

A
Project Report On
“Sustainable Methods for Using Raw Materials: A Cost-Savings Project”

At
“Kalyani Maxion Wheels PVT LTD.”

Submitted By
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Under the Guidance of
Prof. Mr. Gangadhar Dukare.

IN PARTIAL FULFILMENT OF
Award of the Degree of
MASTER OF BUSINESS ADMINISTRATION

SUBMITTED TO



SAVITRIBAI PHULE PUNE UNIVERSITY

THROUGH



YASHASWI EDUCATION SOCIETY'S
INTERNATIONAL INSTITUTE OF MANAGEMENT SCIENCE
CHINCHWAD, PUNE ACADEMIC YEAR
2023-2024



CERTIFICATE

This is to certify that **Mr. Mahesh Baban Panchal** is a Bonafide student of **International Institute of Management Science, Chinchwad, Pune**, worked on Project Title

Sustainable Method For Using Raw Materials: A Cost-Savings Project and has successfully completed project work in partial fulfillment for award of degree Master in Business Administration (MBA) of Savitribai Phule Pune University.

This report is the record of Student's own efforts under our supervision and guidelines.

[Signature]

Internal Guide
Prof. Gangadhar D

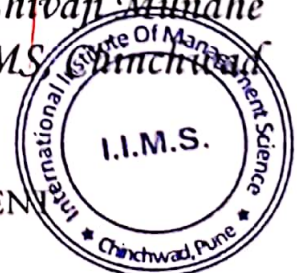
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External Examiner

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Dr. Shivaji Mundhe
Director, IIMS

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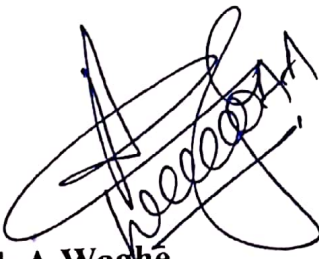
CERTIFICATE

This is to certify that **Mr. Mahesh Baban Panchal** student of College International Institute of Management Science (IIMS) Chinchwad, Pune has done his project work in Study of **Raw material process Analysis and Solve the issue related ROH** in Purchase and Supply Chain Department from **07-08-2023 To 27/09/2023** at Kalyani Maxion Wheels Pvt. Ltd. Pune.

During this internship we found him very sincere and he performed well.

We wish him success in his future career.

For Kalyani Maxion Wheels Pvt. Ltd.


Ashish A Waghe
Sr. Manager - HR&ADMIN





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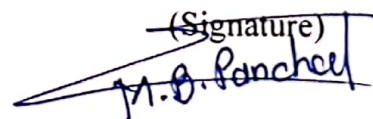


B. Chakrabarti
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DECLARATION

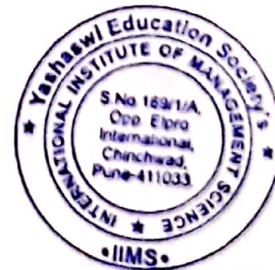
I, Mr. Mahesh Panchal student of International Institute of Management Science, Chinchwad, Pune, hereby declare that this project report entitled "SUPPLY CHAIN MANAGEMENT and PURCHASE DEPARTMENT" is a bonafide record of work done by me for the partial fulfillment of the requirement for the degree of Master of Business Administration (M.B.A) through Savitribai Phule Pune University.

I, hereby, declare that I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

(Signature)


Mahesh Panchal

IIMS, Chinchwad, Pune.



ACKNOWLEDGEMENT

I am extremely thankful to **Mr. Sunil Dhakne Manager Sir** (Material), Kalyani Maxion Wheels Kurali-Chakan, Pune for giving me a golden chance to complete this project and guiding me by giving valuable suggestions at all stages.

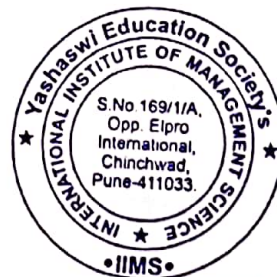
I am grateful to our guide **Prof Mr. Gangadhar Dukare Sir (Collage Guide)** for his valuable guidance in systematic and successful completion of the project.

I also specially thanks to **Mr. Santosh Wagh Sir** HOD of Supply Chain, Kalyani Maxion Wheels Kurali-Chakan, Pune for giving me the opportunity to do the project work and for his extended co-operation to make this project a success.

I sincerely thank those all who helped me to complete the project.

Dr. Shivaji Munde

Director Of College IIMS



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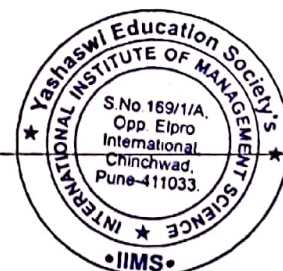
1.EXECUTIVE SUMMARY

A **Supply Chain** consists of all parties involved, directly or indirectly, in fulfilling a customer request. The Supply Chain includes not only the manufacturer and suppliers, but also transporters, warehouses, retailers, and even customers themselves. Within each organization, such as a manufacturer, the supply chain includes all functions involved in receiving and filling a customer request. These functions include, but are not limited to, new product development, marketing, operations, distribution, finance, and customer service.

A **Supply Chain** is dynamic and involves the constant flow of information, product, and funds among different stages. A typically Supply Chain may involve a variety of stages **including customers, retailers, wholesalers, distributors, manufactures, and suppliers**. Even though the term supply chain may imply that only one player is involved at each stage, most supply chains are actually networks where each stage receives product from several suppliers and sends output to several customers. It may be more accurate to use the term supply network or supply web to describe the structure of most supply chains.

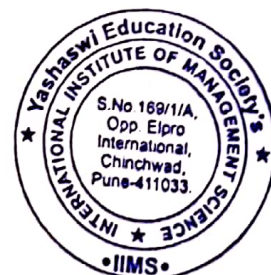
Supply Chain Management (SCM) is the discipline which encompasses the end-to-end business activities carried out in any business, independent of the manufacturing or service sectors. In fact, is the only way today in which business need to be carried out. A critical point to keep in mind is that the customer is an integral part of any supply Chain. In fact, the **primary purpose of any supply chain is to satisfy customer needs and, in the process, generate profit for itself.**

Purchasing is a function of procuring goods and services from sources external to organization. Purchasing in essence is the task of buying goods of right quality, in the right quantities, at the right time and at the right price. These essentials of scientific purchasing are though complimentary yet achievement of one does not guarantee the other. The buyer may have a source who is capable of giving quality product but he may not have enough capacity to meet quantity requirements in time, or the source may have the capability to supply goods of right quality and in the right quantities but he may not supply at the right price or at the right time.



