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RUSCA SUPPLY chain

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Welcome Back!

We are proud to present to you the first newsletter of the new year. 2018 will not only be a very big year for RUSCA, but there will be plenty of changes and disruptions in the business world for us to keep an eye on. So who better to ask than the professionals themselves at the Institute for Supply Management - New Jersey. Enjoy!



Chris Doyle | Editor-in-Chief Brandon Daley | Assistant Editor

Newsletter Formatted by: **Michelle Fu**

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

For RUSCA-specific events, see page 12

For previous newsletter editions, visit http://rutgersrusca.weebly.com/newsletter.html

Supply Chain Supplements

In Case You Missed It

VeChain, a leading blockchain platform for business solutions and the 20th biggest cryptocurrency (VEM), recently designed the first Cryptocurrency Disaster Recovery Plan (CDRP) that met accredited standards set by PwC.

This CDRP meets the "risk management of internal or external controls on block-chain solution and cryptocurrency assets" by leveraging SOX 404, System and Organisation Controls and ISO 27001 in the plan. The plan also recognizes low, medium and high risk events and drill procedures.





Sysco and US Foods, two of the largest food distributors, filed suits against Tysons Foods, Pilgrim's Pride and Sanderson Farms and others in the U.S. chicken industry alleging Sysco and US Foods have "overpaid for meat for at least eight years beginning in 2008."

The food distributors, who control around one quarter of the U.S. food-distribution market are seeking monetary damages for the alleged collusion and price manipulation. The allegation is that industry published information was used to decipher and discern the supplies at the competition and then inflate the Georgia Dock index, which is used to price chicken.



UPS announced a \$12 billion dollar investment into expanding their Smart Logistics Network, increasing pension funding and enhancing shareowner value as well as a \$7 billion dollar investment into assets as a result of savings from December's tax law.

The \$7 billion dollar investment will span over three years and be toward "new aircraft[s], new ground vehicles and IT platform improvements" with CEO David Abney

specifying 14 new 747s and 4 new Boeing 767 Freighters due to increased demand. In the same vein, UPS will open three new U.S. hubs.

A pair of patents, filed in 2016, were issued to Amazon showing bracelets with ultrasonic sound pulse and radio transmission capabilities that could triangulate a fulfillment center worker's hand positioning in relation to a storage bin.

The technology would allow Amazon to avoid "computationally intensive and expensive" monitoring systems needed to make sure the correct products are being picked by workers. While having lots of potential and a similar concept in Amazon Go, Amazon's cashier-free grocery store, Amazon has yet to publicly commit to further development of the technology,



2018 Supply Chain Lookahead

BY THE INSTITUTE FOR SUPPLY MANAGEMENT - NEW JERSEY

Supply chains have an impact on all functions of an organization. That is why supply chain professionals must keep an ear to the ground. Today, considering the number of emerging technologies, environmental disruptions and outside forces that impact our business, the supply chains we work with today, may be altered tomorrow. We here at the RUSCA Newsletter have diligently highlighted some of those changes in 2017. With 2018 looking to be just as impactful, we looked to the supply chain professionals most attuned to the world around us. The following insights are provided by members of the Institute for Supply Management - New Jersey.

Disruption is the future of Supply Chain. Dictionary.com defines Disruption as "a radical change in industry [and] business strategy." It will be radical, it will be very expensive, and it will be the driving force behind the demise of many of the well known companies in the world. A company will be either a Disruptor or will be Disrupted.

Just as Sears-Roebuck & Co. began a mail-order business in 1887 that disrupted the status quo, Am-

Robert J. Murphy, CPSM
Consultant
Past President of ISM-NJ
ISM-NJ Director of
National Affairs

azon.com's growing domination over the past 20 years has disrupted many business models and put scores of well-known corporations either on their heels or out of business completely (like Sears!). At the same time, countless fortunes have been made by those entrepreneurs that have embraced this disruption and acted upon the opportunities created.

As Amazon continues to grow, they will continue to disrupt new industries, and established business will need to be proactive to stay ahead of their wave of

change. UPS, for example, announced the investment of \$7 Billion dollars in system upgrades for this coming year in response to Amazon's move to create its own delivery network. Now, ocean freight carriers are being disrupted by Amazon's push into that arena. Meanwhile, a consortium of Berkshire Hathaway, Amazon and JP Morgan is now looking to disrupt the Healthcare space.

