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RUSCA & SUPPLY CHAIN

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Rutgers University Supply Chain Association

Welcome Back!

RUSCA Newsletter is proud to present its first newsletter of the Spring 2017 semester. In this issue, our articles discuss supply chain flexibility, control, and sustainability across various industries. This newsletter also features a guest article on SAP, written by Nida Ashraf. In addition, please find more information below on upcoming events and General Meetings that RUSCA will be hosting this semester.

Jessica Lee | Editor

Newsletter Formatted by:
Michelle Fu

RUSCA is now corporately sponsored by J.B. Hunt!

For RUSCA-specific events, see page 10

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

Event Preview: BASF and General Meetings

BASF

Our first event of the Spring 2017 semester is an information and networking session with BASF, a multi-national chemicals manufacturing corporation. Do not miss this opportunity to network!

Date: February 15th
Time: 7-9 pm
Where: BRR 4031

GENERAL MEETINGS

In addition to hosting company information and networking sessions, RUSCA will be holding General Meetings. These meetings will be covering topics such as supply chain careers and industry trends, professional preparation, and student advice. Come out to meet and learn from your RBS Supply Chain professors and fellow students!

See **RUSCA Events** of this Newsletter for more details. We hope to see you there! Please reach out to RUSCA if you have any questions at **rusca.rbs@gmail.com**.

The Benefits of Blockchain Technology

BY: BRANDON DALEY

A blockchain, at its core, is a digital record of financial transactions, or "blocks," that are chronologically linked and chained to form a database of transaction information with the help of nodes. Nodes can be thought of as participants in a network: participants have access to this ledger of transactions and can work together to maintain the chain's consistency and accuracy of information (Tech Talks). In theory, the blockchain has the making of a future power. It streamlines the way we spend our money by eliminating intermediaries and quickly validating our financial transactions. But can the blockchain remain applicable to industry supply chains? And will it continue to grow? The answers, fortunately, can be seen across a variety of our world's most relevant fields.

This technology, foremost, has been critical to simplifying song distribution within the music industry, since no one person is responsible for storing transaction information. In year's past, financial brokers served as middle-men who would take days to process monetary agreements between the artist and a major record label (The Crunch Network). Today, however, blockchains, don't mandate a central authority. These transaction payments are immediately sent and received if both parties approve of its placement (Tech Talks). Such blockchains are also inexpensive. Financial brokers require hefty fees for

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"Although the blockchain is currently nascent and many industries are hesitant to accept it, one notion remains assured: they are the future of data security and a driving industry force for many years to come."

handling accounts, and these fees cut into the revenue of talented artists. By decreasing the need for brokers, artists are able to put roughly 86 percent of their earnings to better use, according to Forbes's Jonathan Chester.

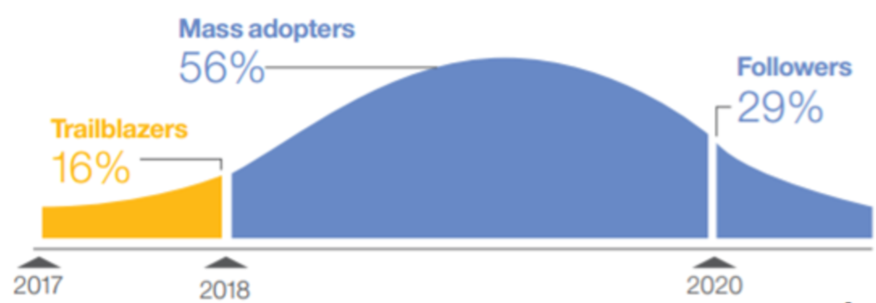
Furthermore, blockchains also hold the power to elevate startup companies and rising musicians. For instance, songwriters can retain credit and earn money for their creations through blockchain-based ledgers that operate as direct channels for compensation from users of their work. These users, such as larger companies, are then able to reward songwriters with the money they deserve. Many startups have implemented these blockchains to serve a wide variety of functions. PeerTrak, an artist equity trading system, has sought to manage royalties better, while BitTunes has worked to eliminate digital music piracy (The Crunch Network).