Objectives Of Purchasing:

- ◀ To procure at a competitive price the needed materials, supplies. Tools and services of the right quality, in the right quantity and at the right time.
- ◀ To maintain continuity of supply to ensure production schedule at minimum inventory investment.
- ◀ To ensure the production of goods of better quality at the competitive price by procuring materials which best suit the product and the purpose for which they are intended.
- ◀ To suggest better substitutes to materials which are currently being used with a view to lower cost and maintain quality of the products.
- ◀ To render assistance in standardization, variety reduction, value analysis and cost reduction programmers.



2.INTRODUCTION

The fundamental goal of the procurement or purchasing function is to acquire optimum quality and quantity of goods and services for the company in a timely manner, and at the lowest total cost. This also means that's the sale is not over when the item is delivered by the supplier. Additional items may be needed in future along with the necessary parts, services or even training in few cases. These all should be facilitated by the purchasing function.

The significance of the role of purchasing in organizations today is based on the size of expenditures for goods and services, as reflected in the organizations Balance sheet and cost of manufacturing or service operations. In fact the whole concept of purchasing function is now changing from the traditional material controlling to managing supply chains.

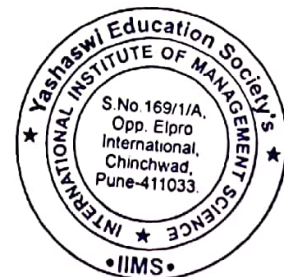
Material management is the management if the flows of Raw Material, tools etc., It includes the movement and storage of raw materials, work-in-process inventory, and finished goods from point of origin to point of consumption. Interconnected or interlinked networks, channels and node businesses are involved in the provision of products and services required by end customers in supply chain. Supply chain management has been defined as the "design, planning, execution, control, and monitoring of supply chain activities with objective of creating net value, building a competitive infrastructure, leveraging worldwide logistics, synchronizing supply with demanded measuring performance globally."



The role of The Material in THE STORE

The Yard/Store is where the supply chain holds or stores Materials.

- **Functions of Material Storing include**
 - a. Inventory Management
 - b. Loading/Unloading Raw Material
 - c. Stock Replenishment
 - d. Quality Control
 - e. Storage and Organization
 - f. FIFO (First-In, First Out)
 - g. Space Optimization
 - h. Security And Safety
 - i. Record-Keeping
 - j. Supplier Relations
 - k. Forecasting and Demand Planning
 - l. Cost Control
 - m. Waste Reduction
 - n. Compliance and Regulations
 - o. Just-In-Time (JIT)
 - p. Continuous Improvement



3. ORGANIZATION PROFILE

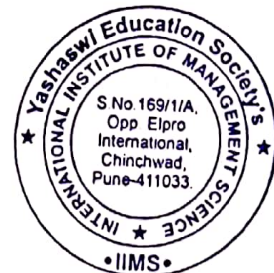
Company Name: Kalyani Maxion Wheels Private Limited.

Address: Gat No. 635, At Post- Kurali Chakan, Taluka-Ked, Alandi Fata,
Kurali, Pune, Maharashtra-410501

History:

The former joint venture of Hayes Lemmerz and the Kalyani was founded in 1996 in Pune, India. Today the JV operates under the name Kalyani Maxion Wheels and has the capacity to produce 1.3 million commercial vehicle steel wheels, serving global OEMs such as Ashok Leyland, Daimler, TATA Motors, and Volvo.

In 2009, Maxion expanded its Operations in Pune and began production of light vehicle steel wheels. The team is responsible for manufacturing up to four million per year for global vehicle manufacturer such as Ford, General Motors, Honda, Hyundai-Kia, Nissan and VW.



VISION & MISSION

Vision:

- Be a global leader, growing in a sustainable manner through innovation and inspiring our people to take part in stamping the automotive world with us.

Mission:

- Provide Components and automotive systems in a profitable manner while improving the competitiveness of our customer's products on a global basis through continued innovations, process improvement and outstanding people.



CORE VALUES:

1. Conduct ourselves ethically and be socially and environmentally responsible.
2. Develop, trust, empower and respect our people.
3. Drive results through commitment ownership mentality continuous improvement and teamwork.
4. Utilize our resources efficiently and achieve highest levels of customers satisfaction.
5. Foster innovation and unleash of all of our people.



PRODUCT PORTFOLIO:

Kalyani Maxion Wheels Limited Is Manufacturer, Supplier & Exporter OF aluminums Wheels, Steel Wheels, Commercial Wheels, Drive axles product, Front Steer axles, Defense Axles OFF-Highway axle.

The Kalyani Group has a remarkable history of providing services to clients who are industry leaders. With our exceptional quality, first-rate customer support, and affordable prices, the organization has demonstrated that it can give their clients a competitive edge.

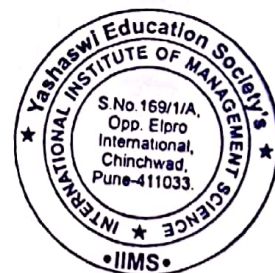
- Mahindra
- Ashok Leyland
- Pune-based Tata Motors
- Honda
- Hyundai.
- Volkswagen, etc.



4. REVIEW OF LITERATURE

Client contentment A business term refers to how well a company's goods and services meet or exceed the expectations of its clients. It is one of the four perspectives of a balanced scorecard and is regarded as a key performance indicator in the business world. It is common knowledge that a business cannot function without its clientele. Working closely with clients is crucial in business to ensure that the system you develop for them meets their needs as closely as possible. Customer service is very important because you need to establish a close working relationship with your client. After that, there are some pointers that will help your clients feel loved, appreciated, and valued.

- ✓ Encourage face-to-face dealing
- ✓ Respond to messages Or Email promptly & keep your clients informed
- ✓ Be friendly and approachable with your Suppliers
- ✓ Have a clearly-defined customer service policy
- ✓ Attention of detail
- ✓ Anticipate your client needs & go out of you want to help them out
- ✓ Honor your promises
- ✓ Team Work



Benefits of customer's satisfaction

- ✓ Reduce Price Intensively
 - ✓ Reduced switching to competitors
 - ✓ Increased Referral
 - ✓ Increase Repeat Purchase
- Increase Revenue
&
Reduced Costs

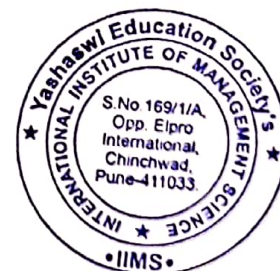
Increased
Profit

Objective Customer loyalty and purchase intentions are predicted by customer satisfaction. Data on customer satisfaction is one of the most widely gathered indicators of market attitudes. It's a fundamental idea:

- ✓ The receipt and distribution of these data within the organization conveys to staff members the value of attending to customers' needs and making sure they are satisfied with the products and services offered by the business.

