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LOGISTICS

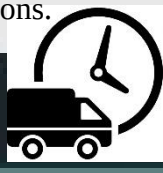
INTRODUCTION TO LOGISTICS

PRAVEEN V (1727821)

Logistics Management is a small portion of **Supply Chain Management** that deals with management of goods in an efficient way. Although, if we talk about Supply Chain Management, it is a broader term which refers to the connection, right from the suppliers to the ultimate consumer

BASIS FOR COMPARISON	LOGISTICS MANAGEMENT	SUPPLY CHAIN MANAGEMENT
Meaning	The process of integrating the movement and maintenance of goods in and out the organization is Logistics	The coordination and management of the supply chain activities are known as Supply Chain Management
Objective	Customer Satisfaction	Competitive Advantage
Organization Involved	Single	Multiple
One in another	Logistics Management is a fraction of Supply Chain Management	Supply Chain Management is the new version of Logistics Management

Logistics Outsourcing : With the Development in increasing the demand of the product and the customer is expecting the quicker delivery and receiving of the Material some top companies outsource the Logistics to the 3rd Party Logistics (3PL). Top companies involving this sort of logistics are DHL SUPPLY CHAIN & Global Forwarding, Kuehne+ Nagel etc... Logistic outsourcing is a brilliant way to free up resources and also achieve cost efficiency. Companies like HP, Procter & Gamble, Apple and others into entrusting their logistic operations to 3PL experts. The benefits of logistics outsourcing come in several forms – savings in operating costs, savings in human capital, streamlined operations.



ADVANTAGES OF LOGISTICS OUTOURCING

Reduces burden of back-office management

From Outside Logistics look like sending package from one point to another point but if we go deep into it there are lot of paper works, clearances, and auditing works are involved. To avoid above mentioned Problem, most of top companies adopt 3PL(Outsourcing the Logistics)

Economies of scale

3PL players usually have a globally distributed network of carriers and fleets which allow them to reach any destination with ease. Since the function is outsourced, it is easy to scale up or scale down the logistic reach of the business without having to set up owned infrastructure and personnel

Real-time visibility of inventory

Professional logistic outsourcing service providers use ERP systems or cloud-based. Warehouse Management Systems to help track inventory on a real-time basis. This data can also be received from the service provider on a regular basis for supply chain management planning.

DISADVANTAGES OF LOGISTICS OUTOURCING

Outsourcing without proper appraisal process

A good logistics partner is hard to find. The appraisal process itself will include gathering quotes and doing quality reports to check if the provider meets benchmark standards and so on. Rushing through the tender process without adhering to a well-thought process will lead to hassles in the future.

Choosing a low-pricing vendor for cost-benefit

Outsourcing the function to a low-priced vendor who cuts corners might actually create chaos rather than an orderly logistics function. There is a reason why top-notch 3PL players charge a premium rate. It costs a lot to have personnel and processes in place to ensure perfect paperwork, timely coordination of carriers, warehouse management and much more.

Disconnect between clients & outsourcing agents

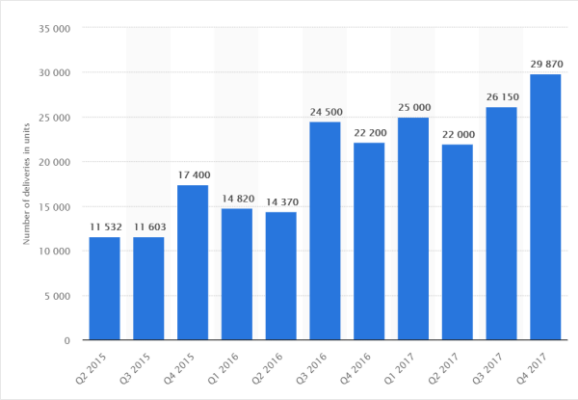
Does your logistic outsourcing agent really know what you are trying to do? Is it last mile delivery that your focus is on or faster delivery than the competition? A lack of consensus between the parties can lead to a waste of resources and also lead to cost overruns and delayed deliveries.

