Seattle, New York City, Los Angeles and in the San Francisco Bay area.

SCM Professional Profile: Rick Spann

BY: ADARSH RANGAN



Rick Spann is the current Executive Vice President of Global Operations for Church & Dwight. Prior to beginning his tenure at Church & Dwight eleven months ago, Mr. Spann spent over three decades with Colgate Palmolive. His roles at Colgate ranged from the Director of Supply Chain Strategy to Vice President of Global Engineering. The RUSCA Newsletter was given the opportunity to interview Mr. Spann and learn more about his vision and thoughts on Church & Dwight and the future ahead.

Church & Dwight's Current Placement and Vision

Church & Dwight and Colgate offer vastly different opportunities in terms of growth. Whereas Colgate is a $15 billion company that has done much of its sales overseas, the nimbler $3.8 billion Church & Dwight has grown primarily in the domestic market. Moreover, the culture here at Church & Dwight is very much different from competitors in the Consumer Packaged Goods (CPG) space. Mr. Spann went on to explain, "We are very focused on getting the job done. We do make decisions very quickly; we are a flatter organization." Over the next 3 years, Mr. Spann has a specific plan for Church & Dwight's growth.

This plan consists of 5 main pillars:

- Improve gross margins by driving efficiencies across the business.
- Supply chain simplification by focusing on lean methodologies.
- Safe/reliable supply chains by introducing more sustainable practices and being more environmentally conscious.
- Agility/responsiveness by reducing lead times and reaching the customer through more channels.
- People Capability - improving upon the technical wherewithal at Church & Dwight by developing "knowledge workers."

Church & Dwight's Current Placement and Vision

Church & Dwight employs a particular strategy to achieve a competitive advantage in the current market. Church & Dwight has one of the highest amount free cash flow (FCF) ratios in the industry. This allows the organization to readily invest in growth and support Church & Dwight's aggressive acquisition strategy. Approximately every year for the last decade and a half Church & Dwight has acquired a new business and quickly integrated them. Last year, it was a water floss company known as Waterpik. Mr. Spann explained that this strategy is built on sound and focused vetting. Church & Dwight focuses on companies that have the number 1 or 2 in market share, are asset light, have shown exemplary growth, and have higher margins on their products.

Threats and Opportunities

The market is changing, and with those changes come new challenges. The Trump Tax plan is beneficial to Church & Dwight. It will on net reduce taxes by nearly 7% and provide new opportunities. Mr. Spann expects the freed-up cash to be put toward dividends, capital investments, and new business opportunities. With President Trump comes a push for more economic protectionism. Moreover, Corporate Social Responsibility (CSR) is becoming increasingly critical to public image. Church & Dwight prides itself on promoting sustainability for example by partnering with the Arbor Day Foundation to plant trees in the Mississippi delta. Church & Dwight sets goals to reduce water and energy consumption at all their plants. Their humanitarian initiatives also extend to the community. Yearly, Church & Dwight participates in an employee giving fund, where employees donate money that is matched by the company and then distributed to local charities.

Cross Functionality

Voluminous research highlights the importance of involving supply chains early in processes throughout an organization. Mr. Spann highlighted three areas where Church & Dwight involves Supply Chain personnel. First is Sales. The Supply Chain function can help Sales form stronger bonds with clients. They can help manage delivery schedules, delivery within specific operating windows, and improve forecast accuracy. Second is New Product Planning. Marketing should coordinate with Supply Chain to ensure that how a potential product is perceived is like how the product looks and performs when produced. R&D should understand what can feasibly be created and transported by looping in Supply Chain during the creation process. Third, the New Product Planning team can improve speed to market by working with Supply Chain to understand delivery schedules, manufacturing capability and more. Applying supply chain in a cross functional manner opens significant opportunities.

