

RESEARCH PROJECT

Operations of Holisol Logistics Pvt.
Ltd.

BBA (Logistics and Supply Chain Management)

Submitted To :

Prof. Ashok Kumar Sharma

18SLAM1010026

18021011168

BBLS3009

Submitted By :

Shweta Maurya

BBA LSCM (SEM 6)

ADMISSON NO.-

ENROLLMENT NO.-

COURSE CODE:



SCHOOL OF BUSINESS, GALGOTIAS UNIVERSITY

Certificate

This is to certify that SHWETA MAURYA (18SLAM1010026), final year student of BBA Logistics and supply chain management of Galgotias University has made her Research Report on the topic "**Operations and Execution of Holisol Logistics Pvt. Ltd.**" under the guidance of Prof. Ashok Kumar Sharma (Logistics and supply chain management).

Name: SHWETA MAURYA

Declaration

Hereby declared that the work done on the SIP report made on the topic of "Operations and Execution of Holisol Logistics Pvt. Ltd." is solely done by SHWETA MAURYA. No part of it is taken from any other source and is my original work.

Name: SHWETA MAURYA

Acknowledgement

I would like to express my special thanks of gratitude to Prof. Ashok Kumar who gave me the golden opportunity to do this wonderful project on the topic **“Operations and Execution of Holisol Logistics Pvt Ltd.”** which also helped me growing my knowledge and I came to know about so many new things.

I am thankful to them.

Secondly, I would also like to thank my parents and friends who helped me a lot in finishing this project within the limited time.

Thanks again to all who helped me.

Name: SHWETA MAURYA

TABLE OF CONTENT:

S. No.	Particulars
1.	Integrated Packaging Solution
2.	5S Philosophy
3.	Industry- 4.0 Digitalizing End-to-End Supply Chain
4.	Supply Chain Consulting
5.	Optimising & designing distribution network for America's Leading Direct Selling Brand
6.	Complete operations setup and Streamlining for a prominent Global Brand
7.	Multi- Channel Fulfilment Solutions
8.	Implementation of "First Auto Attendant Technology" in India for a selling Customer
9.	Re-engineered warehouse storage and logistics operations for one of the largest Decorative Paint Company
10.	Towards a smart approach to Dispatch Planning
11.	The Verdis Solutions

12.

Verdis 2.0- A step towards a more responsive Supply Chain

Integrated Packaging Solution

We are aware that automotive and industrial components require safe and quality assured packaging during transportation. Our experts studied the industrial needs in detail and have designed packaging solutions which flexibly meet the specifications and provide cost-efficient benefits over conventional methods. We recommend going for suitable packaging solutions, as right designs increase the quantity to be loaded into the shipping containers. This makes the overall supply chain efficient and gives added the boost to your business. In addition to this, we at Holisol, understand the environmental concerns posed by supply chains across the world. That's why we design returnable and reusable packaging solutions to make your supply chain greener.

You can choose from the range of packaging solutions we offer:

1. Heavy Machinery Packaging Solutions:



Finished vehicles can be transported using multiple packaging methods. We cover them all – whether you would like to save logistics cost and increase vehicle loadability over longer distances or your needs are based on saving assembling and disassembling costs over short distance transportation.

- **Semi Knocked Down Solutions:** Increase vehicle loadability by 30 %
- **Completely Knocked Down Solutions:** Increase vehicle loadability by 50 %
- **Completely Built Unit Solutions:** Transport full vehicle hassle-free

2. Industrial Components Packaging:



We offer component packaging solutions which cater to needs of suppliers as well as manufacturers. For uniquely shaped components, we have got propylene bins (PP Bins), steel containers and racks which can be used as an alternative to conventional wooden packaging. Packaging designs returnable, collapsible in shape and can be used multiple times. These **green packaging solutions** give you added benefits in the form of

