

# INVENTORY MANAGEMENT SYSTEM OF BENGAL POLYMER WARES

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Subject: Submission of Internship Report on “Inventory Management System of Bengal Polymer Wares Limited.”

Dear Sir,

With due respect, I would like to inform you that this is the internship report which was assigned to me. The internship report is prepared as titled “Inventory Management System of Bengal Polymer Wares Limited.”

In this internship report I have tried my best to make it a good one but because of time and other constraints there may be some human error and mistake for that I feel sorry from my heart.

If any assistance is required to clarify any point I will be happy to assist.

Thank you for your time and kind consideration.

Yours sincerely,

Sultan Salah Uddin

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# Acknowledgement

The internship program about Inventory Management conferred on me; helped me a lot to understand the overall situation of Bengal Polymer Wares Limited. I thank Allah the almighty for bestowing me with His blessings and enabling me to complete our assigned task without much encumbrance.

I do hereby express my deepest thanks and appreciation to our honorable DGM **Hasan Shahid Sarwar** I also thanks to my honorable supervisor **Sharmin Shabnam Rahman** for giving me her valuable time and sincere guidance.

I am indebted to MD Ali Akram (Manager) and others officers, who has provide required information, necessary assistance, valuable suggestion and advice through their long working experience and intellectual effort to prepare this report.

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## **Executive Summary:**

Bengal Polymer Wares Limited is one of the oldest plastic manufacturing organizations of Bangladesh. It is producing quality product and distributing them all over Bangladesh. To match their commitment towards the quality they have taken absolute trust as their branding. Like other manufacturing organization Bengal collect their several types of raw materials from different places of home and abroad. No wonder Inventory management has become one of their important and critical issues. To produce their products they need 130 to 150 raw materials-direct or indirect. To gain control over inventory management they identify seven core activities to be performed and those are inventory receipts, inventory issue, finished goods received, finished goods dispatch, inventory cycle count and reconciliation, finished goods return, physical storage management. Though monitoring these they get fair amount of control over inventory management, they still have other issues to deal with. They purchase most of their raw material from abroad and so they need open L/c and do other formalities related to import. These and the distance of the supplier and other issues like lack of coordination and planning cause Bengal a lengthy lead time and it increases their cost and force them to have a higher safety stock. On the other hand as Bengal Polymer Wares are using a warehouse which is also used by other sister concern of Bengal Group. As a result they could not able to calculate their separate carrying cost for their inventory and it prevents them from calculating economic order quantity. On the other hand as they face criticality regarding the warehouse they could not able to treat warehouse expense as it should be. On the other hand they value finished goods inventory on selling price for the sake of simplicity. As a result they need to wait till the end of the accounting period to know the value of their actual inventory. However their internal control over inventory is very impressive as they use almost fully automated method to trace their inventory. Their practice regarding safety stock and reordering point is absolutely spot on. It would be more beneficiary for Bengal Polymer Wares if they could separately recognize their expense for ware house and allocate them properly. This will help them to calculate their economic order quantity. More coordination and importance on cash flow statement should be given so that Bengal can avoid any unusual losses regarding inventory import.

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## 1 INTRODUCTION

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## **1.1 BACKGROUND:**

To complete BBA in BRAC University a student required to do internship to acquire practical knowledge and have an experience in corporate world. To complete internship one needs to work in an organization for ten to twelve week. One need to choose a topic related to the organization and then he need to examine the existing practice in the organization and their pros and corns. Then he needs to submit a paper stating his job responsibility during the period and the existing practice in the organization on the chosen topic and analysis on the existing practice.

To choose a topic I asked for the manager account to provide some issues which are critical and are a concern for Bengal Polymer Wares. I also look for some issues. He and me first find some issues and then shorten the list for three. Those are:

- Internal control
- Calculation of Cost of Goods Sold
- Inventory Management.

Internal control is an issue that is causing some minor problem in Bengal Polymer Wares. There facing some problem with tracing orders while an order is referred back from the distributors. But we did not choose it as while working in there I came to know a lot about their internal control and it is not as much accounting related as the other two topics are.

Calculation of cost of goods sold and Inventory management both were interesting to us and are very much critical for a production oriented organization and both are very much related with accounting. As inventory management will cover a fair amount of issues of cost of goods sold calculation I choose Inventory Management of Bengal Polymer Wares Limited as my topic after getting consent from both on field and university supervisor.

## **1.2 SCOPE:**

In this paper I am considering the practice of Bengal Polymer Wares Limited and analyzing the data provided by the organization. The analysis and recommendation done with in this report are applicable only for Bengal Polymer Wares Limited given that they are operating strategy, procedure remain same and the operating scale remain with the relevant range at the time of preparing the paper. Hence it may not be applicable for other plastic manufacturing organization within or outside Bangladesh.

## **1.3 OBJECTIVE:**

### **1.3.1 GENERAL OBJECTIVE:**

The objective of this paper is to relate the theoretical academic knowledge with existing practice in the real world and to know about the inventory management system of Bengal Polymer Wares Limited

### **1.3.2 SPECIFIC OBJECTIVE:**

- To know about the way they purchase their raw materials
- How raw material flow within the factory
- How they are valued

#### **1.4 METHODOLOGY:**

It is a descriptive research by nature and data has been collected from both primary and secondary sources.

For primary sources I talk with the employees of Bengal Polymer Wares how are actually performing the task of inventory management. Most of these discussions were informal. I also go through L/c documents and other related paper to collect information.

As secondary resources I mainly depend on web side of Bengal Polymer Wares Limited.

#### **1.5 LIMITATION:**

Inventory management is an issue highly related with factory. But I could not able to visit the factory site and I also could not visit the warehouses. So I need to fully depend on the information given by the employee of corporate office.

To know about inventory management system I need to discuss with the procurement department but this I could not manage.

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## 2 COMPANY OVER VIEW

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## **2.1 BACKGROUND:**

Bengal Group started back in 1969. Morshed Alam started the operation with just a single hand operated injection molding machine in a rented premise in old Dhaka. For liberation war he needed to take a break. After liberation he started to produce full pledged production of Jute & Textile Spare Parts, which were used to import from India and Europe. In 1978 he started producing household utensils such as plastic Jug, plate and other plastic domestic wares. This is basically the start of Bengal Polymer Wares Limited.

The important dates in the history of Bengal Group are:

1969

- Started operation with a single hand operated plastic injection molding machine in a rented premise in the old Dhaka by Morshed Alam.

1971

- After independence of Bangladesh in 1971, started full pledged production of Jute & Textile Spare Parts, which were used to import from India and Europe.

1978

- Manufactured household utensils such as plastic Jug, plate and other plastic domestic wares.

1980

- Bengal Adhesive and Chemical Products manufactures adhesives for various industrial usages such as wooden furniture industry, shoe industry, lather industry and others.

1981

- Registered Bengal Plastic Industries Ltd. as limited company with the Joint Stock Company, Dhaka, Bangladesh.

1991

- Introduced Plastic Apparel Hangers in Bangladesh for 100% export oriented garment industries for exporting to the U.S.A. and the EU.

1993

- Approved by Coca-Cola Export Corporation, Atlanta, Georgia, USA to manufacture Molded Bottle Crates for Coca-Cola for the territory of Bangladesh

1994

- Became the licensee manufacturer of Batts Inc., Michigan, USA, which later acquired by A&E Products Group LP- a TYCO International Limited Company.

1994

- A&E Products Group is the largest apparel hanger manufacturer in the world with more than 50 distribution centers in over 28 countries.

1995

- Bengal Overseas Corporation Ltd., - imports and exports various products to/from Bangladesh. It is now successfully representing leading global industrial brands in Bangladesh, such as Rinnai Japan, Cornelious UK, Crown Cork & Seal USA, Videojet USA, and Linnex USA.

1998

- Became the licensee of Scheoller Wavin System, Germany- the leading manufacturer and designer of Bottle Crates for Coca-Cola, Pepsi-Cola and other major soft drinks with licensees and production partners in more than 50 countries in the world.

1998

- Founder Chairman- Morshed Alam awarded CIP (Commercially Important Person) by the Government of Bangladesh (GOB) for our contribution in the economy.

1999

- Grew up as the largest plastic processing plant in Bangladesh with 72 Injection Molding Machines capacity from 250 tons to 1600 tons consuming more than 250 tons of raw materials each day.