Advice to Rutgers Students

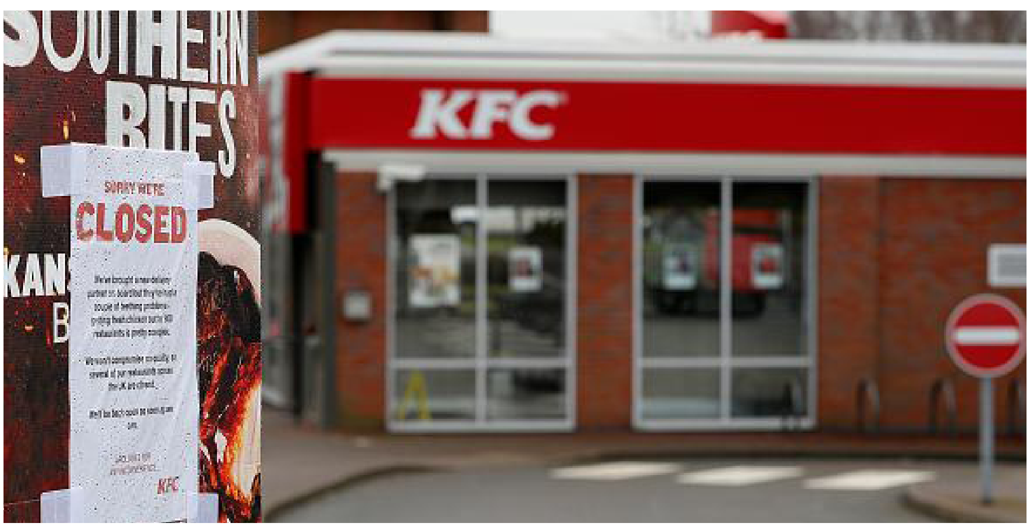
Mr. Spann highlighted the various opportunities for supply chain students to contribute to Church & Dwight and more broadly across a variety of supply chain roles. Training in analytics and systems is more important than ever before with the wealth or data we have access to. Also, an aptitude with systems such as SAP and Manugistics is critical. Additionally, having financial acumen and being able to manage uncertainty is increasingly critical in today's changing environment and being able to understand all parts of the business. Mr. Spann, finished by stressing the importance of having Emotional Intelligence and being able to influence the people around you. It's not enough to have the data insights and ideas, one needs to get the personnel support to put those insights into action.

KFC Stricken United Kingdom: No Chicken

BY: KIERAN WILLIAMS

KFC hired DHL to deliver chicken to hundreds of the company's outlets in the United Kingdom; however, failure in doing so has now disrupted the fast-food giant's supply chain drastically. What does everyone know KFC for? Chicken. Kentucky Fried Chicken, home of Colonel Sanders' world famous fast-food chicken is the fourth most popular fast food chain in the UK selling "almost 400 pieces of chicken per minute" (Cox). So, what is KFC without chicken? Essentially, nothing. With the UK market representing 6% of $24.5 billion in global sales in 2017, the closure of around 450 stores this February has been of massive concern to KFC (Freytas-Tamura and Tsang).

DHL, one of the world's largest logistics companies operating in over 220 countries with 350,000 employees offers a full portfolio of logistics needs: freight transportation, warehousing, distribution, and even being a Lead Logistics Partner. One would think they should have a handle on this. However, in their failure to do so, John Boulter, a Managing Director for DHL, was quick to point out "that we are not the only party responsible for the supply chain to KFC" as DHL is partnered with Quick Service Logistics in servicing KFC's stores. This only underscores the point that one's supply chain is only as strong as the weakest link (Freytas-Tamura and Tsang). As a result, these supply chain inconveniences are costing the fast-food chain close to one million pounds per day in losses (Chambers and Weiss).



As a result of the current crisis, much has been made of KFC's decision to switch from prior logistics provider, South African-owned distributor, Bidvest, to DHL. This decision was heavily driven by financial reasons and came with much protest by the GMB trade union. GMB National Officer, Mick Rix maligned the decision for the 255 jobs that were lost as a result as well as stating that "Bidvest are specialists – a food distribution firm with years of experience. DHL are scratching around for any work they can get, and undercut

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them" (Chambers and Weiss). This just goes to shows what we all learn in our very first supply chain course - don't sacrifice on quality for costs! KFC attempted to cut corners to save some money and have now ended up stifling 3.5% of their locations.

So, the million dollar question: who is to blame: KFC? DHL? The other companies in the supply chain? And then, how does KFC handle the issue? One approach would be to divide the business that is being currently stifled across the United Kingdom among secondary distributors of KFC, allowing DHL to ease into the role. However, for a company the size of DHL and its resources, their current issues may be too much to cover for. Whatever the ultimate solution is, it better be made quick!

"Cloud services are especially becoming more popular with small and medium sized businesses. This technology takes away the hassle of possessing expensive hardware that must physically occupy a space."