Will the next company you work for be a Disruptor or will they be Disrupted into extinction?

- 1. We are experiencing and expecting long lead times and cost increases in our purchases of electronic components. Japanese micro control unit suppliers are quoting us nine month lead times, and the industry expects that Taiwanese providers such as Nuvoton Technology and Generalplus Technology will do the same. This means we are looking at holding more inventory and possible delays for some manufacturers who have previously carried minimal safety stock.
- 2. The specialized design services market in electronic components is a growing area in the industry, and many original equipment manufacturers (OEMs) are outsourcing this function. Electronic buyers are concerned about another level of risk in the various supply chains in a rapidly growing segment.

Gary Embley

Purchasing Manager, Horiba Scientific Director of Programs for ISM-NJ Affiliate

3. OEMs in the industry are focusing on reducing overall costs and shifting from fixed to variable costs. We are seeing greater investment in robotics and automation.

Marilyn Gettinger

Consultant and Trainer of New Directions Consulting Group Director of Education, ISM-NJ Affiliate

- 1. The use of robotics to replace many manual tasks has allowed many organizations to produce products on shore and still be competitive with products made in foreign markets with low wages. The growth of robotics will grow significantly in 2018 due to the changes in tax laws favoring capital investment.
- 2. The Panama Canal and the new locks are generating and will continue to generate more shipments to east coast ports including New York and New Jersey, the third largest port for

Data is critical to businesses today. Learning to use the information and sort the "fake" information from actual information will become a required skill.

Guy Haddix

Purchasing Agent, BEUMER Corporation Past ISM-NJ President ISM-NJ Trustee

Maria Kiwalle

Daiichi Sankyo, Inc Past President of ISM-NJ <u>ISM-NJ Vice Preside</u>nt - Finance Technology is and will continue to take over a great deal of the sourcing function of supply managers.

Strategic Sourcing organizations are increasingly migrating to online eSourcing tools to automate and streamline processes and increase efficiency. The days of issuing RFIs and RFPs by Word and Excel files are being rapidly replaced by a host of online tools that cover functions such as onboarding and registering new suppliers, creating and launching eRFx events using templates and automated scoring, issuing supplier scorecards for Supplier Relationship Management, and analyzing supplier spend data to glean valuable insights about your embedded base and identifying year over year trends. There are a wide suite of offerings of eSourcing tools with different strengths and weaknesses. It takes a fair amount of time and effort to implement these tools. But the end results are well worth the effort.

August (Gus) F. Manz, Jr., CPSM

Manager, Strategic Sourcing
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Daiichi Sankyo, Inc.
Chair of the ISM-NJ Public Relations
Committee
Past Program Chair, ISM-NJ

Cloud Services for Supply Chain?

BY: MIKE MCGUIRE

The main objective in supply chain is getting the right goods, to the right place, at the right time, for the right price. This leaves supply chain managers always looking for those improvements that can boost overall performance in the form of new technology and methodologies. Nowadays, more and more companies are turning to cloud services. Cloud computing is the "storing and accessing [of] data and programs over the internet instead of [from] your computer's hard drive." Cloud services are much more effective and efficient than using hard drives and go some way toward improving supply chains productivity due to accessibility to all the data and information at all times.

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. The more expansive the hardware, the more IT specialists and managers are needed. The cloud has allowed these smaller sized companies to potentially possess the capacities for data and program storage often only seen with large companies should those smaller companies choose to go that route. The cloud, in essence, is just another word for the internet. This means that data is accessed by high speed internet connection to a SaaS platform from which to perform one's business. However, "widespread adoption of this projected technology is expected to have transformative effects not only to small businesses, but also to government institutions and big businesses" (Pierson). Some of the capabilities in cost reduction, data security, and flexibility provided by cloud services are scalable in improving the business operations of all businesses.

One large company to embrace the shift to cloud services is Toyota. They are using a system called RapidResponse, a cloud based supply chain management system provided by Canadian technology provider, Kinaxis, which will help them gain greater control over automotive demand and supply planning. "The system would optimise inventory and enable more flexible response to customer demand, as well as unifying sales and production and



improving demand and supply planning" (Garnsey). A more cohesive supply chain, according to Kinaxis CEO, John Sicard, will enable Toyota to "instantly create what-if scenarios and better understand the impact of various supply chain management strategies to create positive outcomes" for their overall business (Garnsey).