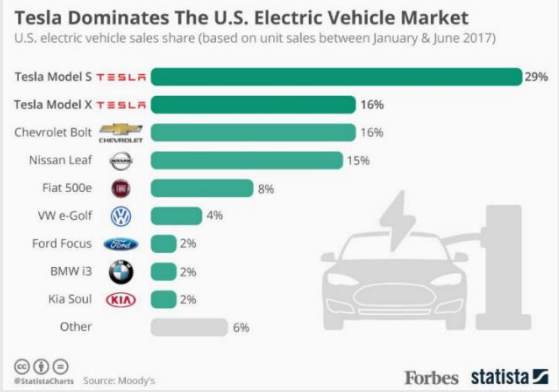
LOGISTICS AND GIGAFACTORY: AN INSIGHT INTO TESLA'S APPROACH

HARI OM HARSH (1727714)

While, Tesla Motors are creating a new transformation and disruption in the electric cars for the people. There are various verticals to this plan of Elon Musk, CEO, Tesla Motors. Tesla delivered around 26,000 vehicles during the third quarter of 2017, after fiscal year 2016 deliveries amounted to around 76,000 units. The Model S became Norway's most popular car in March 2014, ahead of second-ranked Volkswagen Golf.

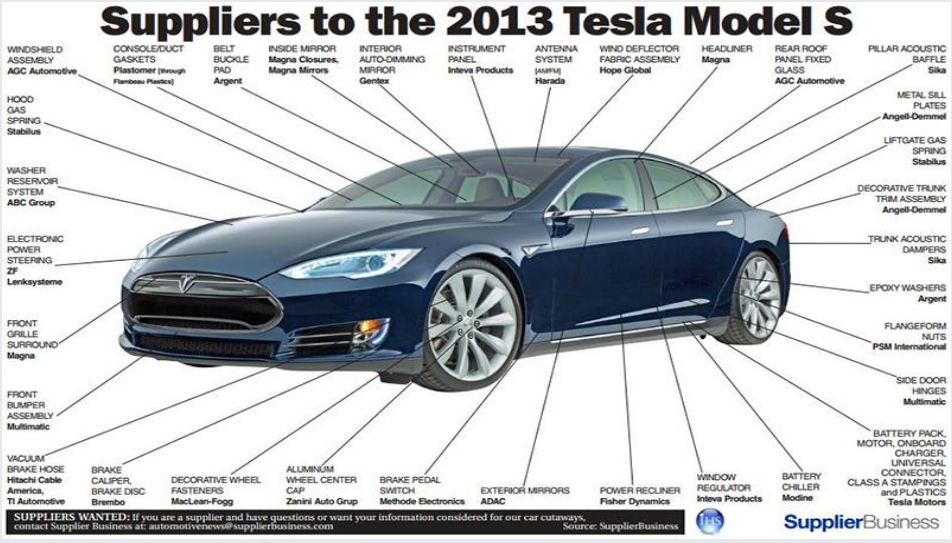
During the fourth quarter of 2017, Tesla delivered just under 30,000 units, of which some 1,550 were deliveries of Tesla's Model 3, about 15,200 were Model S, and more than 13,000 were deliveries of Model X.





Tesla is aiming to manufacture 5,000 Model 3s a week by the end of the year before ramping production up to 10,000 a week in 2018. That would equate to 500,000 Model 3s a year, though Moody's has estimated that the figure will reach 300,000.