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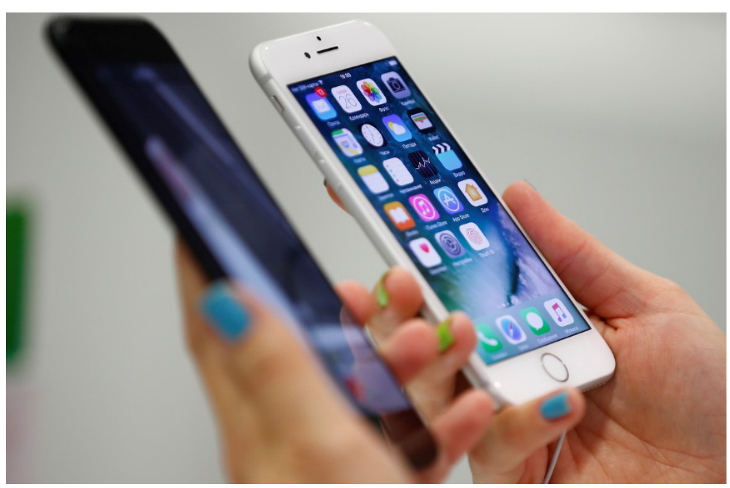
The Cobalt Chase: Companies Vying for Precious Metal

BY: KEVIN RESHAMWALA

"Gold! Gold! Gold from the American River!" Trader and businessman Samuel Brannan's famous words that marked the California Gold Rush still resonate 170 years later. Nowadays, there seems to be another rush, but for a different metal - Cobalt. Companies across the technology and automotive industries are scrambling for the world's cobalt supply, and this metal is shaking up supply chains on a global level. Interestingly enough, the supply of cobalt is only be found in a few places in the world, yet we are around it every single day.

Cobalt is a hard, silver-gray mineral found in the Earth's crust. It has a variety of unique properties including a tremendously high melting point of 1,493 degrees Celsius (Desjardins). Its ability to sustain its strength in incredibly hot conditions allow for it to be utilized in various technologies ranging from jet engines, gas turbines, magnets, and more commonly in phones and cars. How so? Cobalt is often used in lithium-ion batteries. About 80% if the world's cobalt is currently used to in the batteries that power our smartphones (Castellano). Now, with the advent of electric vehicles (EVs), which function off of these very same lithium-ion batteries, car manufacturers are now competing with mobile device companies for the world's limited cobalt supply.



After the massive expansion of mobile device usage in last decade, the introduction of electric/hybrid cars sent shockwaves through the cobalt market. Consumer demand for electric vehicles translates into increased EV production for car manufacturers. Increased production causes more demand for the cobalt and as a result the industry increased five-fold from twenty years ago (Field) and prices tripled in the past 18-months to more than $80,000 per metric ton (Farchy and Gurman).

The entrance of these EV manufacturers into the cobalt market is forcing technology companies to make some tough, supply-related decisions. For example, rather than having its manufacturers source the cobalt, Apple is considering purchasing cobalt directly from miners to secure as much as possible for themselves. They are cognizant of the fact that car batteries require infinitely more cobalt than phone batteries, so they are trying to manage shortage risks by arranging long-term contracts with miners. While this move would require increased expenditures and infrastructure, it can be beneficial because it provides Apple greater end-to-end visibility. In other words, Apple can now legitimately track how much cobalt is being bought and where it is coming from.

And where exactly does this cobalt come from? A majority of the global supply of cobalt is concentrated in the Democratic Republic of the Congo. As a result, the chase for cobalt has placed a major spotlight on the mines of the Congo. Many of these mines have dangerous working conditions and miners are paid a measly two dollars per day. More importantly, these companies utilize child labor; there are children as young as seven years old working in the mines for twelve hours a day. Now with these conditions being public knowledge, multinational companies such as Apple, Microsoft, and Tesla are being held accountable for cobalt's status as a conflict mineral. Similar to environmental standards, companies must follow workplace standards and display social responsibility with their supply chains, and failure to do so spells trouble for a company.