Customer satisfaction: -

- ✓ Customer focus
- ✓ Customer grievance
- ✓ Customer Property
- ✓ Customer Feedback
- ✓ Special requirement of customer Special
- ✓ Timely Supply
- ✓ Time Management
- ✓ Should not be reversal
- ✓ Should be perfect



5.PRIMARY PURPOSE:

Differentiate the products of one company from those of other local and foreign companies. Verify the material quality and the receiving and stuffing formats.

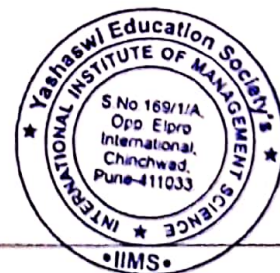
Safeguards the contentment of suppliers and customers. Time needs to be kept in check. Every step in the warehouse needs to be checked and balanced.

- ✚ Offer prompt customer support.
- ✚ Ensure that things are properly and easily located by keeping track of them.
- ✚ Reduce the overall physical strain and, consequently, the expense of putting and taking out goods from storage.
- ✚ Establish channels of communication with clients.



❖ In The Kalyani Maxion Wheels Manufacturing Company's Raw Material Suppliers Are Below:

SR	ITEM DESCRIPTION	CURRENT SUPPLIER (S)	In CASE OF COCNTIGENCY	Remark
1.	STEEL	1)ARCELORMITTAL NIPPON STEEL INDIA 2)JSW STEEL LTD. 3)TATA STEEL LTD	1.Already 3 domestic suppliers & all grades developed with all supplier. 2.We are using same grade material in our other plant in urgency we can import the same	OK
2	Paint	1)PPG ASIAN PAINTS PVT LTD 2)DERGER NIPPON PAINT AUTOMOTIVE 3)BASF INDIA LTD. 4)NIPPON PAINT (INDIA)PVT.LTD	Already 3 sources developed. We are using same paint in our plants in our Car Wheel Plant, Turkey and Spain. In case of contingency, we can import the same from our group companies.	OK
3.	Argon Gas Mixture	Praxair India Pvt.Ltd	Gas is cylinder can be available immediately.	OK
4.	Wooden Pallets	Mother care India ltd/Riddhi Siddhi/Sachin Packers	Alternative source developed Riddhi siddhi enterprise, Sachin packers, Ashok enterprises	OK



Receiving Raw Materials: -

Standard Process: Upon the arrival of Raw Materials from suppliers, a receiving process is initiated. This process typically includes the following steps:

- 1) Verification of Materials against the purchase order
- 2) Inspection of the materials for quality and quantity
- 3) Documenting any discrepancies or damages.
- 4) Labeling and marking materials as received

Inventory management:

- Standard Process: Maintaining an accurate inventory is critical.

Standard processes include:

- Regularly updating inventory records with information such as quantity, lot numbers, and expiration dates.
- Implementing inventory management software or system for tracking and reporting.
- Conducting periodic physical inventory counts and reconciling with recorded data.



WAREHOUSE SELECTION

FACTORS TO CONSIDER:

SPACE LAYOUT:

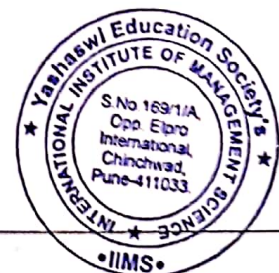
The areas that should be planned are both the general storage areas and the areas for goods receipt, consignment picking and goods dispatch. It is also desirable that space should be set aside for the following activities:

- equipment maintenance and parking;
- charging of equipment batteries such as pallet trucks;
- refueling of trucks;
- an area for garbage disposal e.g. empty packaging;
- a quarantine area for keeping rejected goods, goods to be sent back or destroyed;
- an employee rest area;
- washroom; and
- An administration office.

PLANNING:

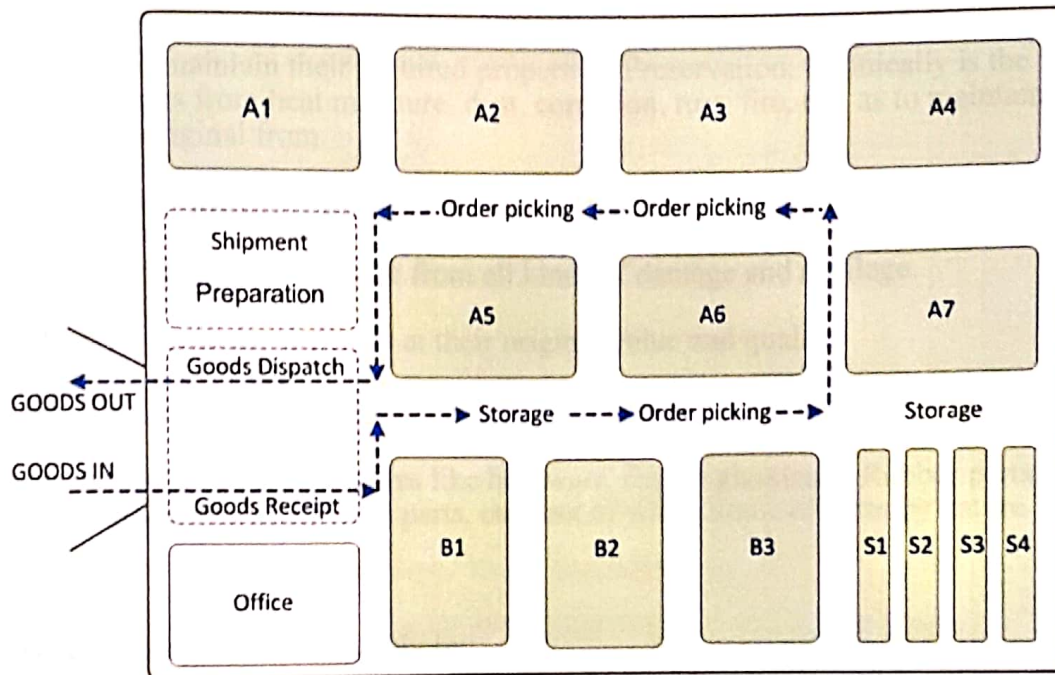
It is worth keeping these requirements in mind during the planning of the main operating areas. Planning consideration needs to be given to the following:

