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# RUSCA & SUPPLY CHAIN



Rutgers University Supply Chain Association


## Technology and Territory

Supply chains must overcome threats created by competition to protect involved companies' brand and market share. Technology has encouraged these threats and the need for adaptation, but has also brought along negative effects with it. In this issue, our articles highlight how recent technological advances and efforts to counter competition have changed supply chain operations for major companies. In addition, please find information below on an upcoming special presentation by Dr. David Schreck on supply chain management and the health care industry.


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

For RUSCA-specific events, see page 11

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**http://rutgersrusca.weebly.com/newsletter.html**

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# Event Preview: Guest Speaker - Dr. David Schreck

## BY: JESSICA LEE

RUSCA is excited to invite students to attend a special guest lecture featuring Dr. David Schreck. His presentation, "Supply Chain and the Changing Face of Health Care," will discuss the challenges and opportunities facing supply chain management in the health care industry.

**About Dr. Schreck:**

- Corporate Vice President
  Atlantic Health System
- Clinical Assistant Professor of Medicine
  Robert Wood Johnson Medical School (New Brunswick, NJ)
- Past Chairman of Emergency and Hospital Medicine
  Summit Medical Group (Berkeley Heights, NJ)
- Past Vice Chairman of the Department of Medicine
  Overlook Medical Center (Summit, NJ)
- Adjunct Professor of Chemical Biology and Physiology
  Stevens Institute of Technology (Hoboken, NJ)

**When:** Thursday, November 3rd at 3:20 PM
**Where:** 100 Rockafeller, Room 1095

A reception will take place afterwards in the lobby.
We hope to see you there!

**David M. Schreck,**
**MD, MS, FACP, FACEP, FHM**

# Apple: The Need for More Due Diligence

## BY: CHRIS DOYLE

On Monday, October 17th, Apple Inc. filed with the U.S District Court of Northern California a formal complaint against Mobile Star LLC, a New Jersey based manufacturing company, for falsely selling charger cables and power adapters as genuine Apple products on Amazon.com.

As part of its effort to eliminate counterfeit products from the marketplace, Apple recently purchased in large quantities twelve different Apple products from Amazon.com. Each of these supposedly-Apple products had been assigned by Amazon.com a Standard Identification Number (ASIN) indicating it as part of a genuine Apple product line. Upon further inspection, Apple deemed nearly 90% of the products to be counterfeit, to which Amazon.com identified Mobile Star as the supplier (Associated Press 1). These electronics, as is the case with most counterfeits products, are not subject to industry-standard consumer safety testing, nor are they designed with the

***Works Cited:***


Apple Complains Amazon's US Site Is Selling Fake Products." *BBC News*. BBC News Service, 20 Oct. 2016.

Apple Inc. vs. Mobile Star LLC. 3:16-cv-06001. U.S. District Court Northern District of California. 17 Oct. 2016. *Scribd*. Scribd, 17 Oct. 2016.

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Shindell, Matthew R., Todd Kramer, Stanley H. Salot, Jr., and Counterfeit Avoidance Mark Alliance. "The 'Ticking Time Bomb' of Counterfeit Electronic Parts." *IndustryWeek*. IndustryWeek, 22 July 2013.

http://media.idownloadblog.com/wp-content/uploads/2013/10/iPad-mini-2-in-Apple-Store-Martin-Hajek-002.jpg

proper components or insulation. As a result, these products pose a threat of overheating, catching fire and potentially delivering a deadly electric shock to users (Apple Inc. vs. Mobile Star LLC 2). The fact that hundreds of counterfeit Apple products sold under the assumption of being genuine on e-commerce marketplaces such as Amazon.com and Groupon is alarming: "80% of consumers in the developed and developing world regularly [purchase] counterfeit products" and are unaware of these dangers, according to the International Chamber of Commerce (Shindell et. al. 3).