Another benefit of cloud services is in the form of

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Puranik, Marty. "Five Reasons to Consider Cloud Services for Your Supply Chain." Five Reasons to Consider Cloud Services for Your Supply Chain - Inbound Logistics, 11 Jan. 2018, Web. "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."

risk management. With data "in the cloud," there always exists a backup of all information unlike local hard drives. Data backup occurs as soon as new data is entered into the system. So, in the event of a disruption, the host of information needed for continuing operations already exists and a business can "keep goods flowing through [the] supply chain" (Puranik). This is essential because the loss of data is costly and time consuming to handle. With all data existing in the cloud, one's Recovery Time Objective (RTO), which is the acceptable downtime, and one's Maximum Allowable Outage (MAO), maximum outage until they begin suffering adverse effects, are more favorable to a company when conducting a Business Impact Analysis. "Incorporating cloud-based backup into your overall data protection strategy provides offsite data storage and fast access to backups in the event of data loss" and can be essential to any good Business Continuity plan (Puranik).



Cloud services are the growing trend in today's world. A recent statistic showed that investment in cloud computing will have go from \$67 billion in 2015 all the way to \$162 billion in 2020. This, a 19% compound growth rate, shows the value that companies are placing in this technology. And this investment will be of the greatest benefit to supply chain managers in reducing costs and meeting service levels as part of getting the right goods, to the right place, at the right time, for the right price..

Deadhead Miles: A Truck Driver's Biggest Inconvenience

BY: KIERAN WILLIAMS

Deadhead miles, the miles driven by a truck driver in which no cargo is loaded in the trailer, are at times a necessary evil in the trucking industry. It is common for a driver to have to drive some portion of their truck lane empty as it is uncommon for material to be picked up at the site of the drop-off. 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).

This inefficiency comes to light on a daily basis from my personal experience as a Brokerage Coordinator at a third party logistics company. In

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Berg, Phil. "10 Things You Didn't Know About Semi Trucks." *Popular Mechanics*, Popular Mechanics, 14 Nov. 2017, Web.

Campos, Michael. "How To Kill Deadhead Miles And Keep Your Operation Alive." Luxury Coach & Transportation, Luxury Coach & Transportation, 27 Apr. 2011, Web. performing many transactions per day, where loads are booked as needed rather than contractually with a trucking company, I often must resort to finding a driver already on the road to pick a product up resulting in that driver accumulating more deadhead miles. This is a result of the driver traveling from wherever they may be in the United States rather than the ease of having a contracted carrier who typically operate in a certain location. Consequently, non-contracted trucking companies raise their prices to cover the costs of the trip as a whole. There is added difficulty when sourcing carriers to handle a tough lane.

One company out there trying to take significant steps to eliminating the deadhead miles issue and maximize efficiency in the trucking industry is transportation startup, Convoy. Convoy's mission statement is pretty fitting: transporting the world with endless capacity and zero waste. Both shippers and carriers can register via their website to both book and obtain available loads and trucks. With an ever growing network of shippers and drivers, Convoy's software creates smarter and more interconnected routes to efficiently batch shipments for their truck drivers. With this software they are able to match their drivers to existing loads and maximize the efficiency of the drivers they are already using, rather than sending out excess drivers and ultimately generating empty miles. Convoy also guarantees 100% shipment acceptance and are industry leaders with on-time pickups and deliveries even with difficult lanes. This not only eliminates waste, but also allows truck drivers to run more loaded miles and thus make more money. A win-win for all!



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'Unfortunately, some-

Further aiding the reduction of deadhead miles is the concept of autonomous dispatch. Dispatchers are those who coordinate which trucks go where and when on behalf of the company. Human dispatchers in performing their job are faced with many variables, such as vehicle types, driver schedules, driver locations, pickup locations, driver hours and more and as good as one can be, there are often too much to consider with the surplus of information. It is why the idea of autonomous dispatch has been greatly considered. Automated dispatch uses an algorithm that considers all of those factors listed above and more and then decides how best to deploy the available vehicles and roll trips, which then allows operators to be more confident in booking last-minute requests since calculations are done quickly and correctly (Campos).