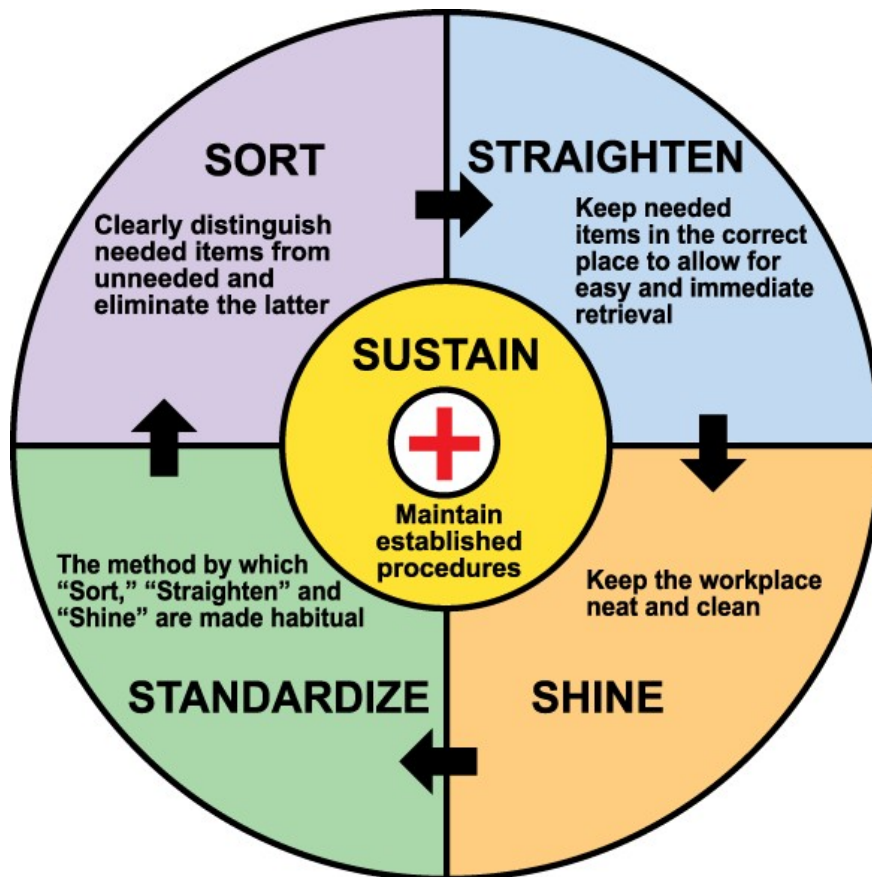
- Reduction in Carbon Footprints
- Decrease Resource Consumption
- Lesser Scrap Generation
- Reduction in Fire Hazards
- Reduction in Reverse Logistics Cost
- Safer Packaging Options

There are many ways that we can do to upgrade our Warehouse's performance. One of it is by implementing 5S. Have you heard about 5S? 5S is one of the common practices in many Japanese's companies. Let us see more details about 5S implementation in your Warehouse & you can try it by yourself to see the impact!

5S is a Lean strategy that helps accomplish one of the basic objectives of Lean: making problems visible. Having a clean and organized warehouse is about more than just looking great. It is about having more efficient warehousing operations, excelling at training and communications and, in the end, it's about saving time and money. A warehouse that has implemented 5S is able to identify or surface issues quickly and address the root causes and solve the problems in the short term to prevent recurrence. If replenishment is needed, if something is out of place, if tasks are being done incorrectly causing a lag in production, 5S can identify it, make it visible and therefore able to be solved quickly.

No one is sure exactly how the 5's methodology began. But in the 1970s, Japan's premiere automotive company, Toyota, was notably the company that set the standard. Just like Sun Tzu's the Art of War, the principles derived from the 5S methodology can be applied in many ways to achieve efficiency. Warehouse management is just one aspect of your business that could benefit from these principles.

5 S Philosophy:



"5S" is a philosophy or method or 5 steps that need to be taken to create a "clean and organize" workplace. The 5 steps to do to get a clean and organize workplace as per in 5S are:

Seiri means **Sort**, Seiton means **Set in Order**, Seiso means **Shine**, Seiketsu means **Standardize** and Shitsuke means **Sustain**.

Even though the word "5S" comes from the abbreviation of 5 Japanese words, however, there is no clear evidence on which country did firstly introduced the 5S steps to the world. The 5S method only become popular to the production world after it been successfully practiced at the Toyota production plant in Japan in 1980'es. Nowadays, 5S has been adapted by many organizations in the world especially the Japanese's. Compared to 20 years ago, 5S practices now has been emerged. Started from first implementation at the production floor, it has been emerged to other areas such as offices, warehouses, hospitals, universities and even the **battleship**.