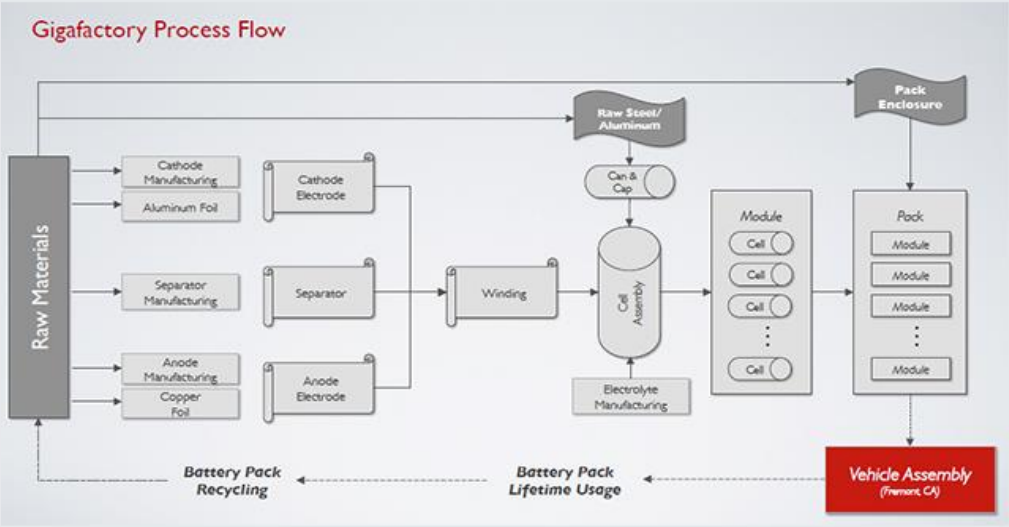
The Tesla Gigafactory which is a lithium-ion battery factory under construction is primarily to meet this need for the demand of the cars. The factory has commenced its operations for the mass production of powerwalls and powerpacks in Neveda, US. In addition to strategic battery manufacturing partners, Tesla's plan to build gigafactory is designed to reduce cell costs much faster than the status quo and, by 2020 produce more lithium ion batteries annually than were produced worldwide in 2013. Panasonic is also the partner for building this state of the art facility. Unveiled in 2014, Gigafactory 1 had its official grand opening in July 2016. At the time of the ribbon cutting, the $5 billion factory was only 14% complete, but it was already on its way in changing the world's energy use. The ramping of production is bringing cost of the battery cells down through economies of scale, innovative manufacturing, reduction of waste and simple optimization of locating most manufacturing under one roof. Cost reduction will ensure to the company that it reaches more and more people and create a sustainable environment overall.



Source: https://www.supplychain247.com/article/telsas_gigafactory_supply_chain_vertical_integration/kinaxis

The battery pack, motor, onboard charger, universal connector, class A stampings and plastics are integrated by Tesla motors while doing the mass production. Now, with the announcement of routing hyperloop from New York to Washington DC, it is evident that Musk wants to create an ecosystem to lower down cost and provide with benefits for the longer run.

Plans for opening up the next gigafactory at Europe will enhance company's visibility and provide competitive edge in lowering the cost of production and logistics.



Source: https://www.supplychain247.com/photos/telsas_gigafactory_supply_chain_vertical_integration/1

Hyperloop project is now turning out to be with the potential to reduce the logistics cost by efficient freight transport. Tesla has to move lot of cargo to build cars and ship them around the world. Usage of renewable sources of energy in their production facility is bringing sustainability. Although the company has suffered loss in Q3 of 2017, but to my speculation, the investments are made for the longer prospects of the company. Tesla and Elon Musk are constantly been trying to achieve what no one has achieved in the history of mankind. This thought on developing the ecosystem of logistics and operations to produce better results has proved to be successful in past and with greater hope it will bring sustenance of human race for longer run with advancements in technological infrastructure around the world.

IOT BASED SOLUTIONS IN FLEET MANAGEMENT (TELEMATICS)

ASHISH SINGH *(1728008)*

For fleet operators, heavy vehicle manufacturers and market researchers collecting operational data has been a standard practice for years. In order to optimize operations the transportation industry has been using technologies like Telematics i.e. storing remote truck data. Various observations like location, driver behavior etc. continue to drive direct business transformations and processes.

One of the transportation industry's primary concerns amidst others is estimating the vehicle uptime and technology has made it possible today to build on the existing data systems to deliver these key performance indicators. To make it happen, advanced fleet management in integration with Internet of Things (IoT) comes into picture. But to estimate its actual potential, it's essential to understand the relevance of technology in the transportation industry

Relevance of Vehicle Uptime

In this industry the entire revenue chain is dependent on reliability and uptime. As long as vehicles are running, they are rolling assets representing direct revenue. In order to ensure on-time deliveries along with improved customer relations, consistency in performance of vehicles is equally important as to retaining a dynamic and productive workforce.