An Apple Spokesman told the BBC, "[Mobile Star has] ignored our repeated requests, so we are taking legal action to get them to stop" (BBC News 1). Marquee brands such as Apple, who possess large market shares, hold significant brand power and have products with high unit profitability become central targets for counterfeiters (OECD 11). So, not only do consumers suffer, the businesses suffer as well. Consumers and businesses lose around $250 billion annually due to counterfeit goods (Shindell et. al. 1). Counterfeit products crowd out the genuine products as consumers are drawn to the lower prices. As one Amazon Customer referenced in the Apple lawsuit reviewed on Amazon.com, "I bought three for my family because of the good reviews and pricing," so not only does Apple lose out on potential sales, they suffer damages to their brand with these negative reviews (Apple Inc. vs. Mobile Star LLC 4). The loss of goodwill, the reluctance to purchase the same brand again and the communication of a negative experience to others all detrimentally affect Apple's outreach to future potential consumers. Additionally, Apple must devote significant time, resources and funds in combatting these issues (OECD 18).

"The risk that counterfeit products end up in the hands of the end-user highlights the need for all involved companies to be more diligent in monitoring the actors within their distribution channels."


This most recent case involving Apple brings to attention the uncontrollable external forces that comes with complex, global supply chains. The risk that counterfeit products end up in the hands of the end-user highlights the need for all involved companies to be more diligent in monitoring the actors within their distribution channels. One way in which this can be accomplished is through better communication between Apple and Amazon.com concerning product design and requirements so that Amazon.com can proactively assure the quality of the goods. Also, a more thorough vetting of suppliers is needed by Amazon.com considering the significant number of

Apple products they sell through their Fulfillment service. Mobile Star had yet to comment or submit their legal documents in response to Apple's complaint at the time of writing, which would help detail their compliance in the distribution of counterfeit products. However, as long as manufacturers and suppliers of marquee brands work to keep up with increasing consumer demand in the face of expensive production costs and competition from businesses at-home and abroad, counterfeit products will continue to seep into the market and remain a sticking point for many companies and consumers.

# The Big Challenge of Finding Software Talent

## BY: KRITI SINHA

The world today is revolutionized by technology. As technology advances day by day, the need for more advanced and skilled products are demanded. As a result, manufacturers are trying to hire more employees with a technology background as they want to create more products using software and technology to meet the needs of customers in today's world. "Industrial giant GE is also investing heavily in [technological] capabilities, seeing it as a huge opportunity to create new services and revenue streams" (Supply Chain Digest). GE's goal is to become one of the top 10 global software company, which can be achieved through hiring manufacturers who are proficient in technology. Manufacturers should be technology-based so they can create more creative, innovative, appealing and convenient products using the various technical skills they have acquired.

However, there is a problem. Individuals with software talent are looking for something more. Manufacturing companies are not able to compete with the pay level and benefits tech companies offer in today's day and age. "On average, tech companies pay $105,227, 12% more than manufacturing employers" and "for entry-level software jobs, tech companies pay $88,820, about 5% more than manufacturers do" (Supply Chain Digest). Furthermore,

"...manufacturers are trying to hire more employees with a technology background as they want to create more products using software and technology to meet the needs of customers in today's world."

***Works Cited:***

"As Manufacturers Go High Tech, Finding Software Talent Is Big Challenge."*SupplyChainDigest*. Supply Chain Digest., 20 Oct. 2016. Web. 22 Oct. 2016.

"High-Tech Manufacturing." *Strategy and Technology Consulting Firm*. Booz Allen Hamilton Inc., n.d. Web. 22 Oct. 2016.

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people in this field want to work in more high tech companies that primarily focus on software so they can learn and apply their skills more extensively. Lastly, people are lured to apply to top tech companies because of the name, fame, recognition and social cachet. For example, "Tech companies in Silicon Valley and elsewhere may also be able to better tap into the interests of the so-called millennial generation in working for companies that have a social responsibility mission or the potential to "change the world" through innovation" (Supply Chain Digest). Such companies are better able to meet the desired workplace environments of modern-day technical employees.