- ⇒ allocate space for each type of product and locating number;
- ⇒ Allow sufficient space for easy access to the stacks for inspecting, loading and unloading. Stacks should be one meter from the walls and another meter between stacks;
- ⇒ sizing the goods receipt and dispatch area;
- ⇒ allow space for storage of cleaning materials and supplies;
- ⇒ allocate areas for damaged items by consignment number;
- ⇒ allow sufficient space to repackage damaged items and place it in separate stacks;
- ⇒ Sufficient free space is needed to operate a warehouse effectively. When planning the size of a warehouse consider:



PACE UTILIZATION AND HANDLING:

Shown above, the warehouse operation is composed of four key work activities:



Key:
A1 to A7 - Household and shelter materials
B1 to B3 - Medical Equipment
S1 to S4 - Camp Supplies

- receiving goods
- storing;
- selecting
- Dispatch of goods

Estimating the needs and level of demand for each of the major work activities separately is a good place to start when estimating the resources needed for the entire warehouse. Then, in order to estimate the total resources needed, the resource requirements for each activity should be added together, accounting for how the activities are divided up throughout the workday.

PRESERVATION OF STORES:

Storage is a broader term and includes measures that ensure that as long as materials lie in the custody store department, they are free from damage and deterioration and maintain their required properties. Preservation, technically is the protection of stores from heat moisture, dust, corrosion, rust, fire, etc. as to maintain materials in the original form.

Preservation measures serves threefold objectives:

- I. To keep materials safe from all kinds of damage and spoilage.
- II. To maintain materials at their original value and quality.
- III. To reduce storage losses and consequently to reduce production costs.

Industries use various types of stores like hardware, fragile glassware. Rubber parts, paints, dyes and colors, machinery parts, etc., out of which some of them by nature deteriorate.

Deterioration is caused mainly by:

- I. Climate and Environment
- II. Physical and chemical agents
- III. Biological agents.

These agents may act separately or together to cause deterioration.

The climate and environment agents are temperature, rainfall, humidity and wind.

The physical and chemical agents include sunlight, heat, dust and wind(physical agents) and moisture, salts, acids, alkalies and Gases (chemical agents).



PRECAUTIONS AND SPECIFIC METHOD OF PRESERVATION:

Preservation methods for a particular class of material depend on its properties, characteristics and special problems. The following are the preservation methods of some common items:

Metals (Iron and steels):

All metals get rusted on exposure to atmosphere. To prevent deterioration:

- i. The material should be stored at least 15 to 20m cm above the ground
- ii. Iron and steel should not be stored in open since sunrays are harmful particularly for bright finished steels.
- iii. Metals should be either painted by anti-corrosive paints or covered by a film of oil, grease or mineral holly.
- iv. Black bituminous paint should be applied to cast iron surface exposed to sun and rain.



6. RESEARCH METHODOLOGY

“Gain may be temporary and uncertain; but ever while you live, expense is constant and certain; and it is easier to build two chimneys than to keep one in fuel.”- Benjamin Franklin

In this chapter we will see the methodology adopted, and will analyze the study to be instate to suggest something to company on basis of study conducted at Om Logistics.

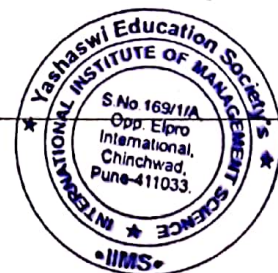
METHODOLOGY

In order to achieve the goals of the third trimester, the following choices were made:

1. **Research Design:** Empirical investigation was the methodology used for the study of Worldwide India Pvt. Ltd.'s Receiving & Handling Of Materials.

2. **Data Collection:** Two types of data were gathered for the empirical investigation: primary and secondary research. Open interviews, conversations, and self-observations of the steps and procedures involved in R&H (Receiving and Handling) were used to conduct secondary research. Additionally, primary data was gathered from respondents' completed questionnaires in order to achieve the third goal.

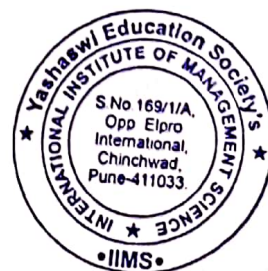
3. **Sampling Technique:** Judgmental Non-Random Sampling was the technique selected for the investigation.



1. **Sample Size:** The sample size selected was 5 Working Shifts.
2. **Sampling Unit:** The sampling unit will be employees of Kalyani Maxion wheel concerned with SCM.
3. **Result analysis:** The project analyzed the supply chain of Kalyani Maxion wheel by going through the standard operating procedure followed in each concerned department of SCM. Then I had analyzed the results of questionnaire applying DMAIC (define, measure, analyze, improve, control) rule. My perspective was to do analysis and find the factors behind delays of dispatches. During this analysis we would be figuring out the main reasons behind the problem stated in objective. The questionnaire designed for this purpose is being categorized department wise so as to find that from whose end the problem can be solved.

DATA COLLECTION FOR SECONDARY STUDY

The data source used for secondary research was open interviews, discussions, self-observations of processes and procedures involved in Receiving & Handling of Kalyani Maxion Wheel.



The steps taken for the study are as follows:

I. Study of supply chain in general

This study was done to get acquainted with the very basics of supply chain. With emphasis on what all department work cross-functionally to achieve successful supply chain management. What are new concern areas of supply chain management these days?

Departments Like:

Receiving department

Team Leaders Roles &

ResponsibilityPackaging

department

Stuffing department

CSR department/Supplier Service Responsibility

II. Study of company structure in respect of supply chain.

The major concerned departments that are part of supply chain of UTI Logistics were studied to develop an understanding of the functions to which they cater and procedure they follow up. This is to acknowledge myself with the processes that are followed up as a standard.



III. Department wise study of Receiving & Handling

Receiving concerns control on quantity and quality of materials from the time they are received until they are accepted and taken into stock.

Receiving is though a clerical operation but is the most important function of stores management, Its importance can be gauged from the following:

- Errors in purchase transaction can be detected more easily at the time of receiving of material rather than afterwards.
- Correctly performed receiving function can prevent malpractices.
- Receiving department can assist purchase department in improving effectiveness of their vendor.