Moreover, for companies around the world, control of the cobalt supply chain is crucial, but there is an elephant in the room - China. Typically, mining companies and freelance miners unearth this metal and then sell it to foreign companies. Most of the companies purchasing are based in China, which currently dominates in cobalt processing and lithium-ion battery production. In addition, most of the middlemen who buy the cobalt represent these same Chinese companies. Furthermore, China aims to keep the money made from cobalt inside the country. With the Chinese government providing subsidies to Chinese battery manufacturers, it prevents American battery makers from selling in the largest electric vehicle market in the world. The fact of the matter is that "Chinese firms are keenly aware of Congo's importance to electric vehicles…'[and are] trying to control the whole ecosystem…from cobalt mining to battery production'" (Patterson and Gold). So, China's end-to-end control of this current supply chain control has the rest of the world racking their brains for a response.

'Unfortunately, sometimes trucks end up driving long distances in between their respective pickup and deliveries leading to an all too inefficient process. In fact, 40% of the trucks on the road are currently empty (Convoy). In other words, about 40% of the carbon emission impact of the 5.6 million registered semi-trailers on the road at any point in time is due to empty mileage (Berg)."

One way to combat this strategy would be to invest in the development of solid state batteries, which are free of both cobalt and lithium. This could potentially create a sustainable supply chain given that the world's cobalt supply is limited. The myriad benefits of solid-state batteries can also support sustainability as they are smaller and have higher capacity than their lithium-ion counterparts and would also be a strong competitor to China's cobalt/lithium batteries.

Granted, while solid state batteries are an interesting solution, they do come with drawbacks. Primarily, they are expensive to produce. This begs the age-old question for companies around the world: is it about the morals or the money? Suppose you are the average mobile technology company and the cobalt market landscape is crowded with more players than ever before. The only way for you to break from the pack and compete with the Chinese will be to revamp your battery supply chain from top to bottom. A new power source will need long-term viability because the demand for mobile devices and the supply of cobalt are heading in opposite directions in addition to the human rights concerns and the national and company interests at play. So, while solid state batteries seem like the ethical alternative, is it the practical alternative?

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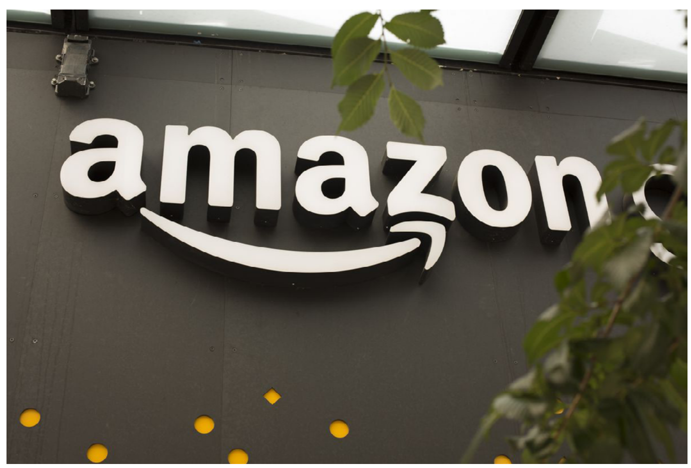
The Amazon Effect

BY: MIKE MCGUIRE



Amazon continues to revolutionize the way shopping is done. As it continues to improve upon the e-commerce model, brick-and-mortar stores that continue to adhere to a more traditional model suffer. This is known as the "Amazon Effect." The Amazon Effect is defined as the impact that the digital marketplace has on the traditional business model in retail. We see this damage impacting even the large retailers that seemed would persist, but are not falling by the wayside, such as Sears. On the other hand, there are the companies that are adapting and continuing the fight against Amazon such as Walmart and its acquisition of e-commerce startup Jet.com in 2016 and most recently Flipkart, an Indian e-commerce company. So, what are those trends that Amazon is setting in the e-commerce space and how are other companies competing?

Amazon has made it clear that the customer is first from day one. In doing so, they have made it possible for their customers to order and receive packages anytime of the day within 24 hours of their purchase. This is because of Amazon's 24/7 operation enables overnight delivery. This is changing the way supply chain operations are done for competing companies. For example, "in order to execute fast deliveries, distribution centers have to operate a continuous fulfillment schedule" processing orders as soon as they come in rather than in batches at the end of the day (Coates).The distribution centers are working around the clock to get the orders sent out to the trucks that are ready to take the products to nearby sort centers. This creates the logistical dilemma of the frequency and timing of pick-up and delivery to maximize efficiency. This calls for personnel to be available at all times of the day and for the more sophisticated operations software that can coordinate the schedules.