General Benefit by implementing 5S in Warehouse

There are many benefits can be gained by implementing 5S in our Warehouse such as:

- 1) Make our Warehouse clean and neat
- 2) Improve Warehouse productivity
- 3) Improve the Quality of Works
- 4) Save Warehouse Operation Cost
- 5) Improve Delivery Performance
- 6) Improve Safety aspects
- 7) Eliminate wastes ("Muda" in Japanese) and..
- 8) Improve Warehouse staffs' morale

Let's look the 5S steps one by one for implementing 5S in the Warehouse:

Sort or Seiri – In organizing your workplace and home, the first thing to do is to sort. In home improvement, you separate stuff you need, stuff you can throw out, and stuff that can be donated or sold in a garage sale. In sorting your warehouse inventories and company assets, the same principle applies. Discard all the items that you no longer have any use for to clear valuable space for incoming materials or products in need of storage. Keep only what you need and set priorities through processes like FIFO (First in First Out) or LIFO (Last in First Out).

Tools you need:

- **Red Tags and Red Tag Boards** – Systematically remove items in your warehouse with approval of the supervisor to ensure items discarded are reviewed.
- **Equipment Tags** – Tag machines and equipment in need of repairs with status tags that indicate machines in need of repairs and those that are OK to use.

Set in Order (aka Straighten or Stabilize) or Seiton – Streamlining or organizing the warehouse is probably the most challenging aspect of 5S. There is no one-size-fits-all solution. You must figure out how your warehouse processes flows and how you can eliminate waste in terms of time and resources.

Tools you need:

- **Warehouse Signs** – Put up instructions and reminders to alert and guide workers in your warehouse.
- **Floor and Aisle Markers** – Clearly marked areas and paths are essential in improving foot traffic. It eliminates confusion and workers will know exactly where they are and where they need to go.
- **Labels and Inventory Tags** – Identify the content in each storage

space to avoid wasting time looking for specific equipment or tools.

Shine or Seiso – Maintain good housekeeping in your warehouse. Leaks and spills should be taken care of immediately as these are unnecessary hazards that may cause slips and falls. It's important to maintain cleanliness in the facility to be able to clearly evaluate where efficiency is lacking.

Tools you need:

- **Janitorial Supplies** – Use heavy-duty industrial cleaning tools and supplies to save cost in the long run.
- **Spill Kits** – Always have a professional spill kit ready. Choose the best spill kit that's right for your workplace.

Standardize or Seiketsu – Consistency in implementing your new system is the key to improved efficiency. It's essential to have a work manual that documents the standards implemented. Regular training sessions also help workers deal with not just the regular work but also how to react in situations like breakdown of equipment, chemical spills, and emergencies.

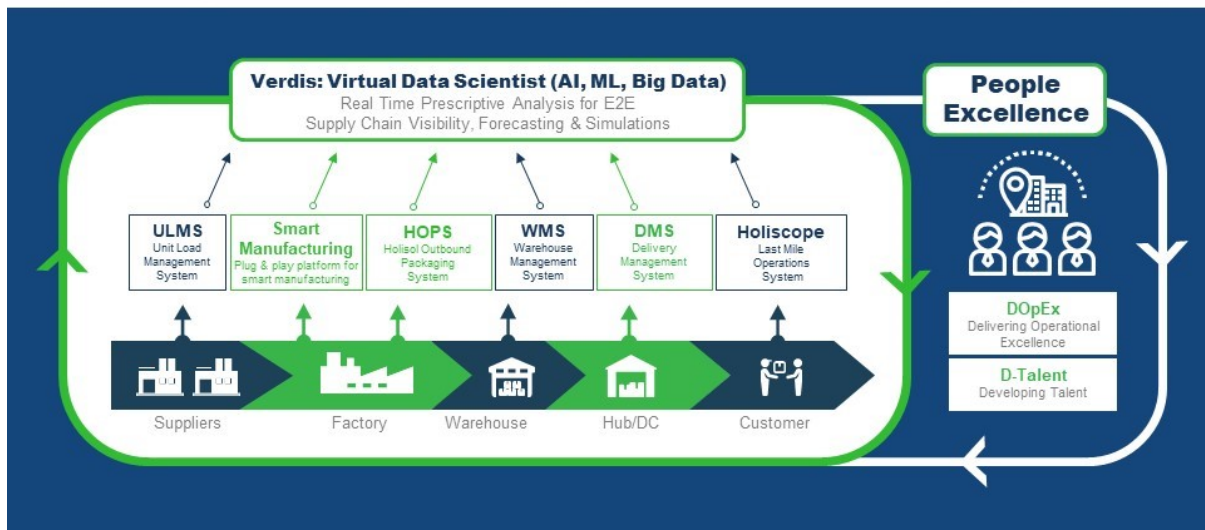
Tools you need:

- **Work Posters or Charts** – A simple visual guide that summarizes the workflow. It could be used to locate where the different work areas and equipment are located.
- **Training Manuals and Videos** – To set standard practices, new workers must undergo training. Regular refreshers are also recommended for workers assigned to new tasks.