Responsibilities of Receiving Stores:

The receiving stores is charged with following responsibilities:

- 1) Verification of correctness of paperwork and appropriateness of supply before accepting the good.
- 2) Unloading of Material.
- 3) In awarding of the consignment.
- 4) Verification of quantities.
- 5) Informing purchase/indent or/PPC regarding receipt of goods.
- 6) Necessary documents such as discrepancy note, goods inward note, etc.
- 7) Arranging inspection of materials.
- 8) Returning all rejected goods back to suppliers.
- 9) Forwarding accepted materials to appropriate stores for storage.
- 10) Returning all chargeable empties back to suppliers.

To get acquainted with the step wise procedure followed for running supply chain smoothly and for letting smooth running of Warehouse to the demands of customers, dealers, branches etc.



Material Handling:

Material handling moves products before, after or between transportation and warehousing. Material handling activities usually take place within the premises of a warehouse. It is defined as activities, equipment, and procedures related to the moving, storing, protecting and controlling of materials in a system.

In a warehouse, the material is handled at various stages. When the material is received in the warehouse, it is unloaded from the vehicle and kept on the unloading docks. From there, the material is moved to an incoming material area where the material is unpacked, inspected, and sorted. The material is then moved to the storage areas and put away in appropriate storage. When the material in store is required to be delivered to customers, the material is picked from their storage locations as per the customer orders. The materials so collected are taken to order assembly area, where the materials collected as per order wise requirement are packed. The packed material is moved first to the dispatch area and then to the loading docks. Finally, the material is loaded on the vehicles for transportation to the customers.

Dimensions of Material Handling:

All these operations of material handling are concerned with the following four dimensions of material handling.

1. Movement
2. Time
3. Quantity
4. Space



Material Handling Equipment's:

A very wide variety of material handling equipment is available for use in material handling systems. These can be classified in the following five categories.

1. Transport Equipment:

Equipment used to move material from one location to another (e.g., between workplaces, between a loading dock and storage area, etc.). the major subcategories of transport equipment are conveyors, cranes, and industrial trucks. Material can also be transported manually without using any equipment.

2. Positioning Equipment:

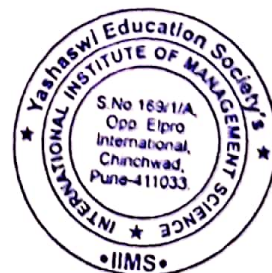
Equipment used to handle material at a single location so that it is in the correct position for subsequent handling, machining, transport, or storage. Unlike transport equipment, positioning equipment is usually used for handling at a single workplace. Material can also be positioned manually using no equipment.

3. Unit Load Formation Equipment:

Equipment used to restrict materials so that they maintain their integrity when handled as single load during transport and for storage. If materials are self-restraining (e.g., a single part or interlocking parts), then they can be formed into a unit load with no equipment.

4. Storage Equipment:

Equipment used for holding or buffering materials over a period of time. Some storage equipment may include the transport of materials (e.g., the S/R machines of an AS/RS, or storage carousels). If materials are block stacked directly on the floor, then a storage equipment is not required.



PROBLEM STATEMENT:

There are inconsistencies in the current inventory management system because it is difficult to synchronize material issuing on the shop floor between the installed system and the physical store. This discrepancy makes it difficult to operate effectively, accurately, and efficiently. Therefore, there is a need to find a way to make physical material movements consistent with the digital inventory management system.



7.PURPOSE:

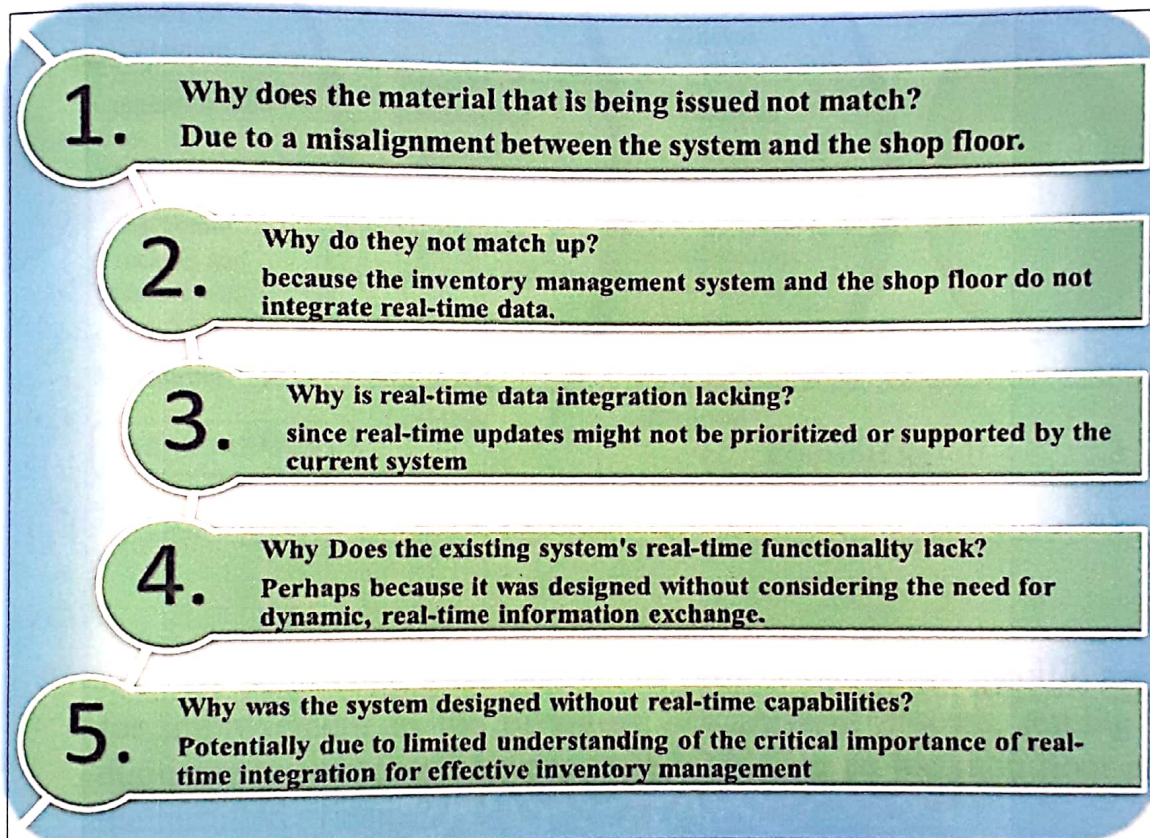
By addressing differences in material issuing on the shop floor compared to the material management system installed, the project aims to improve the efficiency of inventory management. The inaccuracies that result from this misalignment frequently impact production schedules, resource allocation, and overall operational effectiveness.