In case a heavy vehicle viz. truck goes down for a week or so, the revenue lost is huge. Transferring the truck to a repair service station with an expertise to handle the damage is a challenge in itself, keeping in mind the logistics involved. And to pay the drivers meanwhile, so that the driver does not opt for another offer involves a sunk cost. Both service centers and owners lose as well, if repair time stretches as capacity and potential revenue is lost for both parties involved.

Telematics have been used to monitor data to collect information to assist optimize uptime. But it has struggled to provide some substantial insights on monitoring vehicle operation. Using Diagnostic Trouble Codes (DTCs) as a gauge to understand vehicle health has been the cause of trouble in telematics. DTCs are just alerts to point that a sensor is picking up some unspecified probable problem. Manual interventions like mechanics and all is needed to determine the nature and severity of problem, if any at all. With the size and data volume of a large fleet the time and henceforth cost involved can be enormous

Utilizing Telematics Data

Without context there is no point relying on telematics data on its own. To improve fleet uptime historical data, environmental conditions and other additional vital information can actually provide the level of deep insights needed. IoT solutions provide data driven insights for a business transformation and hence the transportation companies who have already turned to these solutions will definitely have the first mover advantage. IoT can help companies transform from reactive to predictive analytical strategies. To understand how a vehicle is performing can help manufacturers predict potential failures and allows them to take an approach that is more proactive and prescriptive to achieve and even exceed their objectives. IoT in fleet management has innumerable advantages viz. saving warranty costs and repair time, validating data for audit trails to systematize incident resolution and documentation, improve route planning, change resting points for better driver alertness etc.

Peterbilt Motors Company, for instance has successfully been deploying analytics and automation software of workflow to DTCs, past repair histories etc. for enhancing fault guidance systems. IoT systems use machine learning to enhance and hone diagnostics and repair processes over time. Better quality repairs in a lesser time owing to predictive maintenance schedules, involving mechanics who know the fault in the engine beforehand owing to data mining from the whole fleet and updating data as the vehicle moves through its service life, provide the companies an added advantage that acts a differentiator to increase customer base

Adopting IoT

Stiffening government standards and regulations such as stringent emission standards will affect heavy vehicle manufacturing, management and servicing across the transportation industry. New technology requirements will evolve as the best solutions over time. IoT can provide the opportunity to improve critical KPIs like uptime by enhancing existing diagnostics and telematics systems with the data analytics

CHATBOTS AND ITS CURRENT APPLICATIONS IN LOGISTICS

UJJWAL TANDON *(*1727832*)*

The growing use of Chatbots in industries like customer service, banking, e-commerce, insurance, travel, automobile, etc. is helping these industries to grow their operations ability to level which provides both customer and employee satisfaction. Logistics, as an industry is adopting this technology at a relatively slower pace but it is beginning to see the potential benefits that chatbots provide in automating the repetitive tasks. In a report published by Eyefortransport (eft) in the last quarter of 2016, 79 percent of supply chain business were not using chatbots but in the 2nd quarter of 2017, 51 percent admitted of depending on them.

Helps that chatbots could provide in logistics business operations:

Effortless supply chain integration: Enquiring the ERP in a way user could understand and throw back information he will appreciate, which gives a UI conversation that users are already aware.