1999

- Initiated an expansion plan of US \$5 million for installing the single largest production facility at Zerabo, Savar, Dhaka - 15 km away from the Dhaka International Airport with 20 acres of land area and 120,000 square feet of production area along with 36 units of Injection Molding Machines, 4 film extruder machines, a set of printing and converting machines for manufacturing garment hangers, poly bags, packaging tapes, and strapping bands. The plant is completed on April 2000.

2000

- Acquired a Chinese plastic factory (Build-up Plastics BD Ltd.) with 12 injection molding machines in Dhaka Export Processing Zone, Bangladesh for a price of US \$2 million, later named as Bengal Build-up BD Ltd.

2000

- Mr. Jashim Uddin, Director of the Company awarded CIP (Commercially Important Person) by the Government of Bangladesh (GOB)

2001

- Power Utility Bangladesh Ltd.- an energy company to contribute in the power sector to meet the country's fastest growing demand for electricity by installing power plants at strategic locations in Bangladesh.

2002

- Bengal Poly & Paper Sack Ltd. - PP Woven Sacks manufacturing industry at Tongi, Gazipur, Bangladesh with a capacity to produce 200,000 woven sacks of different types. The company is meeting the demand of cement industries, fertilizer industries, and poultry/fish feed industries by supplying quality woven sacks.

2002

- Bengal Plastic Industries Ltd. received ISO 9001:2000 certification for quality management system and ISO 14001 certification for environmental system. Bengal Plastic is the only company in Bangladesh having both the certifications.

2003

- Added Molded Furniture in the production fleet by manufacturing 12 different types of plastic chairs, 4 types of plastic tables, and other large molded products.

2003

- Bengal Corrugated Carton Industries Ltd.- a packaging unit to produce corrugated cartons to supply to the entire Group companies with a capacity of 50,000 pieces of cartons of different sizes each day. Now, it is fulfilling all the demand of our entire sister companies.



2004

- Acquired Rahmania Biscuits & Bread Industries Ltd. A biscuits making factory located at Noakhali, Bangladesh. The plant is capable of making soft biscuits with a capacity of 500 kg per hour. Later named as Romania Food & Beverage Ltd.

2004

- Bengal Agro Estate Ltd. aim to process fruit and vegetables to meet the country's growing demand and to export to other countries. Recently, the company allotted 100 acres of land in Gazipur from the Government of Bangladesh (GOB) to grow and process different types of vegetables and fruits.

2004

- Bengal Concept & Holdings Ltd.- a development and construction company established to develop large-scale construction projects mainly high raised buildings, shopping malls, super markets, residential apartments and plots. Currently it took a project named 'Golden Bengal' a 20-storied mixed-type construction on a 1.25 acres of land in the posh area of Dhaka City with a cost of US \$25 millions.

2004

- Hamilton Metal Corporation Ltd.- manufacturer of metal hooks and clips for apparel hangers of other Group companies. The plant is installed with four bending and forming machines with a fully automatic electroplating line. Installed capacity to produce 500,000 pieces of metal hooks and 800,000 pieces of metal clips per day.

2005

- Acquired Polycord Ltd.- a flexible packaging unit at Savar, Dhaka producing various packaging materials for food & beverage, pharmaceutical, detergent, and others industries.

2005

- Bengal Windsor Thermoplastics Ltd.- an injection-molding unit at Dhaka Export Processing Zone received ISO 9001:2000 certification for quality management system (QMS).

2006

- Bengal Concept & Holdings Ltd. initiated 20-storied 'Bengal Tower' at Motijheel- the financial hub in Dhaka City with a land area of 12,000 square feet and total caste area of 184,000 square feet including three basements car parking.

2007

- Acquired National Television Ltd., (RTV)- a Bengali satellite television station broadcasting 24 hours news and programs contents with a foot print in Asia, Middle east, Australia and New Zealand. It is also distributed in the USA on Dish Network at channel 805

2008

- Bengal Plastic Industries Ltd., received DHL-Daily Star Award
- Bengal Polymer Wares Ltd. received ISO 9001:2008 and ISO 14001:2004 certification for quality management system and environmental system certifications.

2009

- Bengal Plastic Industries Ltd. received 'National Export Trophy' (Gold) for 2007-2008.

2009

- Bengal Polymer Wares Ltd. re-launched Houseware products in the name of 'Bengal' brand with 160 SKUs in 17 different categories. The products are distributed all over the country through more than 200 distributors and exporting to India, Myanmar, Canada, UAE, EU, and USA

2010

- 'Bengal' - Received Superbrands Award- Superbrands

2010

- Romania Food & Beverage received ISO 22000 certification for food safety management system. ISO 22000 write up

2011

- Bengal Plastic Pipes Ltd- to produce various sizes uPVC & HDPE pipes and uPVC door and door profile. Starting commercial operation in April 2011.

**Bengal Polymer Wares Ltd.** is a company of Bengal Group of Industries. Today Bengal Group is one of the largest companies representing Bangladesh in global arena. Every day they process 2500 metric ton of raw materials in production and we are the oldest plastic company in Bangladesh.

## **2.2 VISION, MISSION AND GOAL:**

### **2.2.1 VISSION:**

The vision of Bengal Polymer Wares Limited is “to be the best leading company in our industry and to deliver total quality goods and services to all of our Customers.”

### **2.2.2 MISSION:**

The mission of Bengal Polymer Wares Limited is “to strive continuously to exceed customers' expectations for achieving unlimited excellence by providing greater value to our customers than our competitors.”

### **2.2.3 GOAL:**

The goal of Bengal Polymer Wares Limited is “to be the best company in our industry and it is our policy to deliver total quality goods and services to all of our customers. We accomplish this by adopting a set of quality policy throughout the organization.”

## **2.3 INSIGHTS OF BENGAL POLYMER WARES:**

### **2.3.1 CORE VALUES**

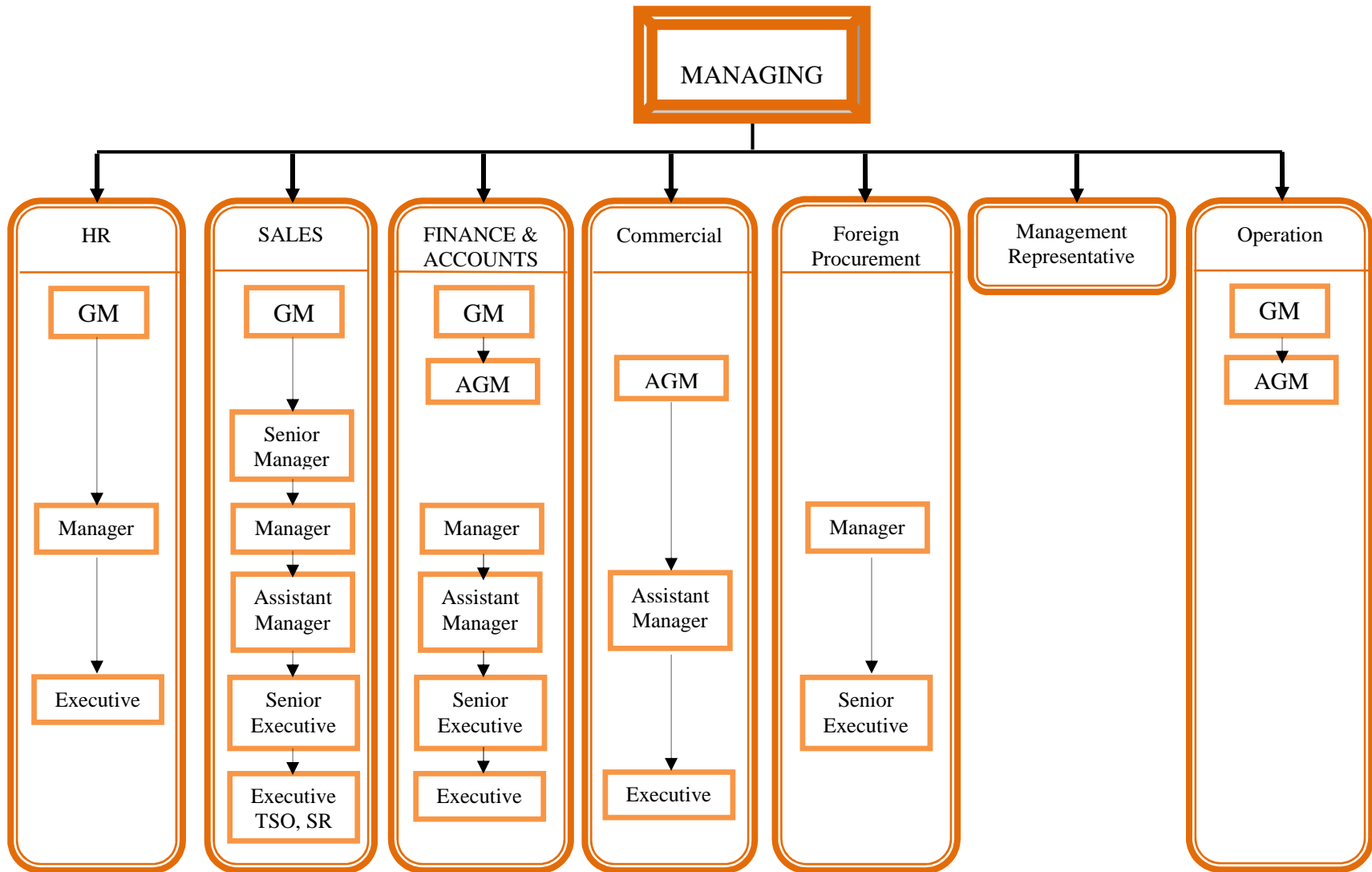
- Integrity Team work
- Excellence
- Accountability