It is difficult to hire manufacturers with an increased level of technological systems, but it is not impossible. At Booz Allen Commercial Systems, manufacturers are tech experts and are able to involve their expertise in their daily processes such as industrial, automotive and consumer tech (High-Tech Manufacturing). Thus, manufacturing companies should constantly be on the lookout for such skilled workers. Furthermore, manufacturers can go through training workshops in which they can learn about key computer science and softwares skills. Even though, these workshops can be expensive, they will provide a long lasting benefit to the company. This way, manufacturing companies also do not need to hire a large amount of people and can successfully operate with the employees they already have.

All in all, the need for manufacturing companies to improve based on their tech skills is important in order to keep up with the new generation's needs and demands.

# Man vs Machine: The Truck Driving Industry

## BY: JESSICA LEE

Technology has significantly transformed the supply chain industry. From the management software found in Enterprise Resource Planning to the conveniences found in E-procurement, innovative technologies provide opportunities for supply chains to implement efficiency-increasing tools. Most recently, technology has made great strides in the distribution sector of supply chain through advances in self-driving trucks.

On October 25, 2016, Otto, a self-driving truck startup owned by Uber, completed its first commercial delivery of 2,000 cases of Budweiser beer. Otto's truck first departed from Anheuser-Busch's warehouse facility in Loveland, Colorado. The truck proceeded onto


***Works Cited:***

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Isaac, Mike. "Self-Driving Truck's First Mission: A 120-Mile Beer Run." *The New York Times: Technology*. The New York Times Company, 25 Oct. 2016. Web. 29 Oct. 2016.

Santens, Scott. "Self-Driving Trucks Are Going to Hit Us Like a Human-Driven Truck." *Basic Income*. Medium.com, 15 May 2015. Web. 29 Oct. 2016.

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Guardian News and Media Limited, 17 Jun. 2016. Web. 29 Oct. 2016.

http://wixtechs.com/wp-content/uploads/2016/08/Otto7.0.0.jpg

Interstate 25 in Fort Collins, traveling through Denver alongside of regular passenger car traffic. Finally, it concluded its approximately 120-mile drive at Colorado Springs  A trained driver, Walter Martin, was in the truck during the entire trip to monitor the truck's systems and to override the self-driving function if needed. The company reported that the driver did not need to intervene once during the drive since the travels went smoothly (Deamer, Isaac).

This autonomous-driving success has not been the only one in the trucking industry. In May 2015, Daimler AG, a German automobile company, introduced the first self-driving truck in Nevada. Daimler's trucks, which use ordinary radars and cameras, are currently "in a decade-long testing phase, [with plans of] racking up over a million miles before being deemed fit for adoption" (Santens).

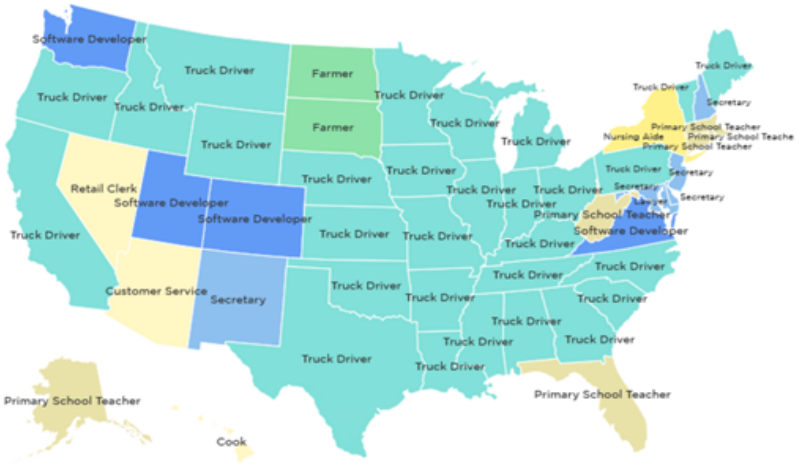
This autonomous driving accomplishment, and now self-driving commercial delivery success, opens major paths for the truck driving industry. While Otto noted that drivers would still be involved in the deliveries – "human drivers are still needed for performing pickups, loading the freight, and ensuring the cargo is secure in the back of the vehicle" – autonomous trucks can propel efficiencies in the trucking business (Deamer).

