

RUSCA NEWS

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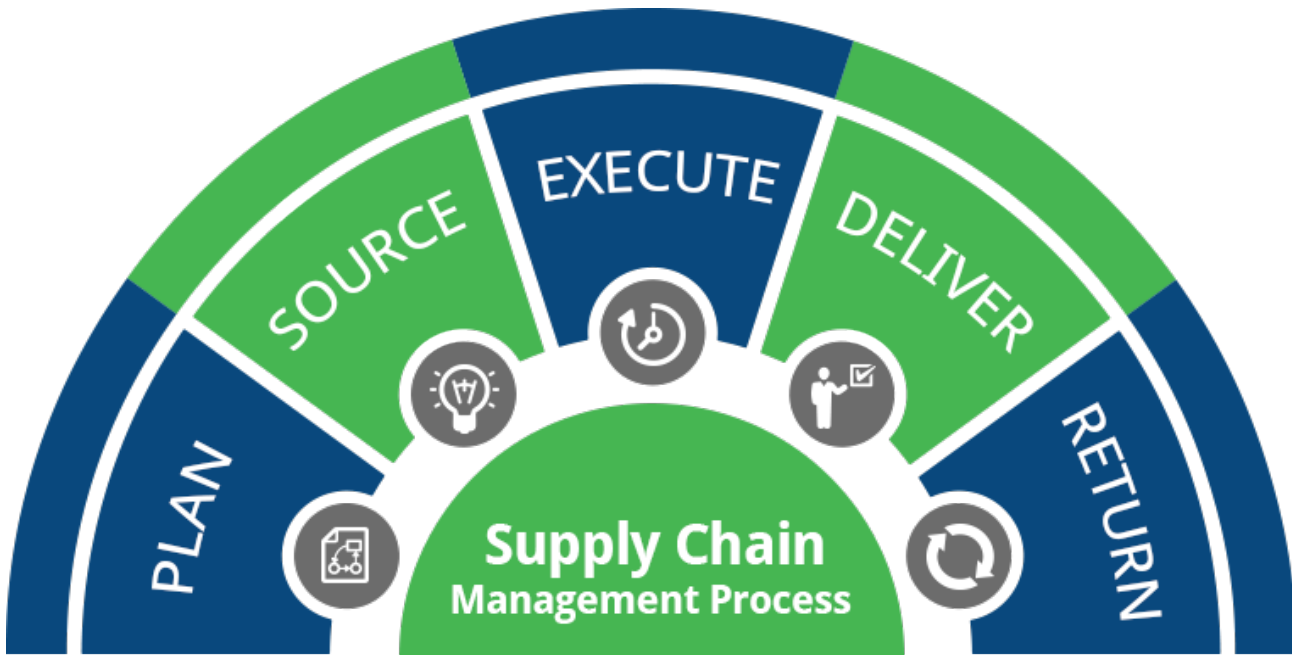
RUTGERS UNIVERSITY BUSINESS SCHOOL

ABOUT THE RUSCA NEWSLETTER

We are a team of writers and editors who write content based on current news and events happening in the supply chain world.

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WHAT IS SUPPLY CHAIN MANAGEMENT?

By TEJAS P.

Supply chain management comprises of all of the processes needed to get the products and services into the hands of consumers. From formulating a plan to getting feedback, any company with a supply chain department has the overarching goal of attaining a smooth line of operations between a concept and its final product. The five rudimentary phases within a “supply chain” in a company include a planning, sourcing, making, delivering and returning. With this idea, like a chain link as the name “supply chain” indicates, if one of these elements is missing or lacking, there will likely be dissonance within the process, leading to an imperfect flow towards getting products to consumers. When a company is able to optimize these steps, they can successfully fulfill the needs of their customers in the most efficient and effective way possible.



ADVANCEMENT IN FORECASTING TECHNIQUES

By AMEER ALI



Forecasting is the first link in the supply chain that supplies the rest of the chain with estimated information about the demand for the product being produced. With every first step, it is important for organizations to start strong or it could have a ripple effect on the rest of the system. With an inaccurate forecast, the results could be either of the following: “An overestimation of demand leads to bloated inventory and high costs. Underestimating demand means many valued customers won’t get the products they want” (Chron, Saint-Leger, 1). To avoid overspending on resources, the company will not use or not having enough resources to satisfy their customers; organizations rely on estimations that are as close as possible to the actual market demand level. However, no one can predict the future with 100% accuracy which is why the techniques of forecasting are continuously improving to better serve the overall market and organizations.