Sustain or Shitsuke – It's easy to slip back to old habits without proper monitoring and evaluation. Conduct regular evaluation or even surprise inspections to make sure workers are following the new standards.

Be open to change when a new standard or policy is not working out. 5S, after all, is not about complacency but rather the continuous striving for perfection.

Industry 4.0 - Digitalizing End to End Supply Chain



At Holisol, we believe in continuously innovating to align with changing business environment, remain customer-centric and stay ahead of the curve. As a part of these themes, we embarked on the journey of developing our own IT solutions and have successfully designed and developed a suite of IT products to transform our customer's supply chain. We want to drive 'Digitalization of Our Customers' Supply Chains' using the technologies like artificial intelligence, machine learning, cloud computing, big data, IOT, mobility etc.

The systems developed by our IT team have been deployed in our own operations and are being bought by customers for their own operations. Holiscope, TMS, WMS have been deployed for outside customers, even overseas, yielding great results. Verdis, our AI-based analytics system, is finding great response from the customers who want to use predictive analytics to drive supply chain transformation.

As we embark on this journey, all of us must start thinking of Holisol as technology-driven supply chain organisation. This would mean driving the use of technology at all levels and for all things that we do on day-to-day basis. This also means that we use the existing IT systems to the fullest potential, get to know/adapt new systems quickly, follow the developments as they happen and contribute with your own ideas/initiatives.

We believe that people working on customer operations have great insights into how things can improve and what needs to be done to make it happen, and hence we are seeking ideas on use of technology (process automation) in FCs, for which all FC managers have been approached.

More ideas from all co-workers would be highly appreciated. And it does not have to be some big block buster idea, even smaller automation initiatives can change the way we work!

Let us together take a leap into this digital future for ourselves and our customers and enjoy the journey!



Resilience is ONE word that we all must include in our daily vocabulary while we go through the impact of COVID 2019.

Resilience means:

1. The capacity to recover quickly from difficulties, toughness
2. The ability of a substance or object to spring back into shape; elasticity

It is one quality which we will all need in abundance to sail through this time – we need to be 'Resilient Holisol' till the time it lasts and recover quickly. What it means for us is that:

1. We will have to re-do our business plans and projections.
2. We will have to re-define our relationship with our customers.
3. We will have to re-define our relationship with our vendor partners.
4. We will have to re-define how we work in our FCs, sites & offices.
5. We will also have to be ready for sudden opening, sudden closing & sudden re-

opening of different parts of our network.

All this will be highly demanding on us and we all need to share the burden as we go through this. It is not something which can be achieved by one or two or a small team at the corporate office -the contribution must come from each one of us to the best of our abilities. It is the total of our individual capacity which will add to create Holisol capacity to recover quickly – a **RESILIENT HOLISOL!**

SUPPLY CHAIN CONSULTING

We are your “blue collar” consultants who provide best-in-class **supply chain consulting** for your business. By engaging at the ground level, our experts develop the insight of your business objectives and design Supply Chain Solutions which enable you to be successful. We are fully aware that supply chain of each industry has specific complexities and unique requirement.

We are also familiar that a supply chain model should be agile enough to adapt the changes in the market scenario. With the deep understanding of concerns, you need to tackle in your business supply chain, no matter how complex the situation might be; we come up with **consulting solutions** which align with your supply chain requirements.

We take responsibility of implementing the solution as a proof-of-concept. Right from the broader outline of supply chain network like warehouse location we take it all in the same stride and come up with a solution which you would later take pride in declaring that “this is what we wanted”. We are keen to partner with you and become your extended team building unprecedented success for your business.



Optimising & redesigning distribution network for America's leading Direct Selling Brand

Project Description

About the customer:

An American direct selling company that sells health, beauty and home care products.