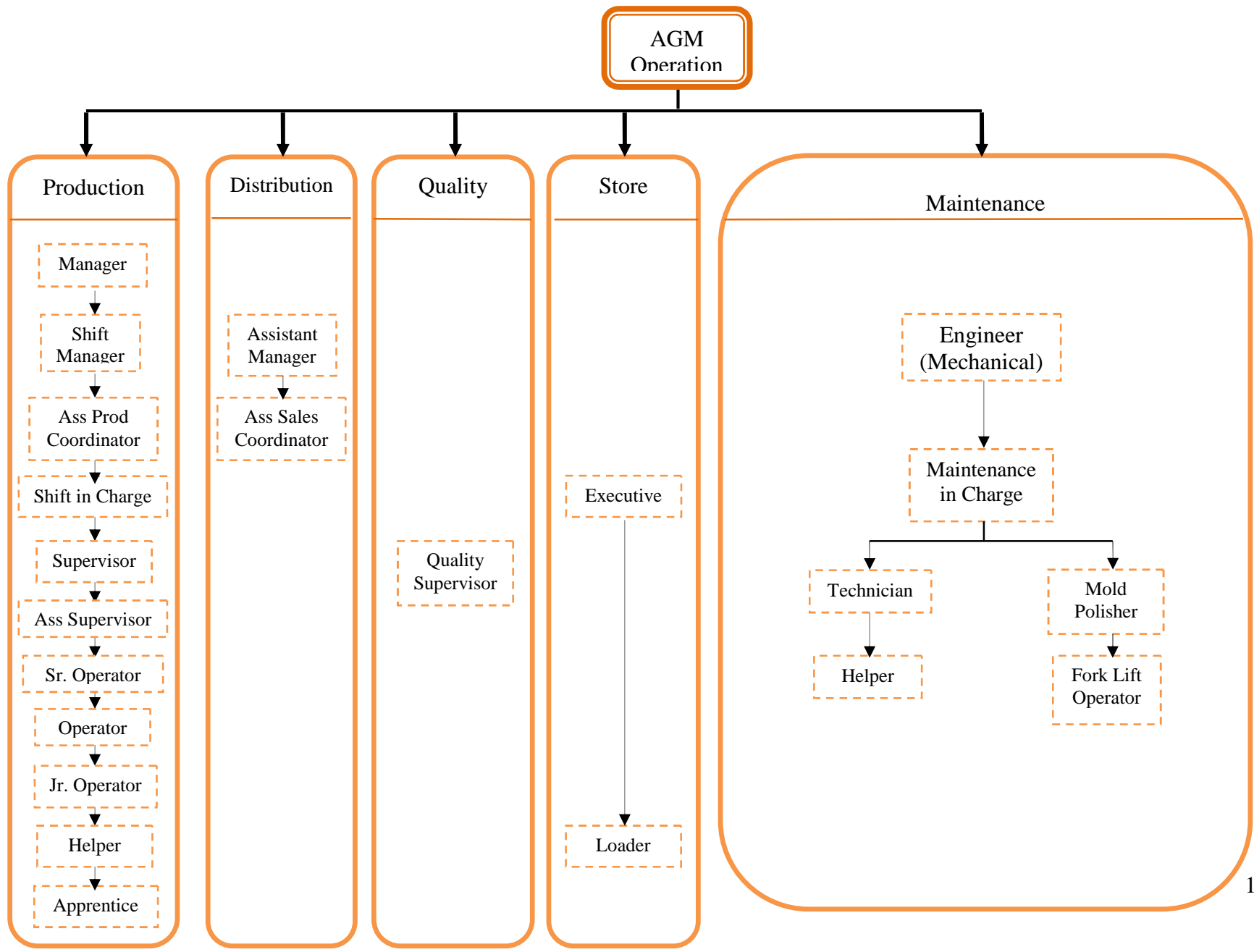
Their employees play a vital role in ensuring the success of their daily business activities. Every employee, manager and director throughout the organization adhere their core values of Integrity, Teamwork, Excellence and Accountability. These values are also the basis on which they build the trust and integrity that allow their businesses to continue to succeed.

### **2.3.2 COMMITMENT**

Bengal Polymer Wares Limited do not just talk about the quality of their products, they are also committed to it. They accomplish this by operating and maintaining modern and efficient state-of-the-art production plants accredited with ISO 9001:2008 & ISO 14001:2004. In B2C market they have 30 categories product containing 180 SKU and in B2B market they have 2 categories product in 50 SKU.

## 2.4 ORGANOGRAM:





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### 3 THEORITICAL BACKGROUND AND LITERATURE REVIEW

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Effective inventory management is all about knowing what is on hand, where it is in use, and how much finished product results.

Inventory management is the process of efficiently overseeing the constant flow of units into and out of an existing inventory. This process usually involves controlling the transfer in of units in order to prevent the inventory from becoming too high, or dwindling to levels that could put the operation of the company into jeopardy. Competent inventory management also seeks to control the costs associated with the inventory, both from the perspective of the total value of the goods included and the tax burden generated by the cumulative value of the inventory.

Balancing the various tasks of inventory management means paying attention to three key aspects of any inventory. The first aspect has to do with time. In terms of materials acquired for inclusion in the total inventory, this means understanding how long it takes for a supplier to process an order and execute a delivery. Inventory management also demands that a solid understanding of how long it will take for those materials to transfer out of the inventory be established. Knowing these two important lead times makes it possible to know when to place an order and how many units must be ordered to keep production running smoothly.

Calculating what is known as buffer stock is also key to effective inventory management. Essentially, buffer stock is additional units above and beyond the minimum number required to maintain production levels. For example, the manager may determine that it would be a good idea to keep one or two extra units of a given machine part on hand, just in case an emergency situation arises or one of the units proves to be defective once installed. Creating this cushion or buffer helps to minimize the chance for production to be interrupted due to a lack of essential parts in the operation supply inventory.

Inventory management is not limited to documenting the delivery of raw materials and the movement of those materials into operational process. The movement of those materials as they go through the various stages of the operation is also important. Typically known as a goods or work in progress inventory, tracking materials as they are used to create finished goods also helps to identify the need to adjust ordering amounts before the raw materials inventory gets dangerously low or is inflated to an unfavorable level.

Finally, inventory management has to do with keeping accurate records of finished goods that are ready for shipment. This often means posting the production of newly completed goods to



the inventory totals as well as subtracting the most recent shipments of finished goods to buyers. When the company has a return policy in place, there is usually a sub-category contained in the finished goods inventory to account for any returned goods that are reclassified as refurbished or second grade quality. Accurately maintaining figures on the finished goods inventory makes it possible to quickly convey information to sales personnel as to what is available and ready for shipment at any given time.

In addition to maintaining control of the volume and movement of various inventories, inventory management also makes it possible to prepare accurate records that are used for accessing any taxes due on each inventory type. Without precise data regarding unit volumes within each phase of the overall operation, the company cannot accurately calculate the tax amounts. This could lead to underpaying the taxes due and possibly incurring stiff penalties in the event of an independent audit.

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## 4 JOB RESPONSIBILITY

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#### **4.1 TAGGING SALES ORDER:**

When I started my internship my first responsibility was to tag the sales order in the ERP. Territory sales officers around Bangladesh collect demand draft and payment receipt from the distributors and they send these demand draft and payment receipt through courier service and email or fax their order to distribution section in corporate office. Distribution receives the orders and put rates of products in it. After that they allocate free product on the volume according to company rules and then discount the gross amount by company determined percentage. Then General Manager approves the sales order. After approval these sales order are sent to accounts section for tagging and posting.