In response to the fluctuating challenges for forecasting in the food industry, Infiniti Research, a well-known market intelligence company, released a four-step approach to better forecast demand in the food industry. According to an article from Businesswire-London the results of this four-step technique are as follows:

“With the help of our demand forecasting solution, the client was able to make accurate predictions about sales and allocate resources accordingly. The demand forecasting solution delivered tangible benefits in their supply chain, most notably the cost savings obtained from inventory management and demand planning. Also, with

“Forecasting is the first link in the supply chain that supplies the rest of the chain with estimated information about the demand for the product being produced”

Infiniti's market opportunity analysis, the client was able to achieve a 17% reduction in unfulfilled orders."

Forecasting is an integral starting point for the supply chain, and the more accurate the forecast is, the more visibility is available to all partners further along in the supply chain. The introduction of newer and more effective forecasting techniques is a great advancement and can only benefit the rest of the supply chain.

According to an article in Industry Weekly, another company has attempted to use a more effective planning technique, a profitability concept invented in 1960 is being repurposed to plan future demands and needs of a company: zero-based budgeting. The mindset behind this technique is to "Essentially, the organization shifts from having a focus on savings to one that's centered on impact to the profit and loss statement (P&L). And in doing so, it remains constantly focused on uncovering inefficiencies in costs that can be captured and redirected for new growth and bottom-line impact" (IndustryWeek, Timmermans, Corr, 1). This zero-based mindset introduces a new perspective when it comes to forecasting. Industries usually look on how to cut cost to save money, but by working from the bottom up and focusing on the profit, it provides a different look into a companies financials and leads to more responsible spending and money-saving results.

Forecasting techniques are continuously being improved to provide better information not only for their industry but for the global market. "Also, global and regional Supply Chain Analytics market supply chain analysis provides vital info about producers, distributors and key end-users in the market" (The NewsMatesI, Parker, 1). Many industries rely on the supply chain analyst provide with their forecasting techniques. Forecasting is not only a strong first stepping stone for each industry but a strong first step for all sectors in the market. Trying to produce goods at an efficient and competitive rate is the goal for all industries and the better you plan for your goal, the more successful organizations will be.

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COMPANIES PROCURE SUSTAINABILITY

By KILEY WILLIAMS

Taking into consideration the current state of our planet, innovative sustainability initiatives have become the newest trend, especially in the world of procurement. Companies across every market have started to source sustainably, which not only decreases their ecological footprint but also boosts the overall reputation of the company. Consumers are becoming more environmentally aware when it comes to the products they buy and the companies they support so this pushes big brands to sustainably source. In the long run, sourcing sustainably benefits companies financially and benefits the global community.

According to the Sustainable Procurement Task Force, "sustainable procurement is a process whereby organizations meet their needs for goods, services, works, and utilities in a way that achieves value for money on a whole life basis in terms of generating benefits not only to the organization, but also to society and the economy, whilst minimizing damage to the environment." To sum this up, sustainable sourcing is meeting the overall needs of the company and the consumer through practices that are ethically and environmentally friendly.

Aside from the primary environmental benefits of sustainable procurement, there are a lot of benefits for the company itself. Sourcing sustainably saves companies a lot of money. There are a wide variety of environmentally friendly products, including office supplies, cleaning supplies, and electronics, that enable companies to easily become sustainable while keeping a budget in mind. Sustainably sourced products save money on overall manufacturing; they use fewer resources to be made which ends up saving the company additional money. In 2016 alone, Hewlett-Packard and other major companies collaborated with their suppliers to implement new carbon emission reduction initiatives, saving themselves a total of \$12.6 Billion.

Many larger brands and corporations have been implementing initiatives to not only source sustainably, but to also reduce the overall waste of the company. Companies including Patagonia, Unilever, and C.H. Robinson

have all pushed environmentally friendly measures within their company structures. This push by large brands benefits markets as a whole. Since major competitors are reducing their waste and actively sourcing sustainably, it leads smaller companies to follow suit. Large companies like Unilever set a market standard which makes every other company in the market also move towards sustainable procurement.

It is clear that sustainable sourcing is the future of procurement. Major companies are pushing for environmentally friendly initiatives, which not only benefits the environment but also creates a market standard. When major brands source sustainably it gives pressure to smaller companies to remain competitive thus leading them to implement similar initiatives. The push to be eco-friendly also ends up saving companies money by reducing their use of resources and reducing overall costs. In the end, sustainable procurement benefits the company, the community, and the global environment. Innovative initiatives have pushed the trend and it looks like it is here to stay.