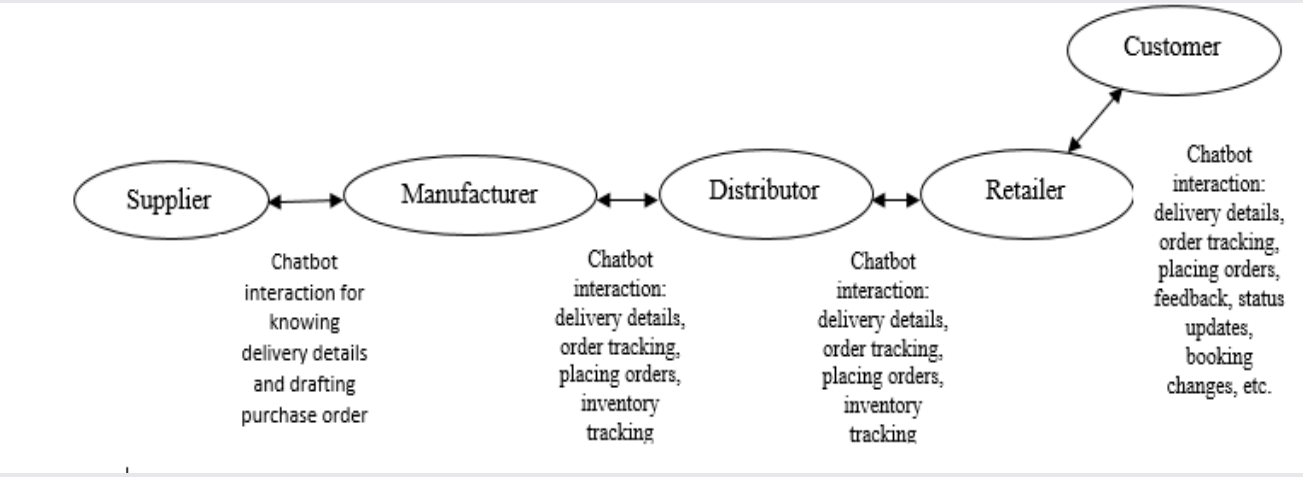
Reduce Dependency On Data Processes: Chatbots provide a way for optimized resource management and increased customer engagement which inturn helps increasing the profit margins for the organization.

Promotions: Customer friendly conversations that could help in providing quotes for different products which include through automated conversation inquiring the customer of his requirements necessary to generate a quote statement.

KeyReply, Singapore based AI chat automation platform for enterprises provider to engage customers, has many successful stories in helping logistics based companies to develop their enterprise chatbots strategy. Road bull, Singapore based last mile fulfilment delivery service provider, deployed their chatbots service named Billy, which has the ability answers to customer change requests with speed.

This assists them to change the customers scheduled deliveries and hence managing the dispatch services with greater accuracies. Billy also provide real time updates of orders to customers, giving them higher satisfaction. Ninja Van, one of the fastest growing last mile delivery service providers in Singapore, their NinjaBot automates the process of serving the customers to help the growing support team cope with high loads of repetitive issues. This provides their customers to track their orders and know about accurate delivery dates and time and reasons for late delivery. It also escalate the feedback from customer directly to Ninja Van's support software for them to act on immediately.

SURBO assists wide variety of enterprises to build AI and NLP enabled chatbots for all business related tasks. They help in enabling enterprise's logistics department to be supported by the bots ability to provide customer automated customer interaction, which provides customer details like booking, status updates and feedback on delivery. This helps in enabling in getting customer orders and provide delivery report to customers reducing the workload on employees and automating the process which in turn reduces error in placement and delivery order scheduling.



As machine-learning prepared frameworks pick up the capacity to comprehend discourse and, to a lesser degree, dialect, so the possibility of computerized chatbots is turning into a reality. While such frameworks are commonly still constrained to straightforward inquiry and-answer situations, retailers are trying different things with utilizing such bots to answer client inquiries and to enable staff to react to questions.

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Google exhibited the capability of chatbots as of late with its demo of its Duplex framework. Duplex was demoed ringing up organizations, for example, an eatery and a beauticians and booking an arrangement. The framework apparently sounded and carried on enough like a human, notwithstanding dropping in the infrequent exhausted sounding 'mm-well', that the individual addressing it appeared not to know they weren't conversing with a man. While it was an extremely amazing demo of discourse amalgamation and common dialect understanding by a chatbot, it was vague to what degree the demo had been altered and what number of fizzled endeavors went before it.

The UK gadgets retailer Dixons Carphone utilized the Microsoft Bot System and Microsoft Subjective Administrations to make a conversational bot. The bot, named Cami, is being utilized to answer inquiries through the organization's Currys image site and through Facebook Emissary, helping staff and clients to discover items and check stock.

Software giant SAP developing SAP CoPilot is one of the examples of business-oriented bots with more of enterprise focus. SAP CoPilot is a digital assistant that has the capability to draft a purchasing contract and answer questions such as “What's my total spend with vendor X?” with collaboration between colleagues.