By putting in place a strong system that connects the inventory management system and the shop floor, the project seeks to synchronize and streamline the material issuing process. This entails implementing sophisticated tracking systems, real-time data integration, and automated alerts to guarantee that the quantities of materials entered into the system correspond exactly to those that are issued floor. The project aims to minimize inventory errors, minimize production delays, and optimize resource utilization by removing the mismatch between material issuance on the shop floor and the system. By avoiding material overstocking or understocking, this improves overall productivity while also reducing costs. Additionally, the project will support a more responsive and agile manufacturing process by providing precise and current insights into material usage trends, which will facilitate better decision-making. In the end, this initiative's successful inventory management will help create a production environment that is more organized and productive.



“WHY WHY ANALYSIS”

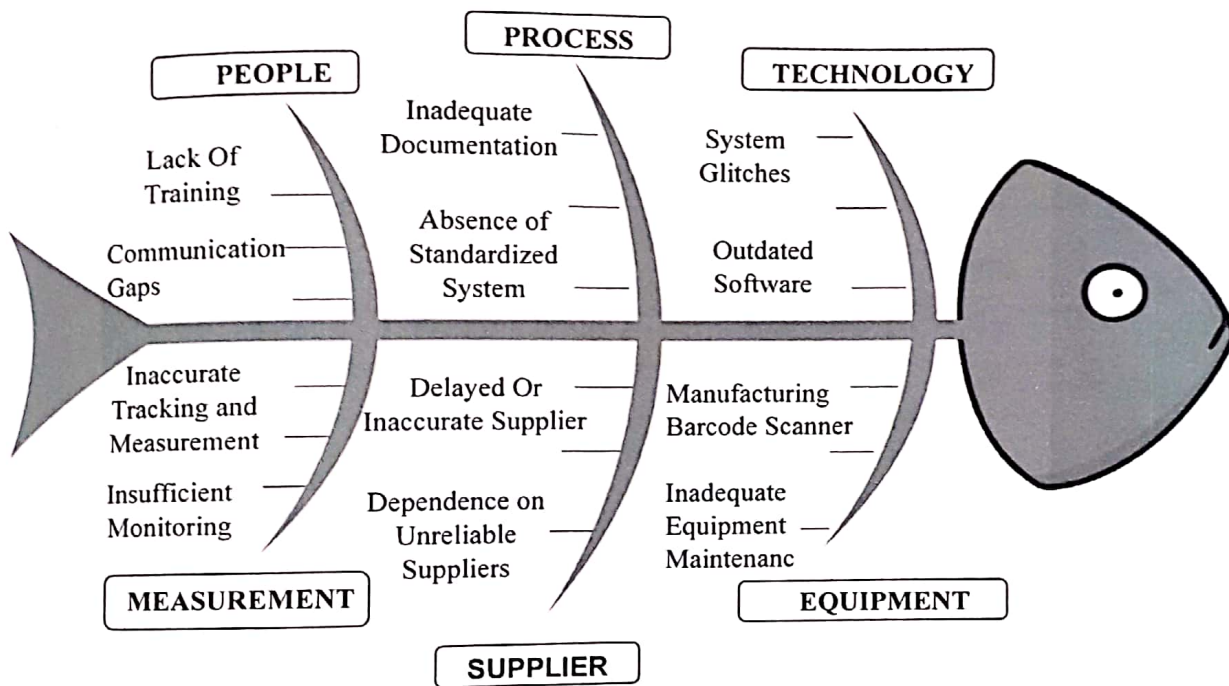
A "why-why" analysis, also known as the "5 Whys," is a method of problem-solving that involves asking "why" repeatedly until the underlying cause of a problem is found. Deeper causes of the issue are revealed when this analysis is applied to the project of removing the discrepancy between material issuing on the shop floor and the system:



By systematically asking "why" at each stage, this analysis helps pinpoint the root causes of the mismatch. In this case, it might reveal issues related to system design, technological limitations, or organizational priorities, guiding the project towards solutions that address these fundamental concerns for a more effective inventory management system

CAUSE-EFFECT ANALYSIS:

FISHBONE DIAGRAM



By addressing these points, the project can target specific areas for improvement in the inventory management process, aiming to eliminate mismatches between material issuing on the shop floor and the installed system.

PROBLEM –

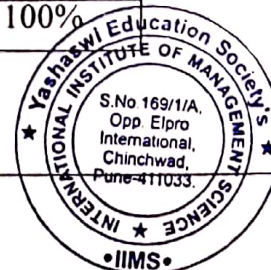
While Managing raw Material actual data and floor remaining material not getting similarity.

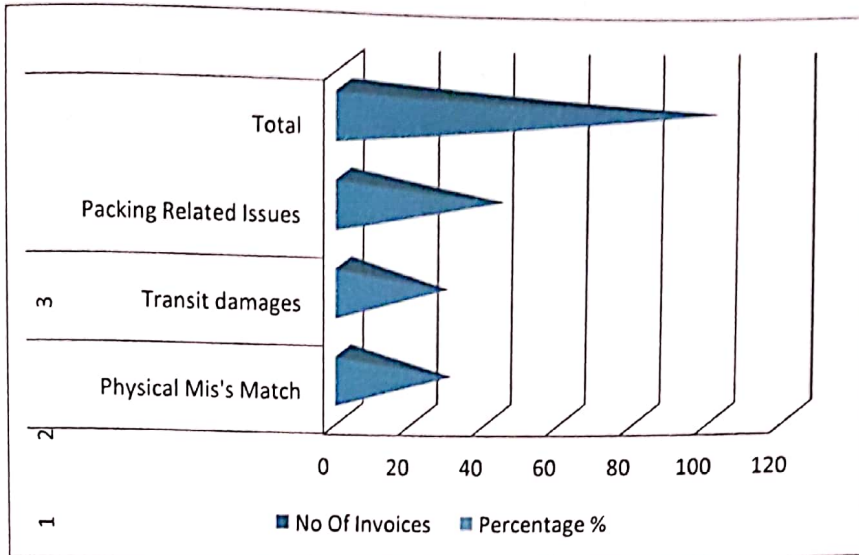
S.No	Items	No Of Responds	Percentage %
1	Quantity	29	29%
2	Transportation Issue	41	41%
3	Physical Miss Match	13	13%
4	Packing Issue	17	17%
	Total	100	100%

Problem faced while audit time

Table No 3

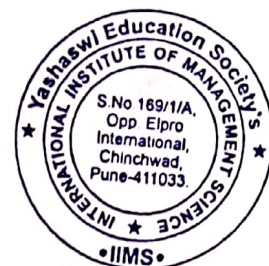
S.No	Items	No Of Invoices	Percentage %
1	Physical Miss Match	29	29%
2	Transit damages	28	28%
3	Packing Related Issues	43	43%
	Total	100	100%





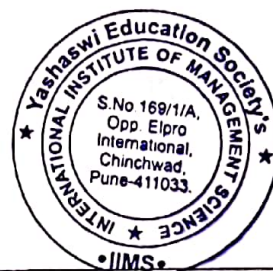
Inference:

From the above table found that 43% of the problem while receiving the material is packing related Issue in the warehouse and the 29% of the problem is Physical Miss Match and finally 28% of the problem is Transit damage.