My responsibility was to check whether the rates are correct or not. If the volume of a product meets the criteria then the rate of that product will be reduced for furniture product. On the other hand if it is a household then distributor or seller will receive free product on the basis of the volume. I also required to check whether the free product are given correctly or not. Another thing I need to look for is whether the order value matches the demand draft amount or cash receipt amount or not. If the demand draft or cash amount is significantly below the order value then I need to make query about the reason and inform the assistant manager.

If I found every in perfect position then I will tag the order in the ERP and only after being tagged an order is visible at factory end.

#### **4.2 SALES ORDER POSTING:**

After sales order being tagged it is also been posted in the ERP. This function is required to recognize the cash or demand draft received against different account receivables. In the ERP the bank account is been debited by default. We just need to select the bank account on which we have deposited the money. Then we need to decide the credit side. For sales order we credited our sellers. For that we need to select the party first. Then we need to provide the details about the type of their payment. Whether they have deposited cash or send us demand draft. For cash we need to enter the bank name and account number where the amount has been deposited, the date of deposit and the amount along with sales order number. For demand draft we need to enter the bank name, demand draft number, date and amount with

the sales order number. Then finally we enter the amount for which the party will be credited. Once these all is done we command ERP to save the transaction. After that we write down the credit voucher number from the ERP on the sales order and thus the posting of sales order is completed.

### **4.3 RECOGNITION OF YEARLY SALES OF DISTRIBUTORS:**

The ERP system which Bengal is using cannot recognize the amount of sales each distributor or seller is lifting. The main reason behind this is that they often get incentives on the amount of the sales they are lifting and these incentives are credited on their account. Another thing is that whenever any sold product is returned it is also been credited on respective parties account. So when ERP calculate total sales lifting by any particular distributors or sellers account it considers both the incentive and return amount which are not sales. So we need to manually calculate the amount of sales lifting by a particular party in a given period time. To do that, we command ERP to manipulate the ledger of a particular party for a given period of time. Then we manually calculate the total amount of incentive that party has received within that period and then calculate the total amount of sales return and add both of them. After that we deduct the amount from the total credit amount and thus we calculate the total amount of sales lifted by that particular party. Finally we assign the percentage according to the amount of sales which that party will receive on the total amount of sales they are lifting.

### **4.4 BANK RECONCILIATION STATEMENT:**

Top management of Bengal Group emphasizes on bank reconciliation statement more than anything else in accounts related activities. It is been internally audited in every month and if any unit have a updated bank reconciliation statement then it is deemed that the unit is updated in other related accounting activities. As a result of these manager accounts of Bengal Polymer Wares give outmost priority on bank reconciliation statement.

Generally cash is received from sales or other ways it is been entered in the ERP as Bank been debited and the head of income or the party which is paying is been credited. After that the demand draft or cheque is deposited in the bank account. After being deposited bank try

to make these instrument liquid. Bank required some time to perform these. Often cheques are bounced as well.

On the other hand when cheque is disbursed bank account is credited and the particular party is debited in the ERP for the amount being paid. These cheques often take time to be presented in the bank and actually disburse the amount from the bank.

Bank sends day to day bank statement to Bengal Polymer. According to this statement, entries in ERP are tagged as clear. Entries that are not in the statement remained uncleared. At the end of the month when bank reconciliation process the first thing we need is the closing balance of the period. ERP could not generate that. So we command ERP to manipulate the ledger of a bank account for the month, which includes both cleared and uncleared entries. Then we add all the receipts with the beginning balance and then deduct all the payments and thus we generate the closing balance of the bank in our book.

Then we generate the balance of all uncleared payments (outstanding cheque) and add the amount with the closing balance of our book. Although it is not theoretically correct but Bengal follow this practice. They aim to match their balance with the balance of the bank. One the other hand if any third party deposit any amount without any concern of Bengal then it also been added with the book balance. After that if any error incurred, then to make that correct necessary amount is been added. On that period if Bengal receives any interest then it is also been added.

On the other hand if any cheque remains uncleared at the bank's end then it is been deducted from the book. Then if bank deduct any interest of charge is also been deducted. Finally if any error incurred within the period, to compensate that necessary amount is deducted.

Thus the bank reconciliation statement comes to its final Balance.

But Bengal faces difficulty in the month of February as at 11<sup>th</sup> of February they updated their ERP and for some reasons they did not performed cutoff properly. As a result some entries before 11<sup>th</sup> February recorded in the old ERP as it should be and some entries after 11<sup>th</sup> February recorded in the old ERP which should be in the new ERP. On other hand some entries before 11<sup>th</sup> February are recorded in the new ERP which should be in the old ERP and some entries after 11<sup>th</sup> February are recorded in the new ERP as it should be.

As a result of this while preparing balance reconciliation statement it becomes difficult to trace entries. To solve this I ordered ERP to manipulate data of February twice, once for old ERP and other for new ERP. Once I have those two set of data I merge it together and then reconcile the bank statement.

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5 INVENTORY MANAGEMENT SYSTEM OF BENGAL  
POLYMER WARES

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## **5.1 ACTIVITIES OF RAW MATERIAL INVENTORIES AND IT'S PARTICIPANTS:**

Inventories are significant moveable assets specially for manufacturing organization like Bengal Polymer Wares limited. These represent a huge portion of assets for Bengal and directly affect working capital requirement. Not only that it is necessary to manage inventory ensure uninterrupted supply and keep the cost of raw material as low as possible.

The components of Inventories are:

- Raw Materials
- Finished Goods
- Semi Finished Goods
- Work in Progress
- Spare Parts
- Re Useable Goods

The activities that are involved in inventory management are:

1. Inventory Receipts
2. Inventory Issues
3. Finished Goods Receiving
4. Finished Goods Dispatch
5. Inventory Cycle Count and Reconciliation
6. Finisher Goods Return
7. Physical Storage Management

These activities are mainly performed by:

- Store Manager
- Operation Head
- Store Officer
- Procurement
- Supplier
- Security



The activities involving inventory management are described below:

### **5.1.1 INVENTORY RECEIPTS:**

On arrival of vehicle loaded with inventory participants perform the following activities:

#### **Security Guard**

- Enter the registration number of vehicle in the movement register maintained in the gate
- Record the time of entry of every challan
- Enter the incoming challan information in movement register.

#### **Store Officer**

- Receive all kinds of incoming inventory.
- Check the quantity/weight of items, which are to be received and reconcile with invoice/challan.
- Inform the store Manager any kind of discrepancy
- Inform the store Manager once the receiving of inventory is completed.

#### **Production Manager (For quality Inspection):**

- Inspect the quality of the inventory as per the material/ingredients specification of L/C, work order.
- If quality deviation found, report to the Operation Head, Commercial dept and purchase department.

