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Explore our latest gallery of Editors' Picks. Browse Editors' Favorites. Share — copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt — remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution — You must give appropriate credit , provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. Share Alike — If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions — You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. Challenge: Disruptions from natural disasters, pandemics, geopolitical tensions, and other unforeseen events are a persistent concern. Priority: Businesses will need to invest in resilient supply chains that are adaptable to changes, with diversified sourcing, contingency plans, and agile operations. Predictive analytics and AI-driven risk management will play a pivotal role in forecasting disruptions and ensuring continuity. Challenge: Increasing pressure from consumers, governments, and stakeholders to reduce carbon footprints and adopt sustainable practices in supply chains. Priority: Companies will prioritize sustainability by optimizing routes, reducing waste, and adopting circular economy practices (e.g., recycling, reusing). Embracing sustainable technologies like electric vehicles for transport and eco-friendly packaging will also be key. Challenge: Legacy systems and the complexity of integrating new technologies across supply chain networks. Priority: The adoption of digital tools such as AI, machine learning, blockchain, and IoT will be essential for improving visibility, automation, and decision-making. End-to-end digital integration will be vital for enhancing supply chain transparency and efficiency. Challenge: The supply chain workforce is aging, and there is a significant skills gap in areas like data analytics, automation, and supply chain management. Priority: Companies will focus on reskilling and upskilling their workforce, fostering talent pipelines through education partnerships, and adopting more automation to mitigate labor shortages. Challenge: The global supply chain is increasingly strained due to trade wars, protectionist policies, and regional instabilities. Priority: A shift towards "nearshoring" or "reshoring" may take place as companies seek to balance the cost efficiencies of global supply chains with the need for more localized, resilient operations. Businesses will need to rethink their sourcing strategies based on geopolitical shifts. Challenge: The growing demand for faster and more efficient delivery options, especially in the context of e-commerce. Priority: Companies will invest in innovations for last-mile delivery, including autonomous vehicles, drones, and urban fulfillment centers, to enhance speed and reduce costs in the final stretch of the supply chain. Challenge: Lack of real-time visibility across complex global supply chains makes it difficult to track products, inventory, and risks. Priority: Enhanced visibility through technologies like blockchain and real-time data sharing will become essential to improve traceability, ensure compliance, and mitigate risks. Companies will invest in supply chain mapping and better tracking systems to monitor every stage of the product journey. Challenge: Volatility in consumer demand, especially following unpredictable disruptions like the COVID-19 pandemic, has made demand forecasting and inventory management more difficult. Priority: AI-driven demand forecasting models, along with advanced inventory management techniques, will be critical to align production and inventory levels with consumer expectations. Just-in-time and just-in-case strategies will both play roles in balancing efficiency and responsiveness. Challenge: With the rise of digital supply chains, cyberattacks on data and systems pose a significant risk to operations, intellectual property, and customer trust. Priority: Strengthening cybersecurity measures will be a major focus for 2025. This includes securing IoT devices, cloud-based platforms, and data-sharing systems to prevent breaches and ensure compliance with privacy regulations. Challenge: Fragmented supply chains and siloed operations among suppliers, manufacturers, and logistics providers lead to inefficiencies. Priority: Cross-functional collaboration and partnerships will be prioritized, with greater focus on fostering trust and communication between supply chain stakeholders. Collaborative technologies like cloud-based platforms and shared data systems will help streamline communication and decision-making. "No one can measure the loss of business that may arise from a defective item that goes out to a customer." — W. Edwards Deming "Supply chains are everywhere. From the biggest company in the world to running your household. We all have SCM experience even if we don't know it." — Dave Waters "Whether we're talking about socks or stocks, I like buying quality merchandise when it is marked down." — Warren Buffett, CEO of Berkshire Hathaway. "The single most important thing to remember about any enterprise is that there are no results inside its walls. The result of a business is a satisfied customer." — Peter Drucker, Father of Modern Management. "If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle." — Sun Tzu, The Art of War. "We're going to make shopping with us faster, easier and more enjoyable. We'll do more than just save customers money and you, our associates, will make the difference. Looking ahead, we will compete with technology, but win with people. We will be people-led and tech-empowered." — Doug McMillon, CEO