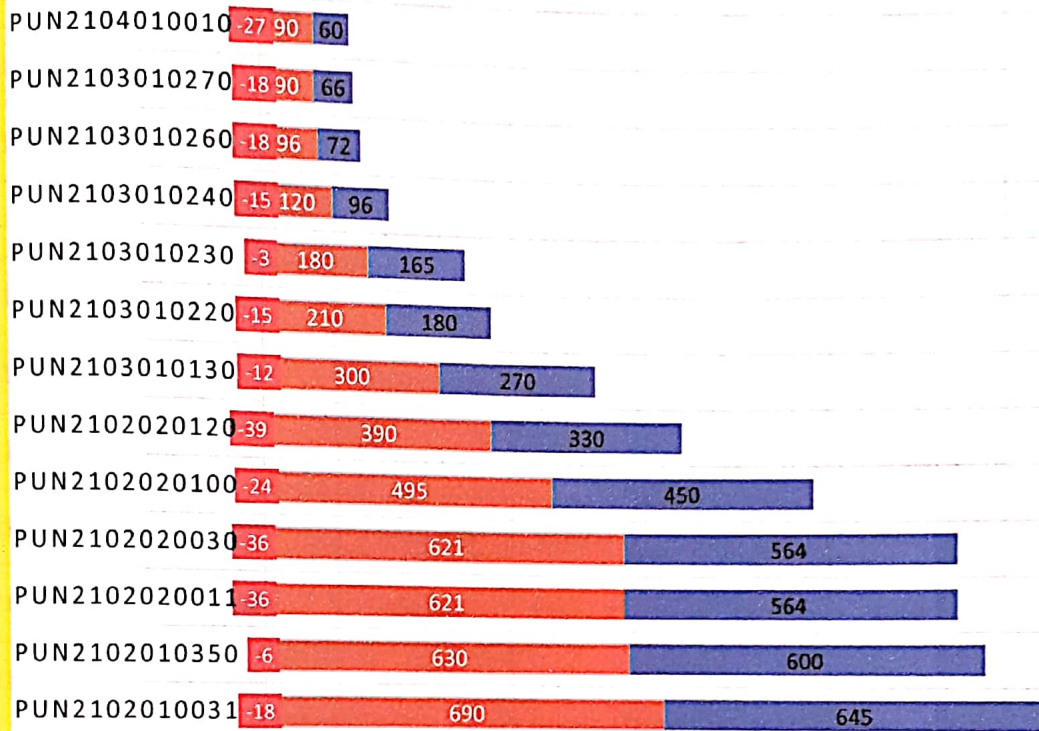


SAMPLE RUN FOR 5 WORKING SHIFTS

Material Code	Count of Mat. Issued	Count of Production Order	Rejection	Return	Deviation in Material Movement
PUN2102010031	690	645	27	0	-18
PUN2102010350	630	600	24	0	-6
PUN2102020011	621	564	21	0	-36
PUN2102020030	621	564	21	0	-36
PUN2102020100	495	450	21	0	-24
PUN2102020120	390	330	21	0	-39
PUN2103010130	300	270	18	0	-12
PUN2103010220	210	180	15	0	-15
PUN2103010230	180	165	12	0	-3
PUN2103010240	120	96	9	0	-15
PUN2103010260	96	72	6	0	-18
PUN2103010270	90	66	6	0	-18
PUN2104010010	90	60	3	0	-27
Total	4533	4062	204	0	-267



MATERAIL MOVEMENT ANALYSIS (5 SHIFTS)



- Count of Mat. Issued
- Count of Production Order
- Deviation in Material Movement