With regards to global healthcare, pharma giants have begun to employ blockchains in an attempt to strengthen data integrity, tighten cyber security, and simplify relations between patients and providers (CoinDesk). Today, doctors no longer need to spend hours digging through the records of each and every patient; blockchains have this thorough, yet safely kept, information on file. The progress of this movement is most evident overseas. Earlier this month, Mobile Telco Du, one of the UAE's largest telecommunications providers, partnered with NMC Health to tighten documentation across its thirty local business members (CoinDesk). The Emirates additionally appended to their contributions by piloting a Global Blockchain Council aimed to digitize healthcare records, improve shipping processes, and boost tourism numbers among other pursuits (CoinDesk).

Though blockchains are relatively new, they are expected to gain traction in the years ahead.

Figure 1

First to finish: Healthcare respondents' expectations of when they will have blockchains in production and at scale



Source: IBM

Blockchains continue to grow faster than the rates that most healthcare analytics had previously anticipated. In a survey conducted by IBM, 56% of healthcare executives intend to implement a commercial blockchain by the end of 2020 (HealthIT Analytics). Most providers also believe that the blockchain will work. 70% of early adopters believe the system will improve healthcare data and access to trusted info that will be kept secure in the future (HealthIT Analytics).

As shown in the music and healthcare industries, blockchains help to bring convenience, cost-savings, and streamlined security to transactions and relationship management within the supply chain. Although the blockchain is currently nascent and many industries are hesitant to accept it, one notion remains assured: they are the future of data security and a driving industry force for many years to come.

Amazon: The New Kid on the Block, and Now the Open Seas

BY: CHRIS DOYLE

The waves made by Amazon.com over the past two years in venturing into the ocean freight shipping industry have been difficult to ignore. Per bill of lading documentation acquired by Ocean Audit, an ocean freight refund recovery company, Amazon has now shipped at least 150 containers from China since October 2016.

These bills of lading, which detail the shipment of goods by the carrier from consignor to consignee, underline Amazon's growing involvement in logistics. Amazon registered with the Federal Maritime Commision in November 2015 under a subsidiary, Beijing Century Joyo Courier Service Company, viewing it as an opportunity to add strategic value by controlling costs and their end-to-end supply chain (Stevens 1). This transition to become a non-vessel operating common carrier (NVOCC), which was expected by Amazon's competitors to take several years, has finally come to fruition.

Many of the parties using Amazon's shipping service so far have been Chinese sellers utilizing the company's "Fulfillment by Amazon" service. In an effort to operate as a global freight company, Amazon now handles the sorting, labeling and trucking behind the carriage of goods. Amazon's expansion of their trucking service and their purchase of a fleet of 40 Boeing 767-300s back in August 2016, "is another cog in the supply chain that they're putting under their control, as well as creating new revenue streams," says John Haber, Chief Executive of Spend Management Experts, a supply chain consultancy group (Stevens 1). Adding freight shipping capacity provides Amazon with further opportunities to delve deeper into the supply chain and grow customer dependency. The wide range of service features Amazon can now provide appeals to their customers and is key to expanding these revenue streams.

Amazon's entry into the ocean freight industry is poignant as it comes during a time of unpredictability for the industry. In January 2017, ocean spot rates hit a 20-month high and was above the average for the past five years (Barnard 1). Ocean spot rates, which are the quoted prices for shipping cargo and are driven by the supply and demand for carriage, have been extremely volatile for some time. For example, the rate for an ocean freight shipment from China to Long Beach, California jumped from $800 to $2,200 in Sep-

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"Amazon's entry into the ocean freight industry is poignant as it comes during a time of unpredictability for the industry."

tember 2016 (Wade 1). The recent "changes in competition, capacity, technology and ownership" from Hanjin declaring bankruptcy to rumours of an OOCL-Cosco merger are both causes and effects of this volatility (Moore 1). Executives in the industry are concerned, saying: "carriers have been hemorrhaging money for the last three or four years" and "when Wal-Mart talks to a carrier, before they take a rate, they're gonna say, 'Show me your balance sheet'" (Wade 1).