of Walmart. "If you are going to do TPS (Toyota Production System) you must do it all the way. You also need to change the way you think. You need to change how you look at things." — Taiichi Ohno, Father of the Toyota Production System. When most people think of supply chain management, they envision a stockroom manager who processes inventory and deals with vendors. Sure, the role of a stockroom manager is vital in any company that sells products, but SCM goes beyond just managing warehouse inventory. In today's digital world, supply chain management is a field that touches almost every part of the business world. As a result, everyone has a stake in how well the supply chain runs, from manufacturers to wholesalers and sellers. The challenge is coming up with supply chain management project ideas that are unique and innovative. Whether you are looking to advance your career or learn new skills as a hobby, learning how to implement supply chain management projects is not easy. However, with the right information and resources, it isn't as difficult as you might think. Here are some tips on how to master the art of SCM and implement innovative supply chain management project ideas in your work or home life. What is the SCM project? An SCM (supply chain management) project is a collaborative effort to implement new methods or processes to streamline the supply chain. As a result, it increases efficiency, streamlines workflow, and reduces costs. These initiatives require in-depth research before beginning so that they are implemented successfully and with minimal setbacks. They often have a specific goal or outcome, such as reducing inventory, increasing customer satisfaction, or reducing costs. These projects may last for several months and involve extensive planning and research. There are many different types of SCM projects that an organization may choose from when beginning its initiative. Each type of SCM project has its challenges and best practices. A successful supply chain management implementation involves: Obtaining buy-in from all relevant stakeholders Creating an implementation plan Developing metrics for success Establishing a formal review process post-implementation Recent Trends in Supply Chain Management Supply chain resilience Supply chain reliance is in the buzz post-pandemic. eCommerce businesses and SMBs have learned the need to mitigate disruption and limit the adversities of unforeseen disasters for businesses. Therefore, businesses will need supply diversification, finding alternatives, agile solutions, and reliable data to bring resilience. Advanced analytics and automation The pursuit of robotics, big data, AI, and predictive and prescriptive analytics by businesses will have broad-reaching effects. Traditionally, there were loopholes and a lack of efficiency in the supply chain resulting in high costs, late deliveries, etc. Automation brings high transparency and efficiency to the process. Internet of Things The internet of things (IoT) is a digital network of physical objects powered by a wireless network that is connected and accessible at the fingertips. The concept of IoT is already widely used in the supply chain, mainly in logistics, and is expected to continue. For example, IoT is used in inventory management, fleet tracking, and warehouse management, pointing. Increased visibility Traditionally, businesses fail to pinpoint the inefficiency within the supply chain causing unsatisfied customers. Tracking and visibility in the supply chain are crucial. It helps identify the loopholes and areas to improve and understand the process's bits. Customer-centricity Currently, we're experiencing a trend where businesses are turning customer-centric from profit-centric. Finally, we understand the meaning of 'customer is king. This is because customers have too many options and high CAC. Building a supply chain that will enable fast last-mile delivery to the customers will be an equation to crack for businesses. Use of artificial intelligence Artificial intelligence is used to build smart warehouses, automate the fulfillment process, and reduce human error. Combining human and artificial intelligence is the key to technology-led innovation in supply chain management. What are the topics in supply chain management? Inventory management Inventory management is a hot topic in supply chain management than ever before, as customers demand the product available at the moment. Inventory management is the strategic practice of having the right amount of inventory available to meet the demand of customers in the present as well as in the future. Sustainability Recent studies show alarming data that negatively impact our environment. If we could do anything to save our existence, now is the time. To reduce carbon footprints, businesses are claiming certain sustainability standards. Their supply chain is uniquely positioned in it, as the logistics sector is the prime contributor to greenhouse gas emissions. Executives are trying to achieve supply chain sustainability through cloud technology and automation. Risk management In recent years, businesses have been bombarded with unforeseen disruptions leading to business vulnerability and fragmented supply chains. The lack of a robust supply chain risk management process puts businesses at high operational expenses. Therefore, rather than admiring difficulties, tackling them with a structured process and addressing known risks is the way to achieve supply chain resilience and risk management. Enterprise resource planning Companies utilize ERP in planning