Hence, chatbots as a virtual assistant are being used for increasing employee effectiveness and replacing repetitive manual roles. In the Digital Assistant and Voice AI-Capable Device Forecast for 2016 to 2021, Ovum stated that the global native digital assistant installed base is set to exceed 7.5 billion active devices by 2021. This information is itself paves way that with increased user base and ease of usability chatbots should be increasingly be put in strategic use by the logistics and supply chain management department so as to benefit in terms of reduced operations cost and employee-customer interactions

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LITERATURE REVIEWS IN LOGISTICS SECTOR

VARSHA VARDHAMAN DODDAMANI (1727563)

The line between disorder and order lies in logistics…" – Sun Tzu

The stated mission of any logistics business is to get the right goods and services to the right place at the right time and in the desired condition, while making a considerable contribution to the business. Logistics is an important arm of any business because it creates value. Though it is a cost center and costs are significant, it has a strategic aspect attached to it. Globalization of industries has resulted in an integrated world economy and this heavily depends on the logistics performance and operations.

As this happens, transportation costs become the significant part of the total cost structure, after the cost of goods sold. Logistics is important to take strategic decisions such as penetrating new markets and increasing market share and hence increasing profit. All this can be achieved with a robust logistics network that connects you to the market and helps the business in becoming time-responsive to the market demands.

Logistics is also key to customer service, as the delivery time is typically ranked highest among all service variables. In addition to this, customers also expect customized quick response. So, logistics has taken the support of information technology, to achieve higher performance levels.

Logistics has now become a part of sustainable competitive advantage. Until recently, logistics was considered operational function rather than strategic. But to drive logistics strategy, we see that there is a scarcity of skilled workforce which leads to improper handling of products, rash driving, losses, redundant procedures and assigning a separate person for each activity rather than multitasking, lower standard of living etc.

As we see the shift towards technology, every industry is moving towards Information technology (IT) adoption, so is Logistics. IT capability is the ability to mobilize resources and also facilitate intra-organizational communication flow. IT capability has an indirect impact on financial performance of the company, it helps to develop inimitable competencies in the firm which help to reduce costs and differentiate their offerings. Any business for that matter requires information and ability to share that information to control their daily operations, to manage the planning process and to develop contingency plans. E-commerce has reduced the search costs for buyers and sellers. It is this fact that, buyers can find the goods on the internet and does not have to spend time on traveling has made E-commerce spread widely among new-gen customers. In support of this, sellers have new ways of reaching out to customers through targeted marketing and one-on-one marketing. This development has led to the shifting of roles of intermediaries in the retail sector. Certain new intermediaries are emerging who provide their logistic expertise in making sure the product reaches the customer.

A decade ago, logistics was perceived as the biggest challenge in e-commerce. However, times have changed and logistics has turned out to be the strategic differentiator of e-commerce players along with being a critical link between e-tailers and customers. With several e-commerce players fighting tooth and nail to emerge as market leaders, e-tailers are looking at improving all kinds of allied services to edge out their competitors, and operational efficiency is a significant part of the same.. The competition is so fierce that if it’s not you there is someone else ready to deliver the goods ahead of you. There are several Logistics startups have taken a plunge into this sector in order to be a part of the logistics growth story in the country. Some of them are Delivery, Blackbuck, Rivigo, Gojavas, Shippr among others. This development is highly appreciated in the Indian scenario where logistics has various limitations like lack of standardization, missing delivery schedules and no proper shipment tracking. Logistics has a huge scope for development in the years to come. The digital logistics step towards streamlining the process by making changes to the logistics set-up in India has been promising. It is by moving to a more efficient, accurate and transparent online processes that the logistics service providers can offer mutually beneficial services

PROCESS IMPROVEMENT IN INBOUND LOGISTICS AREA AT BOSCH LTD

KUMAR SAURAV MAHATO(1727612)