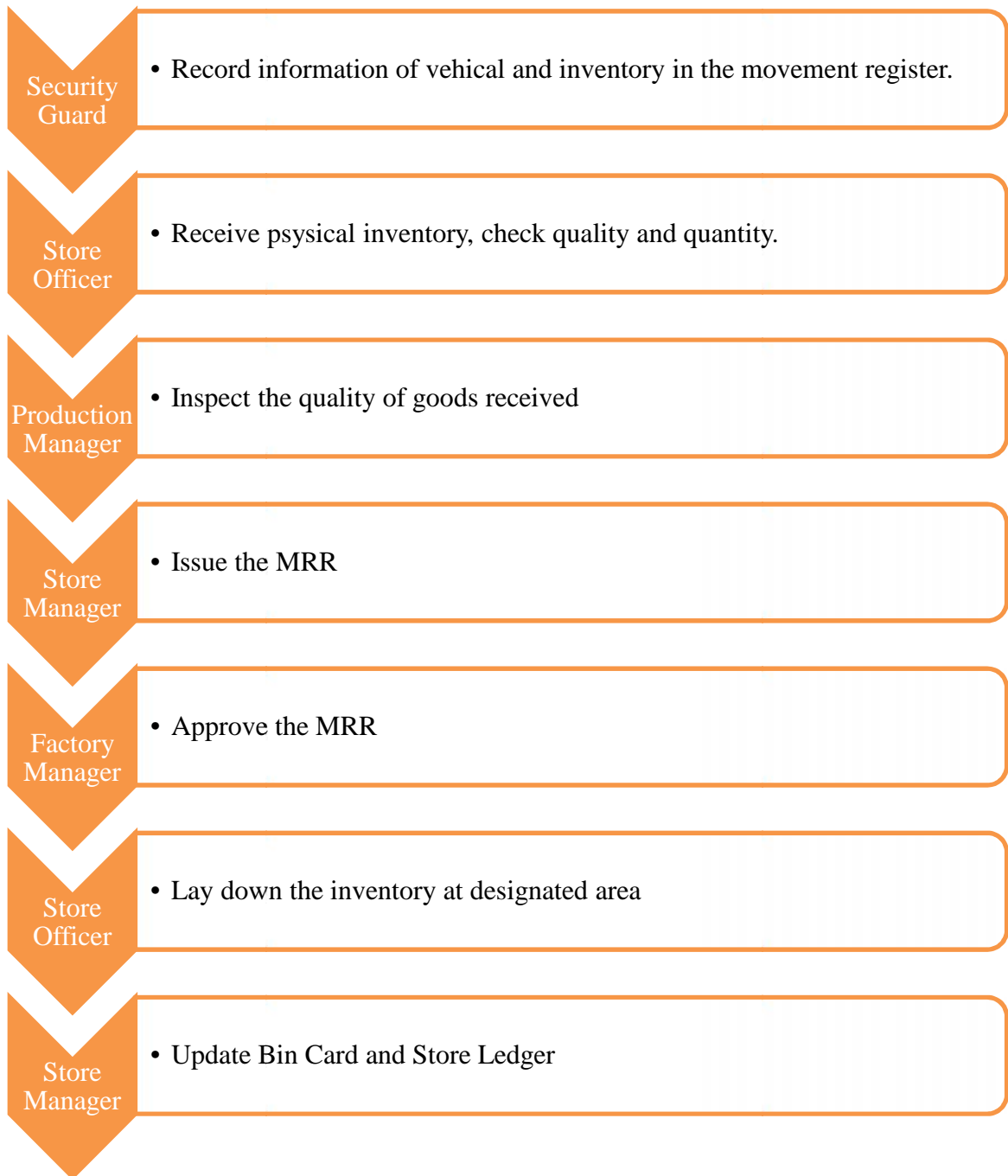
#### **Store Manager**

- Upon completion of receiving of inventory; store officer & store manager will sign on the invoice /challan as acknowledgement.
- Store Manager will issue MRR (Material Receiving Report) against the inventory received showing discrepancy.
- The MRR will be approved by the factory Manager & Operation head.
- MRR will be issued 3 copies as follows:
  - 1<sup>st</sup> Copy (Pink) - for procurement dept.
  - 2<sup>nd</sup> Copy (Green) - for H/O Accounts dept.
  - 3<sup>rd</sup> Copy (White) – for office copy of store dept.

**Store officer (Storage of Inventory):**

- Store the incoming inventory in designated area in countable manner.
- Update the Bin card & Store ledger

**Flow Chart:**



### **5.1.2 INVENTORY ISSUE**

To issue inventory for production the participants perform the following task:

#### **Production Manager**

- Raise the Material issue requisition and accord the approval of operation head/ Factory Manager.
- Send the approved material issue requisition to the store manager.

#### **Store Officer**

- Check the availability of materials in stock
- If the materials are available; issue the raw materials and keep the acknowledgement of the goods receiver.
- Update the Bin card for issuance.
- Inform the store manager to update the ledger.

#### **Store Manager**

- Update the store ledger.
- Plan the reorder level.
- Send the raw materials issue report to the head office accounts.

#### **Exception (Odd hour/ Emergency Issue)**

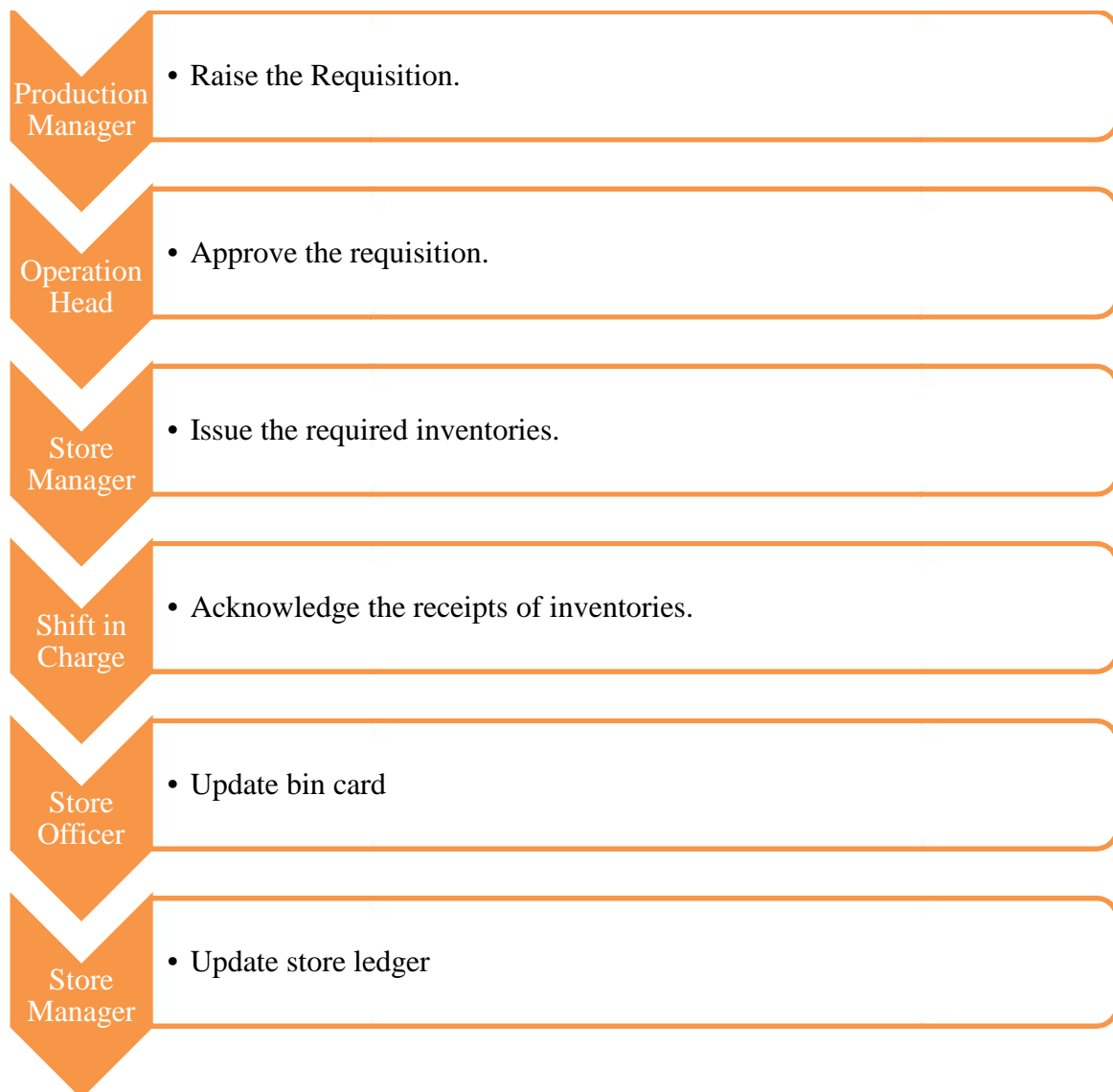
During the odd hour (particularly in night shift) or to meet the emergency in absence of store manager/ officer, any request for issuing material shall be processed if it is communicated to Store Manager from Operation head. The store manager will advise over the phone the security guard to open the warehouse/ store room. After that, the requisitioner will collect the raw materials from the store in front of the security guard.

To process this issue, Material issue requisition is to be generated and upon receipts of the materials; acknowledgement of goods receipts is to be given on the requisition by the receiver.

As a counterpart, the security guard will also sign on the Material issue requisition. The whole process must be regularized on the very next day as per the standard Inventory Issue Processing.

If for any reason, the operation head is unreachable for communication, the requisition must be justified by the sales head, who is aware of the production of related items.