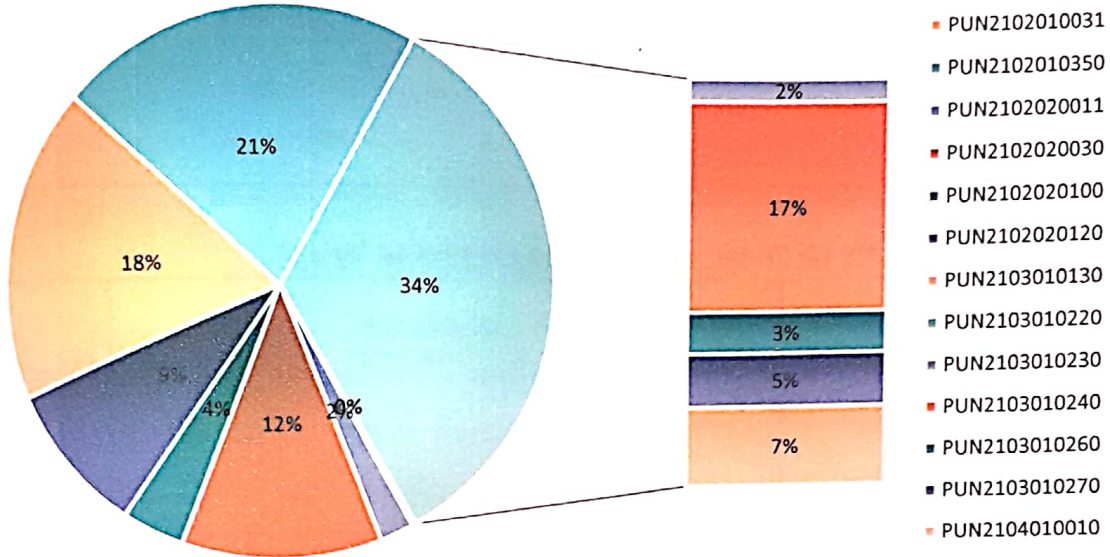


Cost Of Material

Material Code	Count of Mat. Issued (Nos.)	Cost per Piece (Rs.)	Total Cost (Rs.)	Deviated Material (Nos.)	Deviation Cost (Rs.)
PUN2102010031	690	7.680	5299.2	18	138.24
PUN2102010350	630	7.680	4838.4	6	46.08
PUN2102020011	621	139.950	86908.95	36	5038.2
PUN2102020030	621	828.000	514188	36	29808
PUN2102020100	495	328.000	162360	24	7872
PUN2102020120	390	1024.200	399438	39	39943.8
PUN2103010130	300	2705.700	811710	12	32468.4
PUN2103010220	210	4440.000	932400	15	66600
PUN2103010230	180	453.540	81637.2	3	1360.62
PUN2103010240	120	6395.000	767400	15	95925
PUN2103010260	96	1606.180	154193.3	18	28911.24
PUN2103010270	90	2210.000	198900	18	39780
PUN2104010010	90	3280.000	295200	27	88560
Total	4533	23425.93	4414473	267	436451.58



Material Cost Deviation



RAW MATERIAL UNLOADING SLIP :

**GIVEN AS PER SPECIFICASTIONS OF TC (Heat no.,
coil no.Wt. of malt. & no. of pcs.)**

RAW MATERIAL UNLOADING SLIP						
VEC.NO	SUPPLIER	MATERIAL DESCRIPTION	NO. PLATES	HEAT NO.	COIL NO	QTY IN MTON

(-----)
STORE SIGN

(-----)
UNLODED BY



8.FINDINGS

1.Current Data Accuracy Situation:

Human error and insufficient real-time monitoring systems are the main sources of data accuracy issues.

Incomplete records are the reason for discrepancies between recorded and real data on the production floor.

2.Difficulties with Communication and Integration:

Inadequate departmental communication, particularly between the teams in charge of inventory, production, and logistics, is the cause of the disparity between recorded data and floor inventory.

When there are gaps in system integration, information cannot flow between inventory management and production planning smoothly.

3.Technology Gaps in Tracking and Monitoring:

A major obstacle to real-time material movement tracking is the absence of advanced tracking technologies such as RFID or barcode systems.

Inadequate utilization of sensors and Internet of Things devices hinders continuous observation and postpones anomaly detection.

LEARNING FOR DATA ANALYTICS AND ANOMALY DETECTION

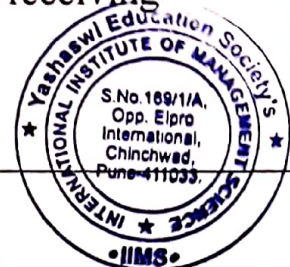
Time constraints and the manual audit process:

Longer audit times are a result of using manual audit processes.

Audits can interfere with routine production processes and take a lot of time.

Programs for employee incentives and training:

Inaccuracies are a result of staff members handling data not receiving enough training.



ACHIEVABLE INVENTORY MANAGEMENT ACTION PLAN:

1.Comprehensive System Audit:

Perform an exhaustive audit of the current material management system to find areas that need improvement, out-of-date software, and deficiencies.

2.Implementation of Real-time Integration: -

Modernize the system to enable real-time data integration between the inventory management system and the shop floor. Assure effective communication to provide precise and timely updates.

3.Training Programs:

Create and carry out training courses that teach shop floor staff precise data entry techniques, stressing the value of timely and accurate information.

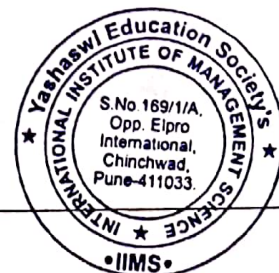
4.SOPs: Standard Operating Procedures:

Create and disseminate precise SOPs for the issuance of materials, detailing standardized procedures and best practices to cut down on errors.

5.Technology Upgrades: Make an investment in technological upgrades to overcome system constraints and guarantee that the system has the features required to facilitate effective material management.

6.Automated Validation Checks: Include automated validation checks in the system to reduce the chance of discrepancies, give quick feedback, and minimize manual data entry errors.

The results emphasize the necessity of an all-encompassing strategy to improve raw material management. Industries can ensure efficiency and consistency by aligning actual data with floor inventory, leveraging advanced technologies, and addressing communication challenges and data accuracy. By putting the suggested tactics into practice, audit times will be shortened and the raw material management system will become more responsive and agile.



9. SUGGESTIONS

Future Suggestions:

1. Ongoing Enhancement:

By routinely assessing system performance, examining important metrics, and making additional improvements in response to changing requirements and emerging technologies, you can keep your attention on continuous improvement.

2. Employee Development:

To guarantee that the workforce is adequately prepared to tackle changing challenges in inventory management, keep funding employee development initiatives.

3. Technology Upgrades:

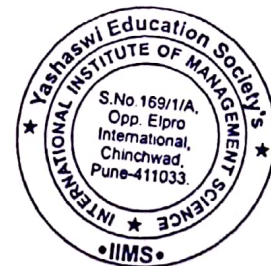
Remain current with the latest developments in inventory management systems, and think about doing recurring upgrades to take advantage of new features that have the potential to further streamline procedures.

In summary, the project has successfully eliminated material issuing mismatches and set the groundwork for a more robust and effective inventory management system. The organization is positioned for long-term success in inventory management due to its dedication to continuous improvement and teamwork.



10. CONCLUSION OF THE STUDY

The company can achieve accuracy and sustainability in its operations by integrating cutting-edge tracking technologies and software solutions to address the inconsistencies in the inventory management system. Process simplification will lead to increased productivity, lower operating expenses, and better decision-making skills. In addition to fixing current inconsistencies, this project will set the stage for a more accurate and robust inventory management system, which will support the organization's long-term viability and success.



11.RESULTS:

1. Lessening of Mismatches:

The project has effectively decreased the number of material issue mismatches, which has improved inventory record accuracy and minimized production schedule disruptions.

2.Enhanced Effectiveness:

The material issuing process is now more efficient overall, leading to more seamless operations and better resource use thanks to real-time data integration and automated validation checks.

3.Improved Decision-Making:

Accurate and current insights into material usage trends have given management the knowledge they need to make better decisions, which has helped to make the manufacturing process more responsive and agile.

The results emphasize the necessity of an all-encompassing strategy to improve raw material management. Industries can ensure efficiency and consistency by aligning actual data with floor inventory, leveraging advanced technologies, and addressing communication challenges and data accuracy. By putting the suggested tactics into practice, audit times will be shortened and the raw material management system will become more responsive and agile.



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