Customer challenges:

The customer had 5 fulfilment centres (FCs) in the Eastern UP Region at Lucknow Varanasi, Allahabad, Kanpur & Gorakhpur which were taking care of local distribution in the respective geographies. The key challenges for the customer were order integrity & delivery timelines.

Holisol solution:

Based on the data analysis of order volumes, sizes, geographic spread and reviewing the existing fulfilment centre & distribution network following solution was designed & implemented for the customer.

FC Network Redesign

- 5 FCS were clubbed into 1 single FC
- One centralized fulfilment centre was set up in Varanasi
- Designed a hybrid storage system equipped with
 - Ambient & temperature-controlled storage
 - Reserve storage – Vertical Pallet Storage Racks
 - Active picking area, bins on shelves

Technology Application

- Developed an application for **"Pick-n-pack"**
- Barcoding at Piece level to singularly identify units
- Picking using Hand-held Devices to enhance efficiency
- Scan based Order Processing to ensure Order Integrity

Distribution network redesign

- Hybrid distribution system design including
 - In city deliveries in Holisol's network
 - Upcountry deliveries using a partner's network
 - Daily milk-run at night dropping shipments in regional hubs for further distribution
 - Android-based On-Field application to provide real-time visibility on shipment status

Benefits for the customer:

- Warehousing Cost reduced by 24 %
- Perfect order – increased from 94.3% to **100 %**
- Delivery within 24 hours percentage increased from 87.2% to **98.7 %**
- Delivery within agreed TAT increased from 78.9% to **97.5 %**
- Real-time updates of shipment status 100%

Complete operations setup and streamlining for a prominent global brand

Project Description

About the Customer

Our customer is a US based manufacturer and distributor of apparel, accessories and home goods. In their four years of operation in India, they have been growing at a remarkable pace with an access to over **400** key account retailers, **100** distributors and **2100** POS (**point-of-sale**).

Customer Requirement

Being a US based organization customer follows stringent guidelines in their fulfilment operations. They were looking for an experienced service partner who can comply to these standards and help them with:

- Design & set up of fulfilment centre which complies to US guidelines

- Facility equipped to handle storage of wide range of merchandise (raw material, finished goods & packaging material)
- Set up of complete operations for forward, return & refurbishment for both **B2B & B2C** orders under one roof
- Implementation of quality check process compliant with international standards
- Sourcing of manpower experienced in **fashion & lifestyle** product line

Holisol solution

A dedicated team of FC manager, assistant manager, account manager, supervisors, pick and pack co-workers, QC (quality check) co-workers were set up to design-implement-manage the complete project.

- Identification-designing-set up of the facility complying to US norms
- Set up of storage area for handling multiple range of merchandise
- Set up of refurbishment area for suitable returns
- Order processing was set up to manage **B2B and B2C** orders from single inventory
- Set up of quality check process for fresh & return inventory
 - Fresh QC check includes – packaging, QC and tags
 - Return QC check includes – packaging, tagging and condition of the product
- Implemented 6s practices to be compliant to the norms related to hygiene & safety
- Set up of refurbishment process
- **100%** QC was performed on the returned stock
- The suitable products were sorted based on the defects like- defects with product, quality or color whereas the products with manufacturing defects were returned to the origin
- Refurbishment activities included: retagging, steam pressing, folding, repacking and put away
- Set up of team skilled in the apparel product line
- Executed training on SOP specific to customer
- Setting up of team KPI'S
 - GRN TAT – **24 to 48** hours based on the volume forecast
 - Put away accuracy – **99.9%**
 - Inventory accuracy – **99.9%**
- Set up of regular refresh training programs specific to **6S, Safety & POSH**

Benefits for the customer

- Project went live in **45** days
- Set up of **65,000 sq. ft.** facility specific to customer operations
- **99.9%** OTIF for both **B2B & B2C** orders
- Storage of all merchandise under one single roof
- Through put of **12,000** pieces / per day
- Processed **3.5 to 4** lakh pieces in a month and in the peak season the volume increased by **30%**
- **99.9%** inventory accuracy
- **100%** on time forward shipment order fulfilment
- Return processing within **24** hours

Multi-Channel Fulfilment Solutions



With a combined domain experience of over 200 years, Holisol has

developed the expertise in **designing-implementing-managing** the supply chain solutions for multi-channel retail in India. The complete know-how of industry has helped us in the successful completion of **greenfield set-ups**. But we never stopped there – we continued to innovate the solutions to enable our customers to accomplish their business goals.