As it joins the ocean freight shipping industry, however, Amazon will be facing challenges set by previously established business partnerships that have set competitive shipping rates. For instance, Alibaba, a Chinese e-commerce company, partnered with Maersk last year for the delivery of Alibaba's goods to the U.S. market. This partnership fixed the rates for selected lanes for a prepaid deposit and set competitive shipping rates. As a result, Maersk received a stable source of revenue, while Alibaba got the "predictable, competitive rates on a year-to-year basis" they wanted in accessing the U.S. market (Moore 1). While Amazon will be facing such hurdles to gain market share in ocean freight shipping, the direction that both Amazon and Alibaba have taken in recent times will be rocking the boat for the rest of the industry.

Sustainability in Supply Chain

BY: KRITI SINHA

Companies in the supply chain industry are focusing their efforts towards sustainability and trying to include this important concept into their supply chain processes. Essentially, sustainability is "everything that we need for our survival and well-being [that] depends, either directly or indirectly, on our natural environment" (Barnes). Pursuing sustainability requires us to "create and maintain the conditions under which humans and nature can exist in productive harmony to support present and future operations" (Barnes).

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Companies such as Pepsi-Cola, Subaru, Repurposed Materials and Sonoco are examples of companies trying to implement sustainability within their procurement, manufacturing, and waste management practices. Pepsi-Cola is reducing the amount of water needed to produce soft drinks. Subaru is recycling and reusing all of its waste products. Repurposed Materials makes a good use of waste material, as they turn this waste into quite useful products. Lastly, Sonoco is known for its packaging and use of environmentally friendly methods of packaging items.

In order for more companies to adopt sustainable supply chain practices, Jim Barnes of Supply Chain Management Review recommends four ways in which supply chain professionals can incorporate sustainability in the supply chain management goals and objectives.

First, companies should incorporate record-keeping methods to monitor and report greenhouse gas emissions data. A focus on facts in"gathering and reporting this type of data provides benchmarks to keep internal efforts on track toward achieving sustainability goals" (Barnes). Second, successful companies should implement and conduct Life Cycle Assessments in order to see their products' environmental impact. This way, they can see whether their actions are indeed benefiting not only the company, but also the community.

Third, companies should strictly follow ISO 14000 environment management standards to be able to enhance their environmental management efforts. Fourth, Barnes recommends that companies should adhere to the 5 level Framework, which includes "Assessing the scope of the system, Defining success, Setting Strategy, Determining actions to take and Identifying the tools of use" (Barnes). The 5 level Framework allows for a company's supply chain department to think about the level of sustainability of their external partners, such as suppliers and distributors.

By considering the entire scope of its supply chains, companies can more successfully pursue sustainability, a key foundation for practicing social responsibility. Because modern day consumer and employees are more attentive to and value sustainable practices, it is important for companies to adopt these practices to meet and exceed these expectations for long-term success.

"By considering the entire scope of its supply chains, companies can more successfully pursue sustainability, a key foundation for practicing social responsibility."

Guest Article: SAP

By: Nida Ashraf

The evolution of SAP has drastically changed the way companies run their business. SAP has become one of the top system operators used by major companies across the globe.