With the constant delivery and receipt of product around the clock, this raises the question of how does one keep track of the inventory? Hence, why companies are always looking to technology to both facilitate and automate the management of so many products coming and going. Most, if not all, companies rely on the use of barcodes on a product. "As a result, many warehouses have conveyor systems in them, tracking products by barcode" (Kaplan). However, there are always way to improve and so some companies are exploring the use of drones to scan RFID tags, to manage the inventory in a speedier process and so deliver the right product in a more timely manner.

With more efficient processing of inventory and turnaround of product out for delivery, companies are now utilizing smaller transportation carriers in place of 18-wheelers. This is because of the turnaround to delivery there isn't enough time and product to fill up an entire trailer in a timely fashion. To meet the delivery standard Amazon has set, there will be "a need for more consolidation centers in foreign locations to load containers and get them moving fast" (Coates). Meanwhile, "Walmart is making a big push to ship online orders directly from stores, hoping to cut transportation costs and gain an edge over Amazon and other online retailers, which have no physical store locations" (Barr). For companies to keep up with the standards that Amazon set, they must be willing to break away from the norms once followed. Some, such as Walmart are shipping from stores in place of warehouses while others are building a more extensive warehouse network. At the end of the day "it's important for retailers to get closer to these customers because they're demanding same day service, some involving one to two hour deliveries" (Kaplan).

Amazon has empowered the customers to demand delivery in breakneck time. E-commerce and the numerous other advancements have only facilitated this expectation by customers. Companies now must either adapt their strategies or be left in the dust that is the Amazon Effect.

"The technological revolution of the last ten years which has included smartphones, powerful microchips, and artificial intelligence is unprecedented. Blockchain is just another part of this revolution because "it is a robust technology that resembles the internet in the early '90s: It packs the potential to change the way we live, work, consume and interact" (Holmes)."

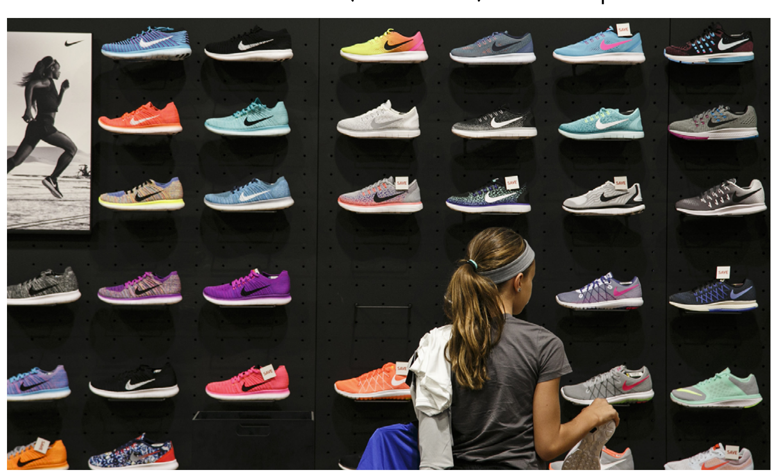
Just Optimize It

BY: SOMIK SHAH

Nike plans to greatly reduce its lead time, from 60 days to around 10 days by streamlining and combining processes. One of the biggest implemented changes would be switching to a direct-to-consumer model, which would thus revamp their entire current supply chain. Originally, Nike used futures orders, which are signed contracts in which Nike would deliver a specific amount of merchandise to retailers at a future date (McNew). Futures orders would prompt millions of workers to ship product to retailers in around 190 countries. Now, Nike intends to use consumer demand to anticipate their own demand, reminiscent of a demand-pull system. Nike COO, Eric Sprunk, says "the transformation relies on two goals: developing new methods of manufacturing and relentlessly driving automation" (Lopez and McKevitt). To facilitate this change, Nike opened up a 125,000 square-foot innovation center, which permits production of footwear uppers with 50% less labor (Lopez and McKevitt).