### Flow Chart:



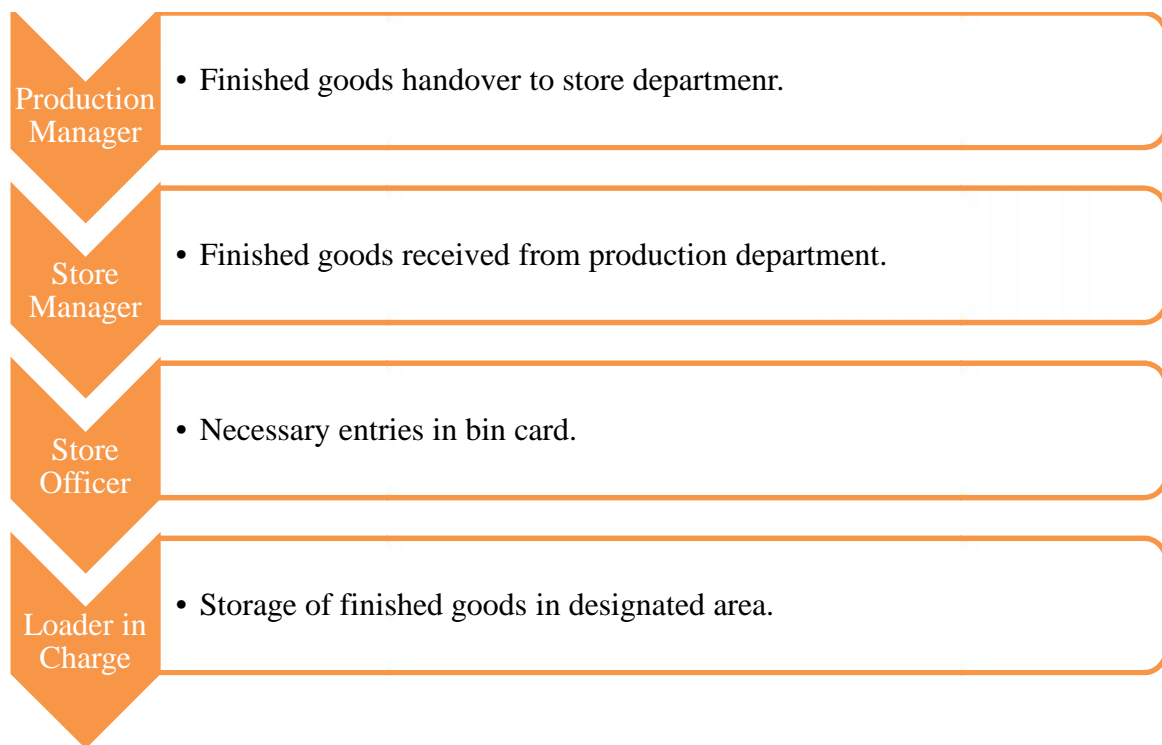
### 5.1.3 RECEIVING FINISHED GOODS

Participants perform the following task upon receiving the finished goods from the production:

- **Production Manager** will send the report of finished goods produced and ready for transfer to store department.

- **Store Department** will receive assembled finished products as per the report of production manager.
- **Store officer** will monitor the transfer in of finished goods from production floor or other assembles point to store.
- **Forklift operator** will store the finished goods in designated area.
- **Loader in charge** will give proper guide line to the forklift operator to locate the stock.
- **Store officer** will reconcile inventory physical received with production report and update the bin card.
- **Store Manager** will update the stock ledger and send the report to HO accounts.

**Flow Chart:**



**5.1.4**

### **5.1.5 GOODS DISPATCH:**

When dispatching finished goods the following activities are performed:

#### **Load in Charge:**

- Receive the loading schedule from distribution section
- Send the delivery schedule to the store manager
- After loading delivery challan will be made in 4 copies as follows
  - 1<sup>st</sup> copy for client
  - 2<sup>nd</sup> copy for acknowledgement of goods received by clients
  - 3<sup>rd</sup> copy of gate pass
  - 4<sup>th</sup> copy of office use

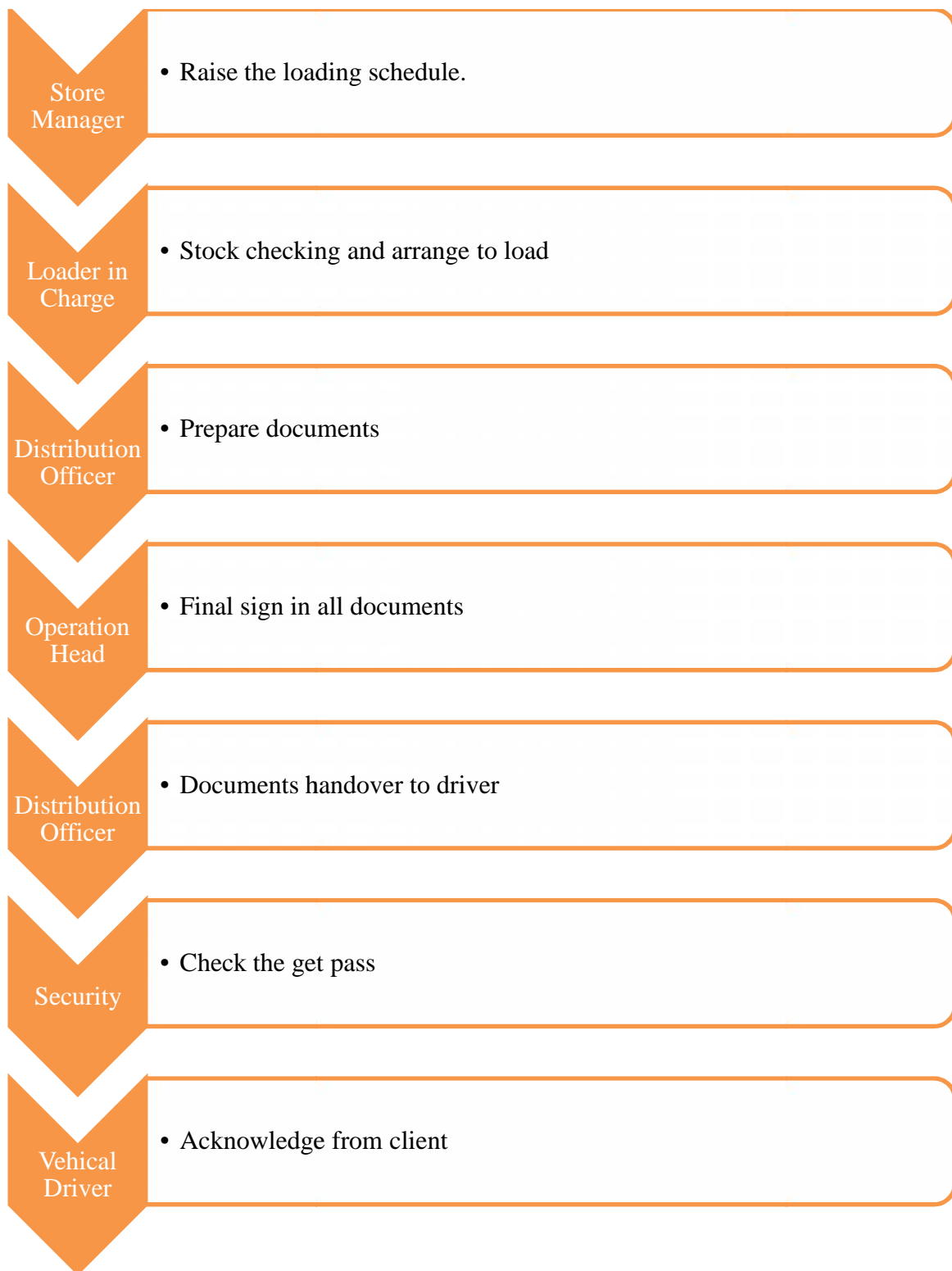
#### **Store manager:**

- Check the stock position of the model or design which are to be loaded
- If available deliver the goods

#### **Security Officer:**

- Update the movement register in detail
- Check with gate pass
- Operation head will approve the delivery documents
- Driver will sign on every copy challan as acknowledge and he will hand over the loaded goods to the customers

**Flow Chart:**



### **5.1.6 STOCK TAKING:**

Stock taking is mainly done to prevent any unusual loss of inventory and this includes following activities:

#### **Store Manager:**

- Prepare the annual inventory cycle count plan and get it approved by the corporate accounts and finance
- Ensure the stock taking as per cycle count plan
- Arrange the stock taking on 1<sup>st</sup> day of every month
- Stock will be counted by factory labor in front of head office accounts team

#### **Head Office Account Manager:**

- Collect the month closing inventory report from storage manager
- Plan the cycle count and form a team
- Attend the physical count of inventory as per approved plan