“The push to be eco-friendly also ends up saving companies money by reducing their use of resources”

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OM5G: INDUSTRY 4.0

By Kevin Reshamwala

Over the last couple of centuries, the world of manufacturing has seen three different Industrial Revolutions come to pass. The first saw the introduction of steam power and mechanization. With the second came mass production powered by electricity. The third injected information technology and digitization into everyday life. But now, we are at the dawn of another Industrial Revolution. Enter 5G: the latest generation of mobile telecommunications. 5G is the golden key that will unlock unprecedented productivity and efficiency for factories around the globe.

In general, 5G refers to the upcoming fifth-generation cellular networks, on which all new wireless devices will run. 5G technology will utilize millimeter frequency waves, which can transfer data much faster than the lower-frequency 4G waves of years past (Frankel). These waves create speedier connections that are approximately 100 times faster than their predecessors. For example, 5G devices can download a 3D movie in three seconds, compared to six minutes on a 4G device (Goldman). Moreover, latency, or the lag before a command is executed, is fifty times lower in 5G networks. However, a noticeable drawback to these new 5G networks is the fact that the millimeter waves do not travel far, forcing carriers to build many more satellites and antennas in close proximity.

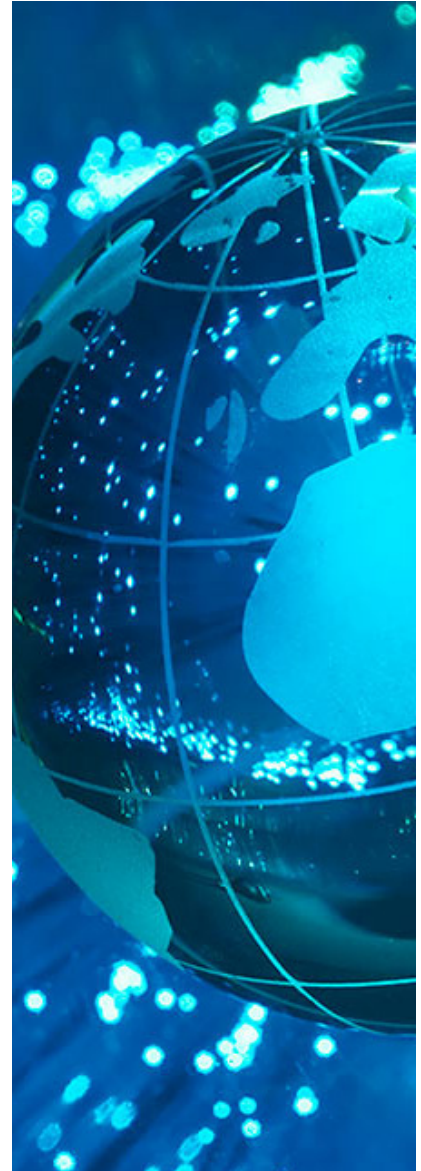
With all of that being said, the most important benefit of the 5G networks is increased bandwidth. Bandwidth refers to the “maximum amount of data that can be transmitted via an internet provider over a certain period of time” (Walker). In other words, networks with higher bandwidth have

“5G technology will utilize millimeter frequency waves, which can transfer data much faster than the lower-frequency 4G waves of years past”

higher capacity, or the ability to transfer more data packets across a network at a single point in time. The relationship between a network and its bandwidth is analogous to a hosepipe ejecting water. The pipe is the network and the water is the data; if you increase the width of the pipe (i.e. increase the bandwidth of the network), more water can come out at one point in time. But what does increased 5G bandwidth have to do with manufacturing?

Here's the catch: more bandwidth allows for more devices to be connected to the same network. Therefore, 5G can unleash the power of the Internet of Things (IoT) in factories around the world. In simple terms, IoT refers to a variety of devices, connected over the Internet, which are constantly sending data to each other. These devices can include smartphones, sensors, wearables, and other gadgets. With the help of 5G, IoT can transform manufacturing operations like never before. Case in point, Ericsson, one of the leading providers of 5G technology equipment, partnered with the Fraunhofer Institute in Germany for some tests. They performed a test on a factory that manufactured metal bladed disks for jet engines. Under normal procedures, it would take the factory twenty hours to complete this process yet they would still end up with a 25% error rate. More importantly, a manufacturing mistake made early on in the process could not be detected until the end, resulting in hours of wasted work. However, after placing 5G sensors on the components, errors could be identified immediately, thereby decreasing the error rate by ten percent and saving thousands of dollars per blade (Kottasova).