Not only does Convoy's approach to trucking aid in minimizing the many empty miles that truck drivers must travel, but such efficient planning goes some ways to reducing the significant carbon impact of the trucking industry. As the capacity for truck drivers continues to tighten, sourcing drivers for lanes will continue to be made more difficult and contribute to the inefficiency of the system; however, technological advances to how lanes are filled will continue to counter that.

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IBM and Maersk: A Blockchain Blockbuster

BY: KEVIN RESHAMWALA

A.P. Moller Maersk and IBM are set to join forces in an effort to revolutionize the logistics industry with advanced blockchain technology. The world's largest container shipping company, Maersk, and "Big Blue,", IBM, believe that blockchain can change the future of global trade. But what exactly is this craze with blockchain about, and what's in it for Maersk and other supply chain companies around the world?

In essence, a blockchain is a distributed, digital ledger secured in its growth through complex data encryption. A "block" represents a single record of data such as a list of shipping locations, email addresses, or other transactional information. A "chain" is a connection of several blocks; thus, a blockchain is formed (Kleinman). At the moment, this technology is primari-

ly utilized in the field of cryptocurrency where the blockchain maintains the anonymous ledger of Bitcoins and other forms of virtual currency at the rapid pace it is traded. So how can this technology be transferred into a supply chain setting? Through the four main



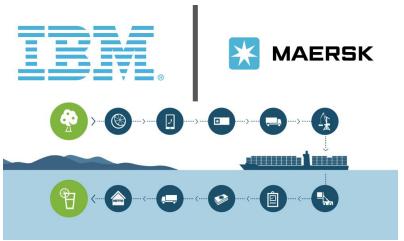
principles of a blockchain: Consensus (all entities validate a transaction), Provenance (all entities can trace an asset), Immutability (no entity can tamper an entry) and Finality (copies of the shared ledger are all the same). As the number of entities in an end-to-end supply chain grows, the need for all companies to be on the same page is ever more vital.

As the leading container ship and supply vessel operator for more than twenty years, Maersk's impact is felt all across the globe. Maersk transports everything from oil and agricultural products to chemicals and machinery. Maersk has amassed a wide-ranging global network of customers, carriers, ports, regulatory authorities, and freight forwarders they must interact with multiple times on a daily basis. That results in massive amounts of paperwork and data between the different parties. When transactional data and information are not quickly and correctly transferred between the respective

parties, the process of global trade can take a long time to complete and end up being financially wasteful. So there exists the need for more efficient and effective means of business. And so enter IBM, who have revolutionized the hardware and software business in the past, is now designing its own blockchain system. Both companies believe that IBM's developing blockchain technology can optimize Maersk's sophisticated logistical network by expediting data collection and sharing at an unprecedented level. The use of blockchains could eliminate one fifth of the physical transportation costs by eliminating excessive documentation and streamlining bureaucratic border procedures (Moise).

With a global shipping business, Maersk is sometimes the focus of attempted malicious security breaches, as it was in 2017. Fortunately, a blockchain can bolster security of the logistical ecosystem and prevent cyber attacks on legacy systems still in use. How so? The decentralized nature of blockchain stops a hacker from disrupting the system from a single point and complex encryption can prevent excessive damage from human error. In other words, a careless employee might have doomed Target and Equifax, but a blockchain-based Maersk can be resistant to massive hacks. Furthermore, blockchain can play a significant role in increasing visibility because "it will help manage and track tens of millions of shipping containers globally by digitizing the supply chain process from end to end" (Gronholt-Pedersen). Specifically, blockchain represents a shared platform that automatically updates in real-time, unlike current systems that possess static information that must be manually changed. Any particular shipment can be tracked and issues can be identified much more quickly.

In the grand scheme of things, this joint venture between Maersk and IBM can be a home run. Both companies are at a reckoning point now because they have realized that their business models are susceptible and the efficacy of a blockchain based business. The technological revolution of the last ten



years which has included smart-phones, 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). Obviously all parties within the global logistical framework will have to embrace this change, but that will come as time passes. A full scale undertaking like this will definitely cost a lot, but as more companies of the stature of Maersk and IBM do so, it will soon be a must for all.