and managing current and future uncertainties. As a result, the global enterprise resource planning market revenue is on track to hit \$78.4 billion by 2026. The ERP platform encompasses inventory management, manufacturing, logistics, sourcing and procurement, and all other company businesses. What are the 7 Rs of the supply chain? Right product The supply chain manager must know which market is flourishing and which is declining, as demand is equally proportional to supply chain management. Therefore, identifying which product is in demand and its sustainability is the basis of the supply chain. Right place The right product must be sent to the right place. Identifying the right consumer market for your product is another important factor in a supply chain. The supply chain manager must develop an efficient logistics network that enables last-mile delivery to the market and also get a response from the market towards your product. Right price Pricing of a product could make or break a product's sale. The right product price is what customers do not hesitate to spend and incur profits for the company. Therefore, you should execute thorough market research, identify consumers' capacity for expenditures, and check competitors' pricing to set the right price for your product. Right customers It is the most important 'R' in a supply chain. Identifying the right customers is fundamental to any business. Before launching the product, know your customers first, and identify their preferences, purchasing power, and expectations for the success of your product. Right conditions Give utmost importance that your product should be delivered to the customers in the right conditions. Delivering faulty products breaks customers' trust in your brand, which is hard to regain. Use reliable logistic carriers who assure the safe delivery of your products to customers. Right time The attention span of people is less than a goldfish. Customers want their products fast, and they tend to pay extra for them. Last-mile delivery of products to customers builds trust and long-term relationships. Therefore, a logistics process is necessary to deliver products in real-time. Right quantity Keeping the right quantity of products reduces management costs and other expenses. In addition, inventory management in the supply chain helps forecast demand and bring efficiency to the supply chain. Eight Key Supply Chain Process Customer relationship management Identifying the customers creates value for the supply chain, which is the first and essential part of supply chain management. In this process, the right customers are identified for the product, and their demands and preferences are satisfied by the product. Supplier relationship management Nurturing the relationship with suppliers is as important as relationships with customers. A healthy relationship with suppliers is a win-win situation for both the supplier and the business. First, it is identifying the right supplier who delivers products according to your specifications and on time. A good relationship with suppliers enables continuous supply delivery even in a crisis. Customer service management Customer service management sounds similar, but it is different from customer relationship management- the process of acquiring customers. Customer service management focuses on interacting with customers and solving and upscaling their experiences with the product. It looks like customer support, giving discounts, etc. Demand management Product demand management in the supply chain answers to how much product needs to be produced. Staying updated with the demand for your products in the market helps reduce unwanted expenses in the business. Demand management acts as a thin line that brings efficiency to the supply chain. If the product production is less and the demand is high, you are missing the opportunity to increase profits. Similarly, if the product production is inflated than the demand, your business will incur the high cost of inventory management, warehouse management, logistics, etc. Order fulfillment Order fulfillment is the path between supplier level and warehousing to the customer's doorstep. It starts with receiving a purchase order from the customer, packaging it, and delivering it to the customer. The gravity of quick fulfillment has risen in recent years because customers want their orders just in time. Manufacturing flow management It is managing all the activities that enable the movement of products through the manufacturing plant and managing flexibility in the supply chain. Product development and commercialization This process of supply chain management includes market research and identifying the unfulfilled demand of the customers for the development of new products and advertising it. Product development and commercialization enable a seamless flow of new products from suppliers to the end customer. Return management Return management covers reverse logistics, gatekeeping, product returns, and other activities related to returns. The goal is to identify the loopholes in the process causing returns and successfully control them to reduce the return rate. Conclusion Supply chain management might be an interesting subject for entrepreneurs, and their projects are worth learning and upskilling. A well-maintained and structured supply chain management ensures a seamless business flow, from supplier to the end consumer. Another critical subset of the supply chain is logistics, and if you're a beginning eCommerce, the complexity of logistics may haunt you. Thankfully, there are