#### **Stock Taking Team:**

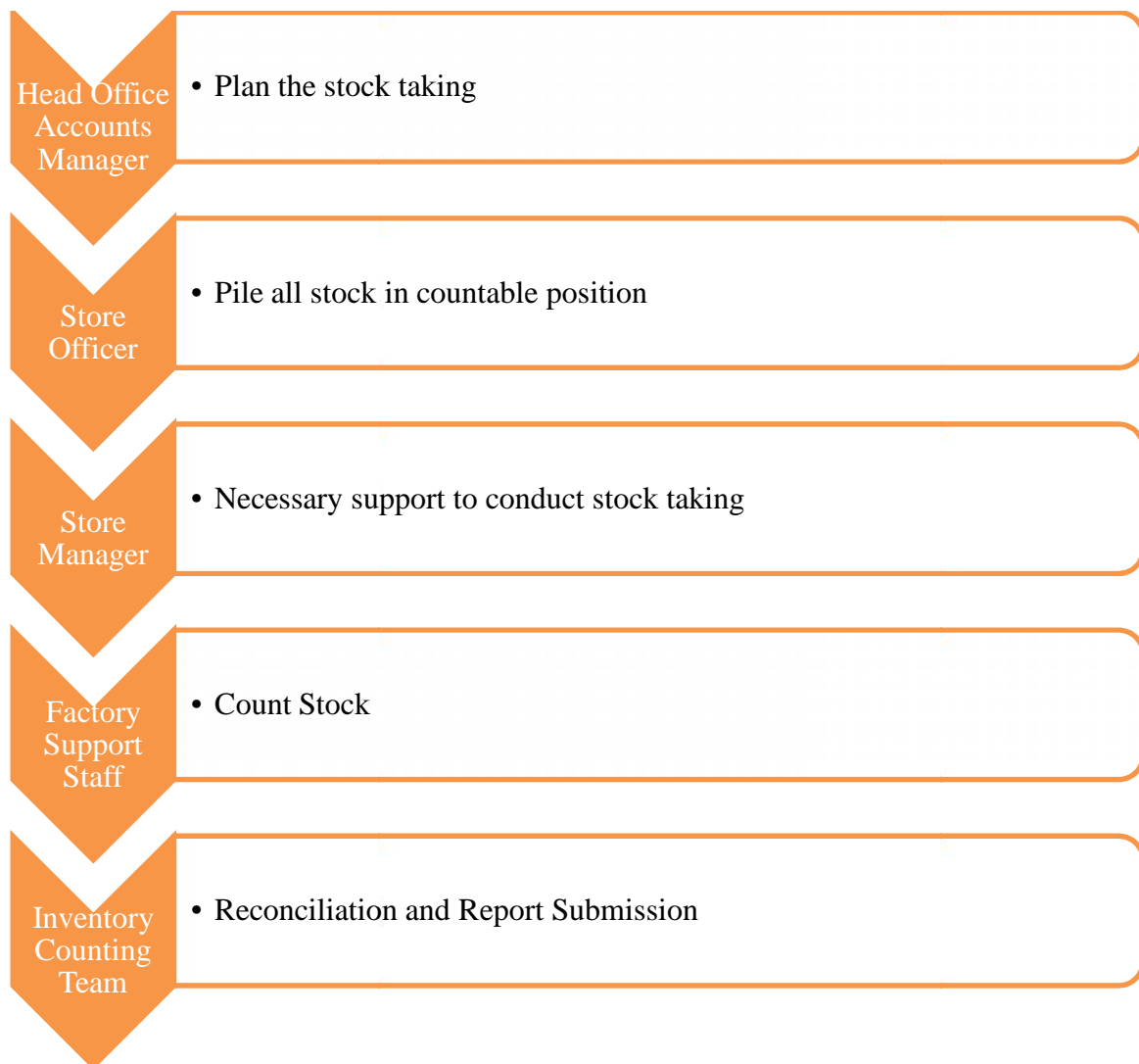
- Use an inventory count sheet during the stock taking
- Take note of any discrepancy of any item
- Identify the slow moving and non moving item separately
- Verify the proper maintenance of store ledger and bin card
- Take the signature of the store manager to acknowledge the difference or non compliance

#### **Reconciliation:**

- Team leader will place the physical inventory report to the factory manager for his comment
- correction and corrective actions are to be determined by the factory manager which is to be agreed by the store manager and approved by operation head
- Stock taking team will submit a copy of the report to the corporate accounts head for his comment



### Flow Chart:



### 5.1.7 INVENTORY RETURN PROCESS:

To ensure timely return and proper use of sales return Bengal Polymer Wares perform the following activities:

#### Sales Manager:

- Communicate the information of goods to be returned in to the factory manager
- Name of customer, previous sales information
- The reason of sales return is to be clearly communicated

#### Factory Manager:

- Upon receiving of the information of return goods, forward the same to the operation head, store manager and distribution officer

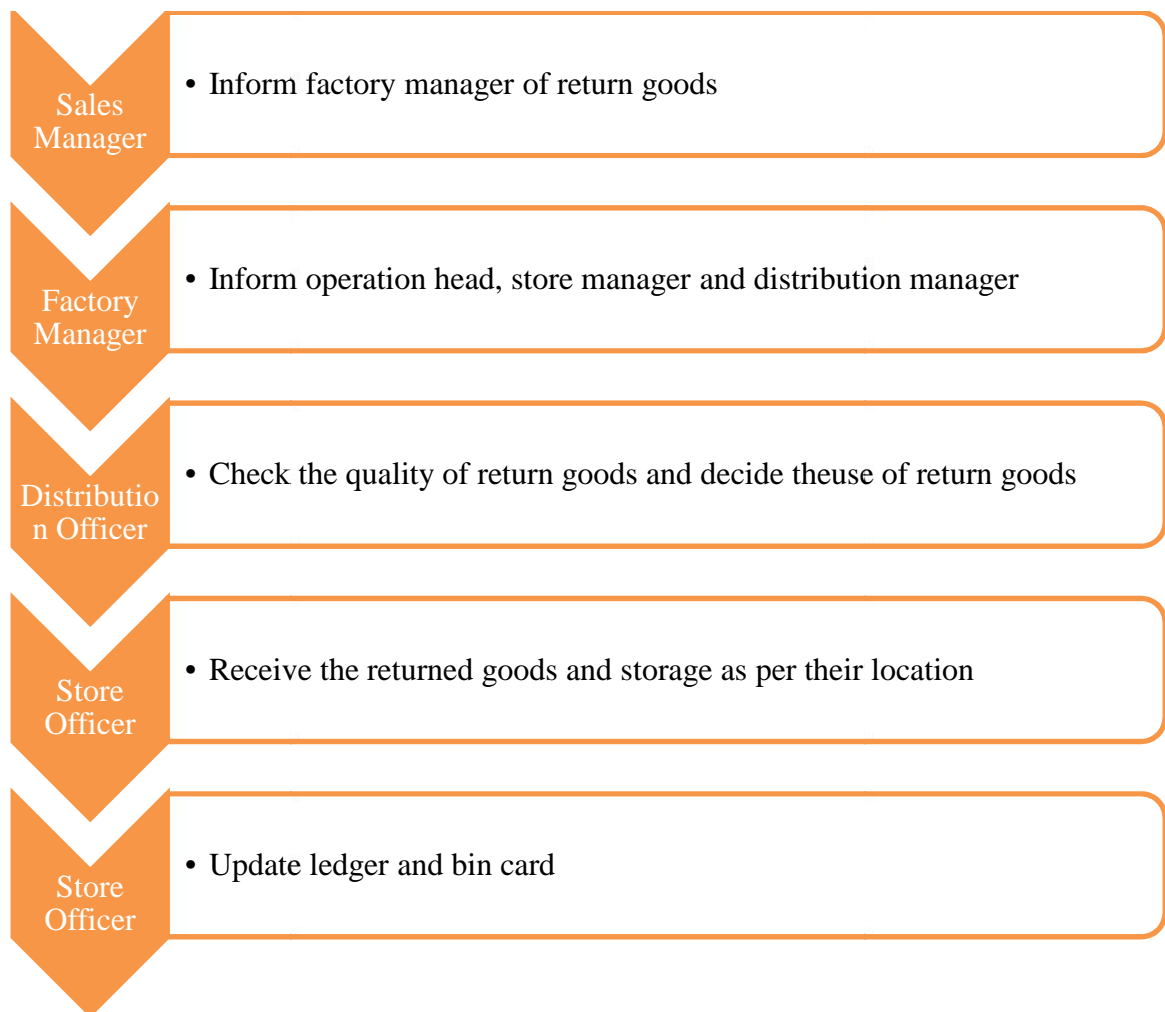
**Distribution Officer:**

- Distribution officer will inspect the quality of the return goods
- Report to the operation head and sales manager
- Inform the factory manager as well as sales manager
- Decide in consultation with the factory manager, operation head and sales manager whether the return goods can be resale or not
- Inform the store manager the next course of action regarding the use of return goods, either resale or crush