We empower customers with our capability to set-up a **fully functional multi-channel fulfilment centre within 30 to 45 days**. In addition to this, we also analyse the existing system for scaling up the operations. Our network of **+25 fulfilment centres** across India deliver excellent operations for almost every retail platform, be it offline or online.

Experience in managing the multi-channel retail operations for more than a decade has helped us in gaining insight into the industry-specific challenges and designing a solution specific to customer's business.

Implementation of “First Auto Attendant Technology” in India for a Direct Selling Customer

Project Description

About the customer:

A leading global nutrition brand that develops, markets and sells dietary supplements, weight management, sports nutrition and personal care products. The company operates in 94 countries and started its journey in India in 1999. Presently customer is serving their sales associates from 1,000 service delivery points & quick response centre across India.

Customer Supply Chain Challenge & Aspiration:

The customer wanted to fulfil the order of sales associate faster. As per the customer's own insight, faster fulfilment of order will enable sales associate to secure & place new orders quicker. For this customer initiated the set-up of ordering & pick-up centres with Holisol across India, thus moving inventory closer to the demand and enable faster fulfilment.

Further to enhance buying & fulfilment experience, a project for implementation of “Automated Attendant” (AA) and “Automated Sales Centre” (ASC) technology was initiated with Holisol.

Holisol Solution:

We engaged with the premier **automated sales solution** provider in Europe and brought expertise to India. We took the E2E responsibility for the implementation of “Auto Attendant” (AA) and “Automated Sales Centre” (ASC) technology (both software & hardware). The project management includes;

Infrastructure set up

- 1. Sourcing & inbound logistic**
 1. Importation of machine and parts from Europe
 2. Customs Clearance
 3. Storage & assembling on the units
 4. Delivery of the units at store sites
- 2. Store set up**
 1. Location identification and lease negotiation
 2. Customisation of the store – Signages, Branding & Visual set up
- 3. IT & Support set up**
 1. Product & Software customisation for India
 2. The localisation of hardware assembly
 3. Full system integration, implementation & support.

Benefits of the solution:

- (AA) -Auto Attendant replacing the older model of order placement through the manned delivery counter.
- Implementation of first “Auto Attendant technology” in Saket, New Delhi centre
- 24x7 order placing via Kiosk machine with multiple payment channels, especially helping the management of peaks during day/month.
- Real-time order punch-in and order slip generation
- Daily/monthly reconciliations & reporting
- Overall, seamless ordering and fulfilment experience

Expansion of automation project in full swing:

- Immediate implementation of 5 new AA and ASC along with the dispenser machine.
- Plan to set up 100 more AA / ASC in the next 2 years.

Re-engineered warehouse storage & logistics operations for one of the largest decorative paint company

Project Description

About the Customer

A largest brand in India offers a wide range of industrial and decorative paint solutions. Customer owns five manufacturing plant in UP, Haryana and Maharashtra, Tamil Nadu and Gujarat.

Customer Challenges:

For their plant in **Gujarat**, they were facing problems which led to increase in operational cost and effect on customer satisfaction.

- Delay in offloading of inbound of raw materials
- Delay in put away as the offloading was not done in a sequenced manner
- Manual record management of inventory
- Unorganised storage of raw material
- Lower visibility & accuracy of inventory
- Higher wastage of the raw material
- Lower productivity due to untrained manpower
- Delays in offloading the shipments at forward stock location
- Delays in order fulfilment impacting production line of customer
- Higher turnaround time of truck from plant-depot-plant due to

offloading delays

Holisol Solution:

Holisol team designed & implemented the process for both **inbound logistics** which included raw material handling & feeding to production line and **outbound logistics** of finished goods including **inventory management & order fulfilment**.