System Analysis and Product Development (SAP) history started in 1972, when it was created in Germany by five entrepreneurs and former IBM employees.[1] The SAP headquarters is in Weinheim, Germany.[1] SAP's first customers in 1972 were the German branch of Imperial Chemical Industries.[1] After three years in 1975, SAP finally had established a trademark for their company.[1] With this trademark, SAP was now able to differentiate themselves from other companies. In 1976, SAP only had 25 employees running a company that managed to generate DM 3.81 million in revenue.[1] By 1979, the company started operating on its own server, Siemens.[1] When SAP turned 10 years old, it had only 100 employees and a revenue of DM 24 million.[1]

In 1993, SAP started working with Microsoft to make SAP compatible with their products.[1] This allowed for more companies to use the system since it was accessible with a popular computer operating system. By 1996, SAP was given the "Company of the Year" award by the European Business Journalist Association.[1] In the same year, they were now able to go online, mySAP.com.[1] By going online, SAP opened the doors of more opportunities. Companies were now able to access SAP in more modes. SAP entered the New York Stock Exchange in 1997, marking a significant milestone in their history.[1] During 1998, SAP had increased their workforce by 50% by employing more people.[1]

Entering the 21st century meant big things for SAP. When 2000 came around, SAP was the world's leading provider of e-business solution.[1] Also, they were the third largest independent software vendor in the world.[1] In the global financial crisis in 2009, SAP made its mission to support customers during the tough times.[1] To do so, the company implemented different cost savings projects.[1] Because of their efforts, SAP improved their operating margin despite the financial crisis. SAP persevered during the tough economic times and progressed.

SAP HANA was created in 2011 which produced data analyses in seconds.[1] This was a significant advancement for SAP customers who have huge amounts of big data to visualize and analyze. After seeing their potential and growing popularity, SAP decided to invest in the second largest economy, China, in 2012.[1] By 2014, they went to cloud.[1] Within that same year, they became the largest cloud company in the world.[1]

Why would a company use SAP? What is special about SAP? Is it worth

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"Why would a company use SAP? What is special about SAP? Is it worth all the hype that was created since their inception?"

all the hype that was created since their inception? The purpose of SAP is to help connect business in real time.[2] It gives the ability to see what is happening globally within seconds.[2] Thus, it has made doing business much simpler by breaking down the complexity associated with it.[2] Since the complexities are blurred, it allows for rapid flow of innovative ideas.[2]

There are many companies using SAP for their business needs worldwide. BMW, BASF, 711, 3M, and Adidas are just a few of the many companies who have implemented SAP.[3] Recently through an interview, I learned that Johnson and Johnson also uses SAP. From my own personal experience, L'Oréal is another popular company using SAP.

With everything, there are pros and cons. For SAP the pros and cons are its cost, compatibility, benefits, variability, and level of customization.

The cost of using SAP could be expensive for a company depending on their size. A license for SAP is $1,400 per user and the subscription is $420 per user.[4] This may seem miniscule for a large established company, but for a small startup company it could be too expensive. A company considering SAP as a business solution would have to weigh in whether it is worth the investment. The best return on investment is if there are a lot users and it is being used frequently.[5] Depending on the size and need of the company, the cost of the system could be a potential con.

In terms of compatibility, it is an overall pro. SAP is compatible with almost all popular devices. The system can be operated using over thirty different devices including Apple, Android, Windows, Blackberry, Chrome, Firefox, Samsung, and Internet Explorer.[6] Regardless of what device the company wishes to use the software, they will not encounter issues with respect to compatibility.

There are inevitably benefits of having SAP. By having SAP, it allows for better cross-functional communication. It facilitates a smoother flow of information from one end of the business to the other with relatively no barrier, making it very efficient and accurate. For companies without SAP, a lot of paperwork is involved to record necessary information. This inevitably allows for a lot of human error. However, with SAP, chances of error can be avoided because everything is moved to one electronic system, creating a cohesive and accurate flow of information. In terms of benefits of investing in SAP, you will always see it as value-added.