Similarly, last month, the U.K.-based Worcester Bosch factory implemented smart 5G technologies into their operations. They began utilizing sensors and data analytics powered by 5G networks to predict machine failures.



The factory also employed security applications with the help of 5G to ensure the safety of its data. In addition, Japanese manufacturer Yamazaki Mazak also threw its hat into this 5G factory trial; they are using 5G networks to help “a senior engineer...remotely guide an onsite engineer through machine maintenance” (Tobin).

Overall, none of these innovations would be possible without 5G technology. These new and improved networks have the capacity to handle tons of devices transferring data to and from each other. As a result, these devices combine to form an Internet of Things, thereby generating myriad data and insights for manufacturers. With wired technology being slowly phased out, wireless 5G equipment will facilitate “higher flexibility, lower cost, and shorter lead times for factory floor production reconfiguration, layout changes, and alterations” (Ericsson). Companies should capitalize on the increased bandwidth that comes with 5G so that they can produce more real-time data flow. They can thereby analyze this data to generate “actionable intelligence that increases the productivity” of tools, machinery, and employees (AT&T). All in all, it isn’t crazy to think that 5G can be the catalyst for the next industrial revolution.



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HOW BREXIT IS IMPACTING LOGISTICS

By Jonathan DiPippa



Logistics is a key aspect of the supply chain, and it will be disrupted significantly by the United Kingdom's decision to leave the European Union. Although the original Brexit deadline was March 29, 2019, the UK was recently able to extend the deadline to April 12. That said, UK Prime Minister Theresa May has still failed to make a deal with the EU that Parliament can get behind, leaving open the possibility of a disastrous "no deal Brexit" (Barnes). All of this uncertainty has negatively impacted logistics and could easily hamper it going forward.

Companies operating in the United Kingdom have a lot to lose if Brexit takes full effect without a substantial deal in place. Fearing a no deal Brexit, many UK-based companies have been stockpiling inventory over the past few months to mitigate the disruptions that will occur in their supply chains. Doing so reduces the risk of disappointing customers and violating existing contracts to supply goods (Leonard). Unfortunately, these companies are incurring additional inventory and logistics costs just to protect themselves from political and economic forces that are beyond their control. Businesses in the UK have also decided to move outside of their home country to avoid Brexit-related disruptions. According to a poll of 1200 UK-based firms, 29 percent have already moved at least part of their operations or plan to do so in the future (Leonard). This data calls into question the economic rationale for Brexit.

Brexit also raises concerns over customs and trade between the United Kingdom and other nations in the European Union. Currently, UK-based companies do not have to pay tariffs when trading with other EU states. Once Brexit officially begins, the UK may be forced to accept tariffs on European trade, putting their companies at a severe disadvantage. Furthermore, UK-based companies will

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"5G technology will utilize millimeter frequency waves, which can transfer data much faster than the lower-frequency 4G waves of years



have to deal with more onerous regulations, administration, and paperwork when preparing shipments to EU countries (“BREXIT Update”). Evidently, Brexit could reduce the competitiveness of firms in the UK and their European trading partners. The logistics delays imposed by an unfavorable Brexit could send ripple effects throughout the European economy and lead to decreased customer satisfaction and operational performance.

Due to the interconnected nature of our global economy, Brexit’s impact will also extend beyond Europe. According to a report by Supply & Demand Chain Executive, “Many global supply chains run through the UK and will be impacted by rising trade barriers and costs.” As Brexit begins, companies in the UK will have to utilize intermediate parties such as freight forwarders and customs brokers to operate their logistics in the new trade environment. Additionally, the uncertainty surrounding Brexit has caused the value of the British Pound to fluctuate greatly, which can make global supply chains more expensive to manage (“BREXIT Update”). The cumulative effect of these added complexities will be a reduction in global trade and operational performance. Firms around the world that receive inputs from UK-based businesses or their European trading partners will face shipment delays and cost increases as new shipping relationships are built.

Clearly, Brexit has already had significant consequences for businesses and their logistics operations. As the process begins to take shape, new economic realities will dramatically alter the supply chains of firms in Europe and around the world. In order for affected firms to ride out this storm, they must be more agile and responsive in their supply chains than ever before.

“As Brexit begins, companies in the UK will have to utilize intermediate parties such as freight forwarders and customs brokers to operate their logistics in

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We are a student organization dedicated to inspiring our RBS students to learn 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, especially for our Supply Chain majors.

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