- Re-engineered the storage lay-out based on the movement of product to meet the requirements of both inbound & outbound operations
- Hired and trained right people on how the processes need to be managed based on customer requirement
- Streamlined receiving, offloading and put away of the raw material in a designated area
- Line feeding of raw material to production line in the stipulated time
- Inventory management of raw material and finished products
- Set up & managed the outbound operations for order fulfilment of the finished material
- Transformed transportation process by digitizing the process with **TMS (Transport Management System)**:
 - Started system-based delivery schedules to forward stock locations
 - Started system-based tracking of trucks
 - Started exception alert for monitoring offloading delays at the depot to reduce the TAT between plant-depot-plant

Benefits to the customer:

- Reduced the picking time and increased efficiency by **30%**
- In time production was increased from **80% to 98%**
- Cost was reduced by **15%**
- Achieved **OTIF of 100%**
- Reduced order to supply TAT by **20%**

Towards a Smart Approach to Dispatch Planning

Project Description

Introduction

Smart dispatch planning is the cornerstone to establishing the brand value of an organization and building customer trust. Supply chains rely on a robust dispatch strategy to fulfil customer expectations and meet sales targets in full and on time, while staying prepared against all potential disruptions to the demand or production cycle arising due to inclement events of the external environment. This is necessary, for a poorly drafted dispatch plan can bring extensive damages for a supply chain in terms of excessive expenditures, damaged goods, and delays in order delivery. Corporations, therefore, see an immense incentive in optimizing their dispatch planning process.

The following case study will investigate the conceptual design and planning strategy of the **Dispatch Allocation Planning** (DAP) module of Verdis. It will share its deployment at an auto MNC major and how its delivery of a plan that optimizes dispatch allocation and vehicle loading, helped the company extract the maximum value from the available resources of the dispatch environment.

The Study

The dispatch scenario was studied in detail for the auto MNC, which is a major player in the Indian automobile market. This company has an elaborate supply chain with multiple plants situated at different locations in a region, manufacturing a total of 25 models of scooters and motorbikes, of multiple colour variants, and BS-types. The market base is extensive, catering products to a network of over a thousand dealers nationally.

The environment of dispatch for this auto company spans complex interlinkages between the sales requirements, production output, pre-dispatch processes, and distribution. Yet, the dispatch allocation planning must occur such that the sales requirement is met in full and on time, with the added critical requirement of freight cost minimization, within the accepted boundaries, constraints, and complexities of the dispatch environment.

Complexity of the Planning Process

The complexities of the production, dispatch processes, and sales environment feeds

into the dispatch planning process.

- Multiple plants may service multiple dealers in a region separated by differing distances. Often, the orders for a product type and variant are not available at the plant closest to the dealers. This makes the fulfilment of complex orders difficult.
- Order changes due to changes in the market requirement or due to restrictions of availability can occur in an unprecedented way. Such changes often lead to unwanted delays in delivery, while accruing additional warehousing and inventory -maintenance charges.
- A dealer's requirement may be less than an optimal or full load. In such cases, dispatches may be made at additional costs to the company or dealers may be serviced in a different cycle. Neither of these scenarios are desirable for a corporation.

Limitations of the Dispatch Environment

To add to the complexity, the dispatch environment is bound within its own physical limitations of the working environment.

This includes-

- In a single load, exactly 40 vehicles need to be transported for cost optimization and for fully utilizing the size and tonnage limits of the vehicle. Further, scooters and motorcycles in a load can be placed in multiples of 4 only, to reduce chances of damage. If a vehicle's load capacity is underutilized, it can lead to a greater number of dispatches for the same number of orders and, therefore, create greater transportation charges and chances of damages.
- Stock dispatch should occur evenly across days to ensure the effective management of stock release and payment clearance.
- Certain limitations exist in the pre-dispatch process. Load clearance can only occur after the payment clearance process has occurred. However, dispatch planning, which occurs prior to the actual dispatch, is performed on the assumption that payment clearance would occur before the due date. Scenarios such as payment delays, payment failure, order revisions and cancellations, are frequent, resulting in dispatches for such orders being halted. Therefore, the dispatch planning should be flexible enough to assimilate all such unprecedented changes.

The Verdis Solution

Verdis recognizes the importance of a strategy that would, on implementation, create the correct product flow to the right place at the right time, despite sudden changes in demand. To reach such a solution, a virtual environment of dispatch was created to mimic the real-world dispatch scenario as it existed on the ground. This involved the consolidation of all dynamic data points, including the sales requirement, the production plan, the opening stock, and the days of production for each plant.

Within this environment, the DAP module of Verdis performed an analysis of the N-dimensional data space to find solutions or dispatch allocation plans that adhered to the boundaries and constraints of the dispatch environment. It, then, mapped the solution space, composed of 90 million possible solution points to find the most optimal solution that was cost effective and

could fulfil the sales requirement with the least degree of variance in terms of delivery in full and on time.