Unlike human drivers, autonomous trucks would not require frequent breaks. The machines behind the automated driving would essentially allow deliveries to be made with minimal, and potentially without, stops. Companies would have the capabilities to make faster deliveries and expedite the material flows among suppliers, manufacturers, retailers, and consumers. As this technology advances and becomes more accessible and cheaper for trucking companies, firms would be able to achieve more miles with less spending on resources.

"The machines behind the automated driving would essentially allow deliveries to be made with minimal, and potentially without, stops."

In addition, trucking companies can reduce the safety risks involved and the number of accidents that occur. Human factors such as fatigue from long-haul driving, distractions, and general human error have attributed to a significant number of accidents: "In 2012 in the U.S., 330,000 large trucks were involved in crashes that killed nearly 4,000 people, most of them in passenger cars. About 90 percent of those were caused by driver error" (Santens). Self-driving trucks possess features that can help to reduce the legal and financial liabilities from potential accidents. For example, the Daimler trucks use platooning technologies that incorporate Wi-Fi, cloud technology, sensors, GPS, and camera systems that enable a convoy of trucks to automatically steer and increase or decrease speeds in response to a leading vehicle that dictates speed and direction. Safety features, such as active braking, are also included in these systems (Solon). With these features combined, self-driving vehicles will have the ability to detect, analyze, and respond to neighboring vehicles, objects, and surrounding factors to make safe driving decisions. These systems are considered as worthwhile technological investments from the perspectives of trucking companies.

However, despite these advances, it is important to consider the impact of self-driving trucks on truck drivers themselves. Just as automation has decreased the need for employees in areas such as manufacturing and warehousing, automated-driving trucks have the power to disrupt the job market for truck drivers in the U.S. "According to the American Trucker Association, there are 3.5 million professional truck drivers in the U.S.," and in 2014, the truck driver occupation was one of the most common jobs in many states, as shown in the following graphic (Santens).




Source: NPR

Yet, in the short term, trucking companies are still in need of more drivers (Santens). The industry expects a 21% increase in truck driving jobs by 2020 due to a higher demand than supply of truck drivers. In order to attract truck drivers, companies have had to increase offered salaries, which adds to their expenses. As a result, trucking companies would turn to self-driving trucks for a cheaper alternative in executing deliveries. The move to automated-driving can resultantly lead to cut hours and layoffs for employees in the truck driving business, which is "just about the last job in the country to provide a solid middle class salary without requiring a post-secondary degree" (Santens).

As supply chain advances with technology, new efficiencies and conveniences can be achieved and enjoyed by firms and customers. However, it is essential to consider the economic implications technology has on the human labor behind key tasks that have historically sustained the flows in supply chain and to understand the potential underemployment and unemployment aftermath of technology use.

# How Retailers Respond to Amazon

## BY: SOPHIA ZHOU

Amazon.com is well known for its impeccable delivery time of the products you need, want, and even impulsively buy. Retailers such as Wal-Mart and Target have been hit hard as Amazon's online presence advances even more with the new feature of Prime Now, which offers two-hour delivery of essential, everyday items. In order to alleviate the pain, Wal-Mart and Target are heavily investing in ways to improve store pickup. For instance, now you can pick up more products in-store the same day that you ordered it. As a result, more workers will be staffed to greet customers at pickup and to stock inventory, thereby shortening wait times, a key consumer gripe (WSJ). According to Wal-Mart, pickup orders "surged last holiday season" and an increase is only to be expected this year (WSJ).

Target on the other hand, plans to fulfill orders for in-store pickup using a dedicated team allocated for this purpose. The technology invested to

***Works Cited:***

Nassauer, Sarah. "Wal-Mart, Target Invest in Store Pickup for Holidays." WSJ. Wsj.com, 27 Oct. 2016. Web. 28 Oct. 2016.