Every organisation in the world is involved in providing some goods and services to its chosen set of customers across the world. In any manufacturing industry, they begin the process with sourcing raw materials through different suppliers and vendors, converting them into intermediary components inside the shop floor, and then finally into finished goods. These finished goods are then delivered to the respective customers through a chain of warehouse, distribution, depots, retailers and finally the customers. The inventory management system at Bosch follows the concept of fixed bin and dynamic bin concept for the raw materials. The incoming components from the different suppliers and vendors across the country reach the plant at the unloading bay. Each component has been assigned a particular location in the warehouse which is fixed or dynamic location depending upon the size, quantity, weight and the shelf-life expiry (SLE). The unloaded materials and components goes through a series of activities such as Goods Receiving Number (GRN) tag, quality check, etc. before it reaches to its respective fixed or dynamic location in the warehouse. It involves updating it in the SAP system as well and the process updating throughout the series of activities. The incoming components at the plant are received at the unloading bay and a GRN tag for all the materials is attached which is then allotted to the quality check department. The materials movement along the plant, shop floor and delivery is done by the signalling system called the Transport Kanban Card which is updated by the SAP and the RFID system at every stage of the process. Bosch Limited, Bidadi wanted the flow of material and posting in the system to go seamlessly. Today, they are facing issues with the stock in the inventory for different fixed and dynamic locations in their warehouse. The material movement gets disrupted during in the inbound and milk run logistics area. If the problem is ignored, it will have a cascading effect from logistics to procurement department. The main issue of Bosch is the discrepancies in the stock for both physical and system.

The stock levels for most of the incoming components show different levels which doesn't match the actual stock. This leads to uncertainty in the stock level which disrupt the Customer Logistics Planning (CLP) department and Procurement department

Various processes such as inbound logistics and milk run logistics were studied in detail to understand the overall process involved in the procurement of raw materials, movement of these components, etc. Process observation and its mapping, interviews with the stakeholders in the value stream and benchmarking techniques were the main techniques utilised. Also, the stock analysis for the inventory was provided for the two weeks. The tools used were pivot chart and pivot table. The fish bone diagram was also drawn to identify the causes and focus on the process improvement. A number of suggestions like the kitting method for a single product where all the components required for the manufacturing of each pump would be kitted as a single set. This would help decrease in the fluctuation in posting as one set of kit will contain only one transport Kanban card. This kit will contain all the components with required quantities to manufacture a single pump. A single transport Kanban card for all the components will be used for material movement instead of single Kanban card for single component. A set of components movement will ease the process flow and decrease duplication or non-updating of input data., dedicated SAP handler, etc., were given to the mentor for process improvement, where few of the ideas were taken up by the team which needs to be discussed with all the responsible departments involved in it. The motivation for doing this project was essentially an interest for commitment in taking up a challenging project in the logistics area. The opportunity to work and contribute in this area of domain in the ground level which is not covered in classroom was engaging

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CROSS WORD

ASHOK VARGHESE (1727907)

ACROSS

6. Tendency of orders to increase in variability as moving up in the supply chain.

8. ___ inventory is replenished in fixed time intervals.

10. Customized cakes are an example for ___ to order

DOWN

1.What comes between SUPPLIER and DISTRIBUTOR?