The final solution or the final dispatch allocation plan (DAP) proposed by

- Dispatch schedules were planned commensurate with order cycles and payment clearance.
- Product load mix solutions such as club loading were adopted for sub-optimal product quantities.
- Planning time was significantly lowered to generate higher productivity for all involved.
- The dispatches were minimised to the extent possible without affecting Sales order fulfilment
- Lesser number of dispatches ensured lower fuel utilization and, therefore, lower environmental footprint.

Benefits of Verdis DAP

The deployment of the Verdis proposed solution in the actual dispatch environment of the auto company over one dispatch cycle showed remarkable results.

- Cost savings in the dispatch cost amounted to 16.5% per unit on selection of the optimised solution proposed by Verdis.
- Reduction in time taken to prepare DAP was to the extent of 67%. With reduced time for DAP and 100% error free planning, senior team members could utilise their time in more productive areas.

Therefore, Verdis not only provided a smarter approach to dispatch planning, but also added benefits that far exceeded the possibilities of optimization possible through manual or conventional dispatch planning methodologies.

Next Generation DAP

The next generation DAP module of **Verdis** will combine the full spectrum of its predictive and prescriptive competencies, creating room for greater operational advantages.

These competencies can be understood in terms of intelligent Insights delivered through an integration of the local and global environment.

- **Weather Events Impact.** On integration of its meteorological data repositories with the DAP environment, Verdis will be able to detect weather phenomenon that can affect dispatch processes, estimate the impact of weather events on lead times, and prescribe alternative routes or backup plans.
- **Forecasting of lead time.** Lead times can be dynamic for different geographies, climatic conditions, or poor road infrastructures. With lead time forecasting, the most optimal routes will be chosen based on lead time dependencies, and scenarios leading to delays in order fulfilment will be avoided where possible.
- **Payment Forecasting.** With payment forecasting, the uncertainties of the pre-dispatch environment will be minimized, with little cause for repeated iterations of the dispatch planning process.
- **Geography-based sales forecasting.** The demand for particular models is different for different Integrating Verdis' demographic and geographic data repositories with the DAP environment will lend greater predictability of sales – a factor that will feed into dispatch planning.
- **Forecast of disruptive events.** Through analysis of historical events and periodic demand-supply tendencies, Verdis can predict potential disruptive events, therefore enabling guided and more efficient dispatch planning.

With Verdis' AI-driven learning models and next-generation analytical capabilities, Verdis can, thus, ensure greater robustness and responsiveness to internal and external disruptions.

Verdis 2.0 – A Step towards a More Responsive Supply Chain

The operational modules of Verdis, including DAP, exist within a consolidated AI framework with competencies that encompass not only the requirements of greater responsiveness or decreased costs in Supply Chain operations but also a philosophy

aimed at delivering organization excellence.

Verdis drives

- Focused and contextual understanding of supply chain processes End-to-end integration of the supply chain
- Removal of siloed organizational processes and department to an integrated and transparent framework
- Monitoring of external events through integration with external data repositories
- Intelligent Insights generation that identifies growth opportunities Adaptability to changes in the operating environment
- Flexibility to absorb likely disruptions through impact calculations Ease of collaboration and joint decision making
- Intelligent output generation in a variety of business-appropriate formats Understanding of your data needs with natural language processing

Verdis intelligence using AI/ML technology is growing into greater realms of Supply Chain efficiency. By venturing into all operations of the Supply chain, including sourcing, procurement, supply, distribution, inbound and outbound logistics, spend analytics, forecasting, etc. Verdis is fulfilling the requirements of a global and modern supply chain.

Holisol Logistics Private Limited

Holisol is a leading supply chain organization providing **“Tech enable End-to-End supply Chain Solutions”** for customer’s business. Holisol works on the value proposition of Design-Implement-Manage E2E logistics to offer customers an experience of working like their own extended team, with affordable strategic and operational expertise.

Headquartered in Delhi, Holisol has a workforce of **+250 supply chain enthusiasts** who are continuously building value through leadership, innovation and relationships.

Holisol’s strategic partnership with **Cogneau Systems**, an AI product venture, has enabled its Supply Chain expertise to be combined with the power of Artificial Intelligence, Big Data and Data Science. Their combination has made Verdis a powerful source of intelligence for solving Supply Chain problems.

THANK YOU