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The Great Debate of Globalization: FROM A SUPPLY CHAIN PERSPECTIVE

BY: ADARSH RANGAN, SOMIK SHAH

Localization vs. Globalization

Globalism?

Regionalization is a growing trend in supply chain management. Moving manufacturing locations, distribution centers, and procurement close to home can lead to significant cost savings. This is despite harder borders, thus highlighting the importance of regionality.

Tim Feemster The Managing

Mexico harder between the managing and the importance of regionality.

Regionalization is a growing trend in supply and the importance of significant centers, and procurement close to home can lead to significant cost savings. This is despite the importance of regionality.

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Regionalization is a growing trend in supply and the importance of significant costs are significant costs.

Tim Feemster, The Managing Principal of Foremost Quality logistics concurs, "Organizations with global supply chains are

realizing that regionalization makes sense, because costs are reduced and speed to market is faster." Regionalization could improve delivery times, improve customizability and as a result offset small increases in cost.

Supply chain is currently one of the fastest growing fields. A report by the Material Handling Industry (MHI) suggests that nearly 1.4 million supply chain jobs could be created. If US-based companies were to bring those opportunities inside the US, the economic opportunity and growth could be tremendous. Moreover, as the world becomes accustomed to customization in their products, supply chain opportunities increasingly move back to the United States. According to report published by DHL, in 2014 nearly 60,000 manufacturing jobs returned to the US. Economic protectionism could be a boon to the US economy and our supply chains.

Mexico has almost 100 different trade agreements with other nations while the United States has around 20. NAFTA has made them a good sourcing partner, and "lower labor... costs" create incentives to keep manufactur-

ing and production a "short flight away" (Vitasek). Furthermore, if American companies do not outsource labor, they could become less competitive. They would be "forced to hire expensive

U.S. workers" which would just raise prices for consumers (Amadeo). American companies only need to pay entry level IT workers \$8,400 in India, and that would make goods cheaper for the average American consumer (Amadeo).

On the other hand, foreign owned MNCs employ almost 5.5 million people in the United states, proving that free trade would benefit the U.S. economy. Also, even though U.S. based MNCs outsource their work, it should be noted that they still employ almost twice as many American employees

as they do in all other countries combined (Riley). Having treaties such as NAFTA that enable free trade often benefits the American economy, as exports to current free trade partners have grown almost 22% from 2009 to 2015 (Edelman). True, reducing free trade would help retain some American jobs currently being outsourced, but it would have the added effect of reducing our exports, which benefit the overall American economy.

Localization vs. Globalization

Market

Competitiveness?

Large corporations have benefited from the wave of globalization due to their significant capital and infrastructure worldwide. They are able to take advantage of tax havens and cheaper labor worldwide due to their ability to coordinate and bear significant costs of moving goods world-

wide. Jonathan Webb, explains "Most transnational companies, productive assets are overseas ... but this problem can be overcome if companies are willing

to engage in the expensive business of transporting plants." This expensive reorganization process would allow local businesses to increase their share of the market by offering cheaper American made products. Thus placing small business in more direct competition with MNCs.

Protectionism does not always help local businesses compete, but when it does, it is often at the expense of the consumer. For starters, out of 16 U.S. industries, only the bicycle industry expanded after protection (Lawrence and Litan). Thus, it appears that protectionism does not actually cause local

businesses to participate in a sector. Also, import quotas may not 'level the playing field' as evidenced with restrictions on Japanese cars causing American

manufacturers to increase their prices. Many large American manufacturers enjoyed higher profits, showing that protectionism will not necessarily increase the competitiveness of small businesses. Lastly, protectionism can often cause higher prices and inferior goods as evidenced in Canada. For example, in 2015 the dairy industry was able to charge high prices, favoring around 13,000 farmers at the expense of 35 million consumers (Milke).

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RUSCA EVENTS

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

Events for February:

2/5-2/19: Peer Mentorship Program Sign-up Here

Mentors: Seeking Juniors and Seniors

Mentees: Seeking any student

2/26: Mentorship Networking Event



2/16: Virtual Training (1:30pm-2:30pm)

Operations Management - Register Here

3/1: Virtual Training (1:30pm-2:30pm)

Project Management Fundamentals - Register Here

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

At Rutgers Business School, Piscataway, NJ - 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 intermedi- ary 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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