2.Full form of FOR

3.CEO of Amazon

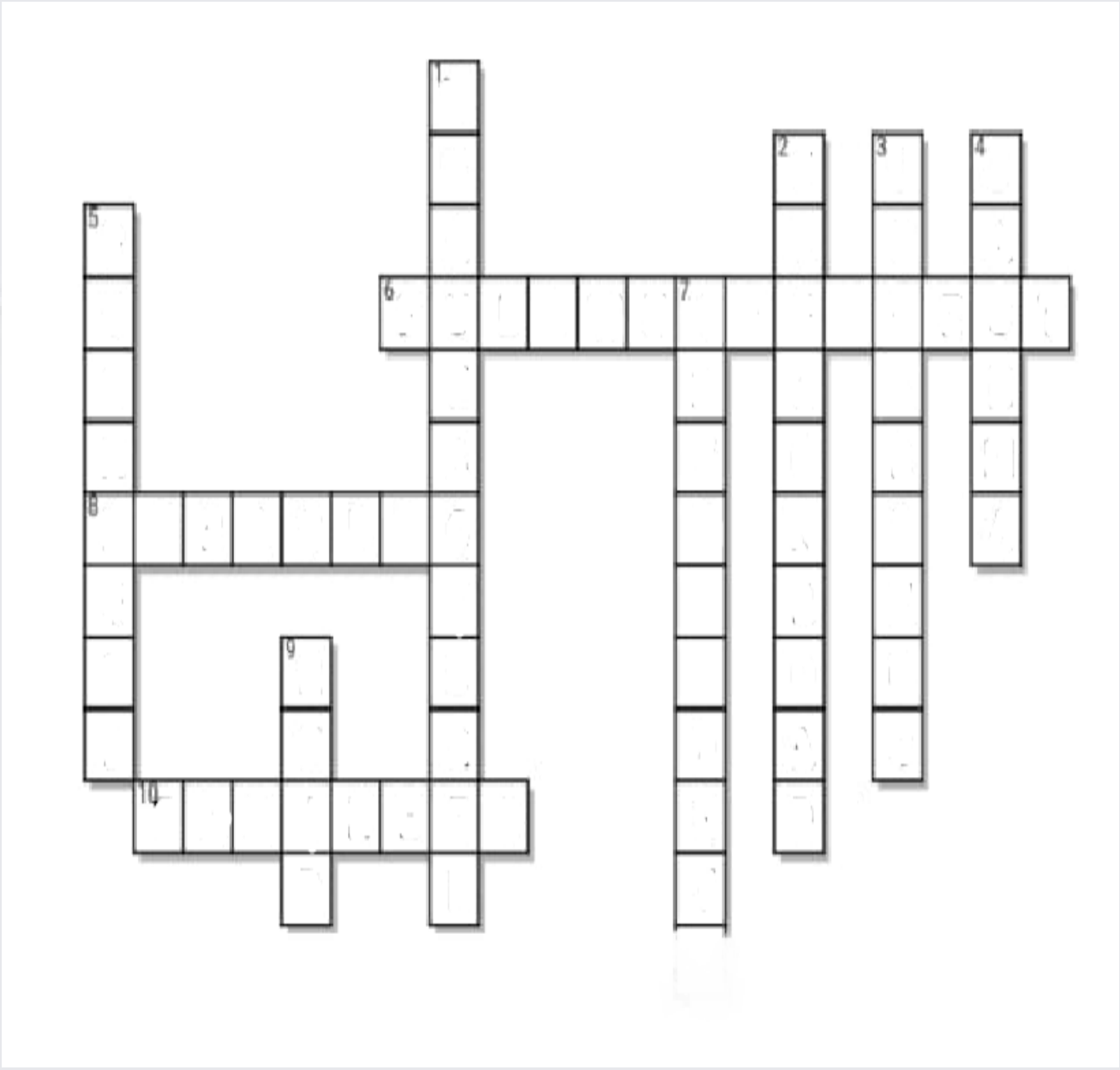
4.Chairman of Alibaba Group

5.The boundary between a Generic product and a customized product is the ___ boundary.

7. Goods or materials held for future sale

9. Latest technology used in logistics to track the item

CROSS WORD



QUIZ

1. Is MEZZANINE a warehouse storage system ?

2. EDI stands for _____

3. The final section of logistics is know as the _____

4. Name the company

5. Michael Terry Duke is the CEO of this company, which is famous for its efficient supply chain_____

6. Founded by Mr. Subhasish Chakraborty in 1990, this Indian company is one of the largest Domestic Delivery Network _____

7. What was the first item to have a barcode ?

8._____ is the person responsible for translating customer requirement into actual orders and arranging delivery rates

9. _____ is the measure of forecasting errors to calculate the average forecast errors over ‘n’ time period

10. Make Versus buy decision is also know as_____

ANSWERS

1. Yes
2. Electronic data interchange
3. Last mile delivery
4. MAERSK
5. Walmart
6. DTDC
7. Wrigley's chewing gum
8. Supply chain manager
9. Mean error

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55th EDITION OF SIGMA NEWSLETTER

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