logistics aggregators like NimbusPost, which help eCommerce businesses solve all-inclusive logistics problems. You may also like: The global supply chain has never been more important than it is today. With the interconnectedness of the global economy, supply chain management industry reported increased benefits resulting from AI. And McKinsey predicts that AI will improve operations in a myriad of ways. It can help with predicting demand, increasing transparency, improving production, and locating goods. The ways that AI will integrate the entire supply chain and improve efficiency. And there seems to be a lot of room for growth. Incredibly, almost 50% of managers still use Microsoft Excel to manage their supply chains. For the most part, technologies like AI and ML are being used in what is known as predictive analytics. Searches for "Predictive Analytics" have grown by 462% over the last 15 years. In the supply chain industry, predicting demand, shipping routes, fulfillment, etc. is extremely important. So, it's no wonder that around 30% of supply chain professionals claim their company was using predictive analytics by 2019. That's up from 17% just two years earlier. How employees in the supply chain industry expect predictive analytics to be deployed. 90% of supply chain professionals fully expect predictive analytics to have a massive impact on their sector over the next decade. 3. eCommerce is Changing the Supply Chain Landscape Some of the biggest changes in the supply chain industry have been brought about by eCommerce. eCommerce made up an estimated 22% of all retail sales globally in 2023. That's up from about 14% a few years ago. And the number of people buying goods digitally is estimated to currently be at over 2 billion. With this amount of growth, it's obvious that the supply chain has had to adapt. This kind of purchasing requires new methods of sourcing and delivery. In the past, constant quantities of goods were shipped to static fulfillment centers and endpoints. Today, with demand constantly fluctuating, goods have to be shipped to and returned to a variety of locations in a limited amount of time. In fact, one of the main reasons people buy online is because of shipping speeds. Top reasons why consumers shop online. eCommerce has changed the way people think about supply chains. For example, 63% of consumers expect the products they order to arrive within 3 days. That was practically unheard of before the advent of eCommerce. In addition, the average buyer tracks their package 3.5x before it arrives. 4. Warehouses Are Becoming Completely Automated Due to the wide-ranging impact of eCommerce, the number of warehouses in the US and around the world is increasing every year. In 2010, there were around 15,000 warehouses in the US. By the end of 2020, that number had almost doubled to just under 20,000. And the huge shift to eCommerce in the past year has only accelerated this trend. By the fourth quarter of 2020, there were an estimated 1200 warehouse and distribution center construction projects ongoing in the US. This is compared to an average of about 900 over the last 10 years. In fact, one research firm believes that there are over 280 million square feet of warehouse and distribution center construction currently taking place in the US. Over the last 10 years, an average of 152 million square feet was built across the US. Because of the demand for these properties, the overall size is increasing as well. The average size of new logistics buildings has been 229,000 square feet this year, compared to about 169,000 square feet in most other years. With all of this space being taken up, logistics providers and businesses around the world are hoping to get more done with less space. This is where warehouse automation comes in. Search interest in "Warehouse Automation" has increased by 220% over the last decade. Research company Prologis predicts that warehouse automation can increase warehouse productivity by up to 20% per square foot. This negates the need for increasingly larger spaces. It can also allow eCommerce companies, retailers, and other businesses to produce more revenue with the warehouse space they do have. Expected results of efficiency enabled by warehouse automation technologies. The total value of the warehouse automation market is expected to be at \$30 billion by 2026. The size of the warehouse automation market is predicted to grow from just over \$10 billion in 2020 to \$30 billion by 2026. To drive this shift, 4 million robots are expected to come online in about 50,000 warehouses across the globe by 2025. To see how this is playing out in real-time, just look at many of the largest eCommerce companies around the world. Using robots to automate procedures is becoming the standard. Amazon, for example, reported that by 2020 it had about 200,000 robots across its warehouses. (This is compared to only about 30,000 robots at the end of 2015.) Kiva robots in an Amazon warehouse. Amazon purchased Kiva Robotics in 2012 for \$775 million and has been expanding its fleet of warehouse robots ever since. And while many warehouses still require a large amount of robotics, some are already completely automatic. JD.com, the Chinese eCommerce company, already has a completely automated warehouse in Japan. It only requires 5 employees to manage the robots and equipment, instead of the standard 500 employees. In addition, supply chain management company GXO Logistics claims that it used five times more robots in 2020 than in 2019. Locus Robotics is one of the top suppliers of warehouse robots in the industry. Searches for "Locus Robotics" are up 6,600% over the last decade. Locus has a fleet of roughly 4,000 robots that have handled more than 300 million products. And it serves some of the largest eCommerce and parcel companies in the world. The company recently raised \$50 million, after raising \$150 million in venture funding just a few months ago. Locus Robots operating in a warehouse. 