A reason for the reorganization of their current business model is that "Nike sales have been slowing somewhat as it faces increasing competition from rival Adidas," so reducing expenses can help their balance sheet. Nike wants to make sales directly to consumers, and is looking to reduce usage of retailers and other 'middlemen.' These changes would require cutting out 2% of Nike's workforce, around 1,400 people, so the evolved supply chain will not necessarily benefit all of their employees (Bain). In addition to reducing links in the supply chain, Nike also wants to increase its variety of sneaker technologies, while reducing the number of currently available styles by 25%. An example would be a new shoe sole made completely out of airbags. Furthermore, Nike plans to cut product development time in half by using new technologies that will enable faster prototyping of new products.

Perhaps one of Nike's biggest initiatives is Express Lane, which has been featured in twelve cities. Express Lane is Nike's concerted effort to deliver product directly to the consumer. Before, Nike would recognize revenue whenever a futures contract was purchased by a large retailer; however, with Express Lane Nike will recognize revenue when the consumer makes a purchase, providing Nike with real time consumer data (Investors). This helps Nike track how many products are actually purchased, as opposed to retailers fulfilling a contractual obligation. In Japan, the Express Lane has empowered local stores integrated within the updated supply chain to deliv-



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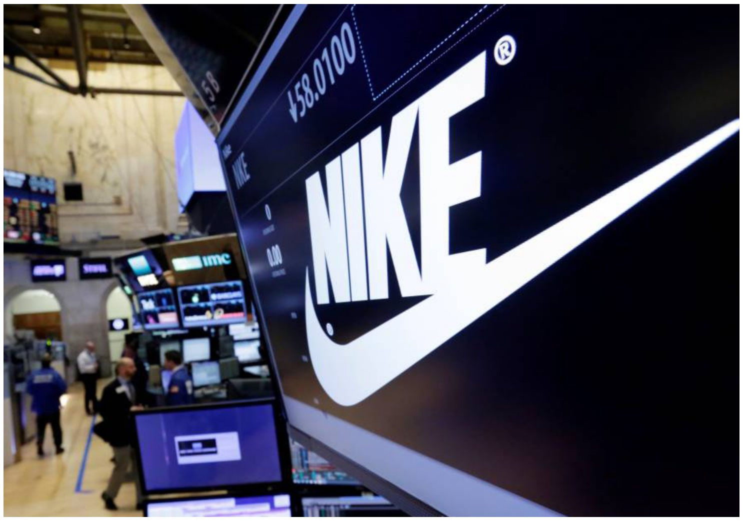
er products to consumers quickly and efficiently. Nike wants the 12 cities in which it has implemented Express Lanes to make up around 80% of the companies growth in the future (Japan).

Overall, Nikes revamping its supply chain can have promising results, as their original practice of making retailers sign non-refundable contracts hurts their business. CEO Phil Knight himself notes that the futures orders served as a "cash generating tool for when times were still lean during their early growth days" (McNew). However, retailers having stock they cannot sell will often deteriorate their business relationship with Nike, as corroborated by Merrill Lynch predicting a decrease in futures orders growth (McNew). Therefore, recognizing revenue when the product has reached the end consumer in the supply chain is much need in order to develop better forecasting accuracy and make sure Nike is more efficient in their manufacturing. Provided that the cities in which the Express Lane was implemented continue to spur Nike's growth, Nike can continue to expect to maintain their competitive edge in the industry.



RUSCA EVENTS

General Interest Meetings start at 9:45pm
at Livingston Campus - Lucy Stone Hall B267

Events for March:

3/21: Unilever Info Session (5:30pm-7:00pm)

Livingston Student Center Rm. 202A and 202B

3/28: Johnson & Johnson Info Session (7:00pm-9:00pm)

Location TBD

ISM-NJ Event Recap and Schedule:

3/9: Webinar Series (11:00am-12:00pm)

Net Zero - Register **Here**

3/15: Supply Management Forum (8:00am-3:30pm)

At Rutgers Business School, Piscataway, NJ - Register **Here**

4/11: April Breakfast Membership Meeting (7:30am-9:00am)

At Grain House Restaurant - Fox and Hounds Room

Register **Here**

To see more of ISM-NJ's past and upcoming events or become a member, visit **ismnj.org**.

RUSCA's Mission Statement:

To inspire our RBS students into learning more about Supply Chain Management and its opportunities, as well as to serve as an intermediary organization on behalf of the RBS student and support the student in the pursuit of a successful internship, co-op, or full-time offer, most especially for our Supply Chain majors.

Want to know more and stay up to date with RUSCA events?

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