"With everything, there are pros and cons. For SAP the pros and cons are its cost, compatibility, benefits, variability, and level of customization"

There are various types of SAP that can cater to a company's needs. Depending upon the industry or department there will be different modules used. There are two main types of SAP modules: Functional Module and Technical Module.[7] Based upon the needs, the specific modules will be chosen. Functional Module includes Financial Accounting (FI), Controlling (CO), Sales and Distributions (SD), Human Resources (HR), Production Planning (PP), Materials Management (MM), and Quality Management (QM).[7] Each module has unique functions that can help companies to pick which module will fit best to their business requirements. For example, Financial Accounting has functions including accounts payable and bank and cash management. This version of SAP would be beneficial for the finance and accounting department of a company. Under the Technical Module, there are Information System (IS) Management, Basis, HANA and NetWeaver.[7] There are more advanced modules that encompass even more functions, Business Suite. Under Business Suite there are Customer Relationship Management (CRM), Supply Chain Management (SCM), and Supplier Relationship Management (SRM).[7] Having this variability is a great advantage that companies can use to leverage.

Although there are different versions of SAP, it is not customizable for each individual business. Instead of SAP adapting to what the specific department needs, the department needs to adapt to the SAP systems and requirements. This is a great disadvantage because each business runs differently and the SAP modules, although have a lot of variations, don't have the capability to be even more customizable.

"There are inevitably benefits of having SAP. By having SAP, it allows for better cross-functional communication. It facilitates a smoother flow of information from one end of the business to the other with relatively no barrier, making it very efficient and accurate."

I have been interning at L'Oréal for over a year now. As part of my internship I have been using SAP every single day to complete my responsibilities. I print invoices, chargebacks, update line items, and offset credits and debits, just to name a few. Since I have a year of experience, I have grown to understand my own personal likes and dislikes of the system.

There are few cons that I wish could be avoided. When printing out invoices, it does not print out the order you input the invoice numbers. This could add unnecessary lead time to the process. SAP will usually print it out depending upon how it is on the system. Offsetting debits and credit could be cumbersome depending up on the time of day. Since only one person can offset from a specific account number, it wastes time. If multiple people want to offset from the same account, you are not able to do so. Thus, the multiple account holders regularly try to compete to get onto the offsetting transaction before the other person. Viewing the line items for a specific account can also be very slow depending upon how many people are pulling up the same account information. The more people trying to retrieve the account, the longer it takes. In addition, at times there could be glitches to the system when trying to access a specific transaction or to complete a task in a transaction.

Although there are a handful of aspects I dislike, there are a few things I consider a great advantage. When updating the line items, it is highly customizable. You can filter, add and delete information from your view. This helps you view information and data that is you need and what is prevalent to your desired task. Another positive aspect is since the whole department has the same style of SAP it is easier to communicate cross-functionally to resolve an issue. If a problem or question were to arise, any co-worker I go to in the department will understand the SAP related problem and can collectively derive a solution. This makes the process very efficient and smooth.

SAP has a come a long way from the first innovation back in 1972. It has evolved to system that is used worldwide. Having pros and cons are inevitable. The company who wishes to use SAP must decide based on their business needs whether the pros outweigh the cons.

GLOSSARY

Invoice: List of items account ordered with important corresponding information.
Software: Program or information used by a device.
Credits: Created to cancel out the debits or deduction made and clear the invoice off the system.
Debits: Account makes a deduction from their total they owe the company.
Line Items: List of all open invoices made by the account.
Chargebacks: Summarizes the deduction the account made from the total balance with the invoice number and other important information.
UPC: Each product has its own unique number associated with it.
Cloud: When information or data is stored here, able to access it anywhere using the internet.
Trademark: Legally differentiates your company from others.

RUSCA EVENTS

The following are events that RUSCA will be hosting in February, as well as the General Meeting schedule.

Upcoming Events for February:

2/15: BASF Info Session

2/21: Whirlpool Info Session

General Meeting Schedule:

Every other Monday, 9:30pm
at Livingston Campus - Tillet Hall Room 103B

2/20: Spring Supply Chain Expo Prep:
Professionalism Workshop

3/6: Differentiate Yourself as an SCM Undergrad:
Certifications & Mentorships

3/20: Supply Chain Career Overview

3/27: SCM Case Competition Workshop

4/10: Scheduling Advice

4/24: Green Sustainability in Supply Chain

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 inter-medi- 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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