5. Supply Chain Digital Twins are Improving Supply Chain Visibility Global supply chains are, to put it simply, one big moving system. And in large systems, visualization is key. In the past, graphs and complicated models were used to visualize supply chains. But now digital twin technology is increasingly being adopted by the logistics industry. A digital twin is basically a virtual simulation of something. Search interest in "Supply Chain Digital Twin" over the last 10 years. In this case, it is a simulation of a supply chain. With the sensors and IoT devices in place to capture data from the movement of goods, the logistics industry is already in a good position to utilize digital twin technology. And while it's not there yet, the dream is to be able to visualize the entire supply chain on one screen. Digital twins, for example, could help companies prepare for and identify supply chain disruptions brought about by something like COVID-19. Ernst & Young found that only 10% of companies surveyed were prepared for the supply chain problems associated with a global pandemic. And it's estimated that about \$1.14 trillion in value is destroyed every year because items are out-of-stock. Some of the largest companies in the world are now starting to address this problem. For instance, Google just released its own digital twin technology for the logistics sector. The technology allows Google Cloud users to map out their entire supply chains in a digital environment. French car manufacturer Renault even announced that it was using the technology just days after Google's announcement. 6. Parts of the Supply Chain are Increasingly Being Outsourced to Gig Workers Most people associate the gig economy with consumer services (like Uber) and the delivery of items like food and groceries. But the gig economy is also starting to play a big role in the middle of the global supply chain. For example, more than 58,000 new trucking companies were created over the first half of 2021. In fact, demand for delivery and transportation of packages was so extreme in 2020 and 2021, that UPS started encouraging consumers to shop more in person. Uber Freight has changed what many thought possible in the logistics industry. Searches for "Uber Freight" have grown by 4,600% over the last decade. Now, anyone with a car and a phone can deliver packages and help relieve some of the stress being felt by current supply chain issues. Uber Freight currently has about 70,000 drivers in the US. And it's not just normal people picking up packages either. Up to 12% of truckers are using the platform as well. In fact, the freight arm of Uber is doing so well that it raised \$500 million in venture funding in 2020. In addition, the company bought Transplace – a maker of software for the supply chain industry – for \$2.25 billion. And it also partnered with BlueGrace – a company whose software can help Uber Freight manage its less-than-truckload (LTL) carriers. For last-mile delivery, Amazon Flex has also played a huge role in the last couple of years. Search interest in "Amazon Flex" has grown by 700% over the last 10 years. Drivers on the platform deliver approximately 5 billion items every year. Overall, the gig economy is starting to creep into the logistics industry. 7. More Startups are Entering the Logistics Industry For most of the history of venture capital funding, companies in the logistics industry have been ignored. But something started to change in 2015. From 2016 to 2019, VCs invested about \$28 billion in startups in the logistics industry. Logistics funding in total dollar amount and number of rounds. And the total number of deals rose by about 3x. Same day delivery has been a huge area of focus for startups and VCs. Searches for "Same Day Delivery" have increased by 75% over the last decade. Some of the biggest beneficiaries of this have been companies like Swyft, which raised \$17.5 million in 2021. Searches for "Swyft" have jumped by 270% over the last 5 years. Swyft basically connects retailers and other businesses with delivery companies, couriers, etc. in order to facilitate same-day delivery in places where it usually doesn't happen. Now, Business Insider is reporting that incumbent couriers like UPS and FedEx have been losing market share to startups since 2016. Stord, which is creating a cloud-based supply chain, has already achieved a \$1 billion valuation. The company basically allows retailers to outsource their supply chain and delivery. And it seems to be doing pretty well. The company reported that it has grown revenue at over 300% per year over the between 2018 and 2020. To further accomplish its mission of creating an end-to-end cloud supply chain, Stord got into the physical warehouse business earlier this year. It bought a 22-year old DTC company and opened its first fulfillment center. Conclusion After nearly two years of massive disruption, the global supply chain is transforming faster than ever. Whether it's adapting to new customer spending habits or adopting new technologies, the logistics sector is definitely innovating. And understanding those changes can be essential for understanding every industry around the world.