News, By Dow Jones Business. "Two Retailers Fend Off Amazon -- WSJ." NASDAQ.com. N.p., 15 Aug. 2016. Web. 29 Oct. 2016.

track products in stores will allow Target employees to minimize travel time in-store by taking the most efficient route to collect those orders. Target's Chief Executive Brian Cornell stated on October 25, 2016 that the company is "in a different place today than we were 12 months ago," hoping that this new strategy will offset the loses due to its great competitor Amazon (WSJ).

On the other hand, do-it-yourself chains such as Home Depot and Lowe's "appear to have a retail oasis mostly walled off from the reach of online behemoth Amazon.com Inc" (Nasdaq). The customer and installation services are a competitive advantage these two stores have over Amazon. But it does not mean that either chain is immune to Amazon. Home Depot reports that 25% of its business faces vigorous online competition as customers turn to cheaper online alternatives when it comes to the easy-to-ship items such as nails and power drills. A UBS survey conducted in June of 2016 concludes that 11% of home improvement projects result in consumers planning to buy those items from Amazon. This number is behind 36% who said they would plan on shopping at Home Depot instead, and 21% at Lowe's (Nasdaq). Afterall, Amazon's product description and customer reviews can be of limited help especially to customers who are planning on their first home improvement project.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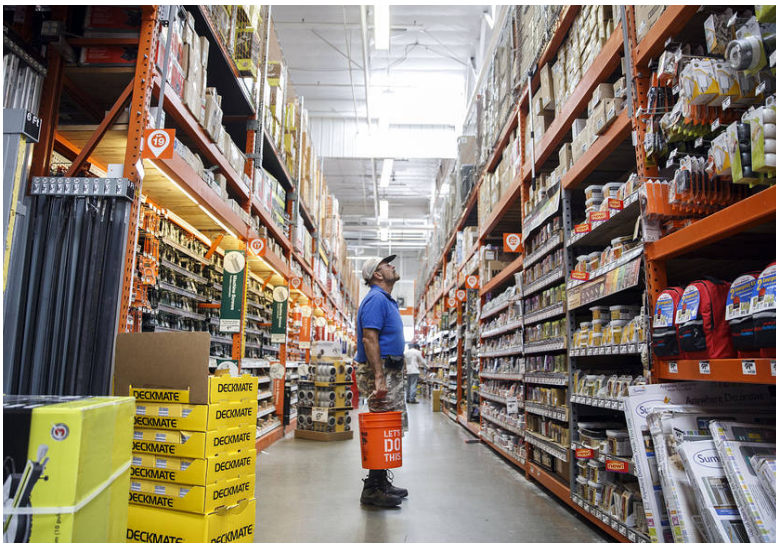
Physical chain stores have scrambled to craft new and innovate ways to make in store shopping the new online delivery service. CVS Pharmacy has initiated curbside pickup, which incentivizes customers to come to the store to pick up their products with a $10 discount on the entire order. However, only 21% of Americans report that they use in-store pickup regularly and 48% say that they use it occasionally, according to a PwC survey earlier this year of 2100 people. Brick-and-mortar stores still have a long way to go with the Amazon still around with shoppers still preferring the convenience of home deliveries.

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"Retailers such as Wal-Mart and Target have been hit hard as Amazon's online presence advances even more with the new feature of Prime Now, which offers two-hour delivery of essential, everyday items."

# RUSCA EVENTS

J.P.Morgan

What has RUSCA been up to this past month? The following are events RUSCA hosted during October, as well as those we will intend to host for November. Each information session highlighted the company's internal structure, culture, strategy, philoso- phy, and last but not least, employment opportunities for our fellow RBS students. Each event concluded with the chance to network with the respective recruiters and representatives.

**October Events Listed as follows:**

10/4/16: JP Morgan Information Session

10/15/16: Excel Certification Course (1st day)

**Upcoming Events for November:**

11/3/16: Guest Lecture - Dr. David Schreck

"Supply Chain in the Challenging Health Care Field"

General Interest Meeting: TBD

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Shaping the world's future Supply Chain leaders

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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.

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