**Store Manager/Officer:**

- Receive the goods and count while receiving the goods
- Take note of excess/shortage (if any)
- If the goods are resalable
  - Assemble and storage the goods as per the decision of the factory manager.
  - Update the bin card and store ledger
- If the return goods are to be crushed
  - Assemble the goods in crushing area
  - Update the crushed items ledger
  - Report the return goods status to head office account team

### Flow Chart:



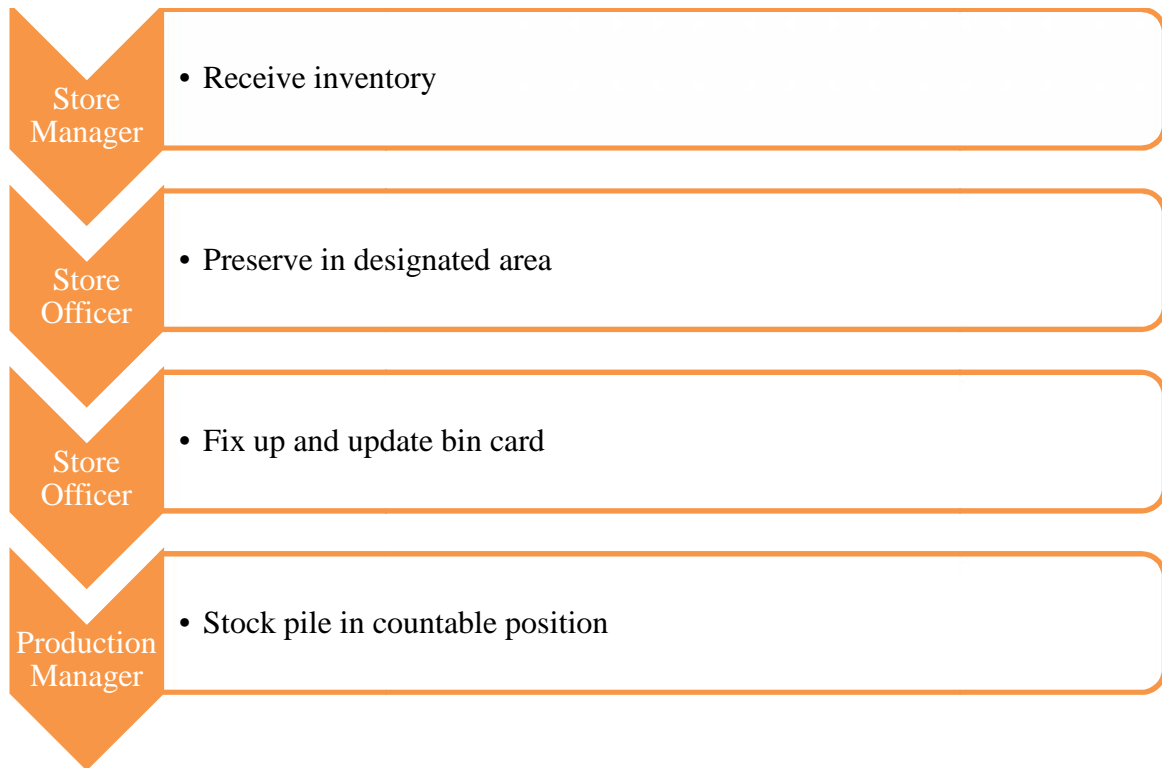
### 5.1.8 PHYSICAL STORAGE MANAGEMENT:

The objective of this is to ensure inventories are kept in their designated area and to prevent unauthorized access to inventory. For that Bengal ensure:

- Every material should be kept in their designated area
- Bin card is to be maintained and kept updated
- Access to every corner of store location is to be ensured
- Same material is to be kept in same place
- All materials has to be stored in counting position
- Finished products should be kept in designated rack by forklift operator
- Ensure general safety in warehouse

- General housekeeping should be clean at all time.

**Flow Chart:**



**5.2 VIRTUAL WAREHOUSE:**

Although raw materials are stored in a single warehouse they are recorded in several different heads in the ERP and these heads are referred to as ERP warehouses. ERP warehouses are:

- Raw Material Direct
- Packing Material
- Metal Warehouse
- Mechanical Square Warehouse
- Generator Warehouse
- Electrical Spare Warehouse

### **5.3 DIRECT RAW MATERIALS:**

In this paper we will mainly focus only on Raw Material Direct ERP warehouse. The raw material that are mainly kept in Raw Material Direct ERP warehouse, which are also the direct raw material for both household and furniture products are:

1. PPHP
2. PPCP
3. FPP
4. HDPE
5. PPRCP
6. LDP
7. GPPS

To draw raw material from the warehouse production manager need to prepare a purchase order. Purchase order is sent to the account manager and warehouse. Warehouse issues the required amount of raw materials and account department give the entry to the ERP.

Now the question arises how production manager figures out how much raw material is required to draw from the warehouse. Before answering that question we need to look at the steps through which raw materials are converted into finished goods.

### **5.4 FLOW OF RAW MATERIAL:**

As mentioned earlier raw materials are stored separately in software although they are physically kept together in a warehouse. From there raw materials are sent to Injection Mold Machine where they are stored as Injection Mold Machine Warehouse (Work in Process1).

From there raw materials are sent to injection mold machine and through different stages actual product is prepared. At this stage the product is known as finished goods though they are not fully ready to be sold at the market. These goods are stored as Finished Goods in the

Finished Goods Warehouse. Then goods are stickered and leveled and made ready to be distributed. Then these ready goods are sent to CDC Warehouse. From there the products are distributed.

When distribution prepare a sales order they forward it to account department and accounts tag the order in the ERP after checking the necessary details. Once accounts tag the sales order the production manager can see the order in his end. By observing the order he make a prediction of how much ready goods are being distributed and how many new goods are required to be produced to maintain flawless supply of goods. After his prediction he prepares a batch of production which specifies how many product they are going to produce in a fixed period of time. Once they decide on that they prepare a schedule on ERP stating what design of product they want to produce and how much they want to produce. Once those information are entered ERP itself calculate how many raw materials and for each type how much is required. Then they prepare a requisition and send one copy of requisition to storekeeper and another copy to accounts.

According to the requisition storekeeper disburses the raw material and accounts give the entry in the ERP. When accounts give the entry, it reduces the raw materials from store and increases the raw material of Injection Mold Warehouse.

When mold machine produce the product it goes to finished goods warehouse. When a product enters into the finished goods warehouse ERP automatically reduce the amount of raw material required to produce that product from Injection Mold Warehouse and that amount of raw materials are increased in Finished Goods Warehouse.

After that label and sticker are tagged in to the product and wrapped with necessary polythene or paper. After that these goods become ready for sales and send to the CDC warehouse. When goods are sent to CDC warehouse ERP once again reduce the amount of raw material from finished warehouse and increase the amount of CDC warehouse.

From CDC warehouse it is been distributed all over Bangladesh to the distributors.



Diagram: Flow of Rawmaterial

### **5.5 RAW MATERIAL PURCHASE:**

Raw material purchase starts with the requisition of the manager from factory. This requisition is called demand order. This demand order is sent to procure department and they forward it to import department. Import department make contact with the suppliers of raw materials through email and ask them for profarma invoice. Once they sent profarma invoice it is deemed that the supplier has agreed to supply the specified product at a certain rate stated in the profarma invoice. Profarma invoice also specifies the means of delivery of product and destination. Once the profarma invoice is received import department prepare a proposal stating the type of raw material their quantity and quality related information along with the rate of purchase. Once the proposal is been prepared it is send to the manager accounts of Bengal Polymer so that account department can prepare themselves to open an LC to the name of the supplier. To open LC they first required to insurance the product. After ensuring they go the bank with profarma invoice proposal and insurance document.

Then the LC document is sent to the supplier. Supplier the send the product through stated means of transport. They also send the necessary document through their bank to the Bank from which Bengal opened the LC. Once the product is received in the Chittagong port, the

bank which opened the LC for Bengal check whether the LC amount is within the limit or not. If it is within the LC limit agreed between the bank and Bengal then bank provides the necessary papers to clear the materials from the port. Otherwise if it is over the limit then Bengal needs to pay the amount to get the necessary papers. Once Bengal Polymer has the paper they send it to the C&F and C&F clear the material and materials are transported to warehouse of Bengal Polymer. Before entering into the warehouse they are posted into the ERP software.



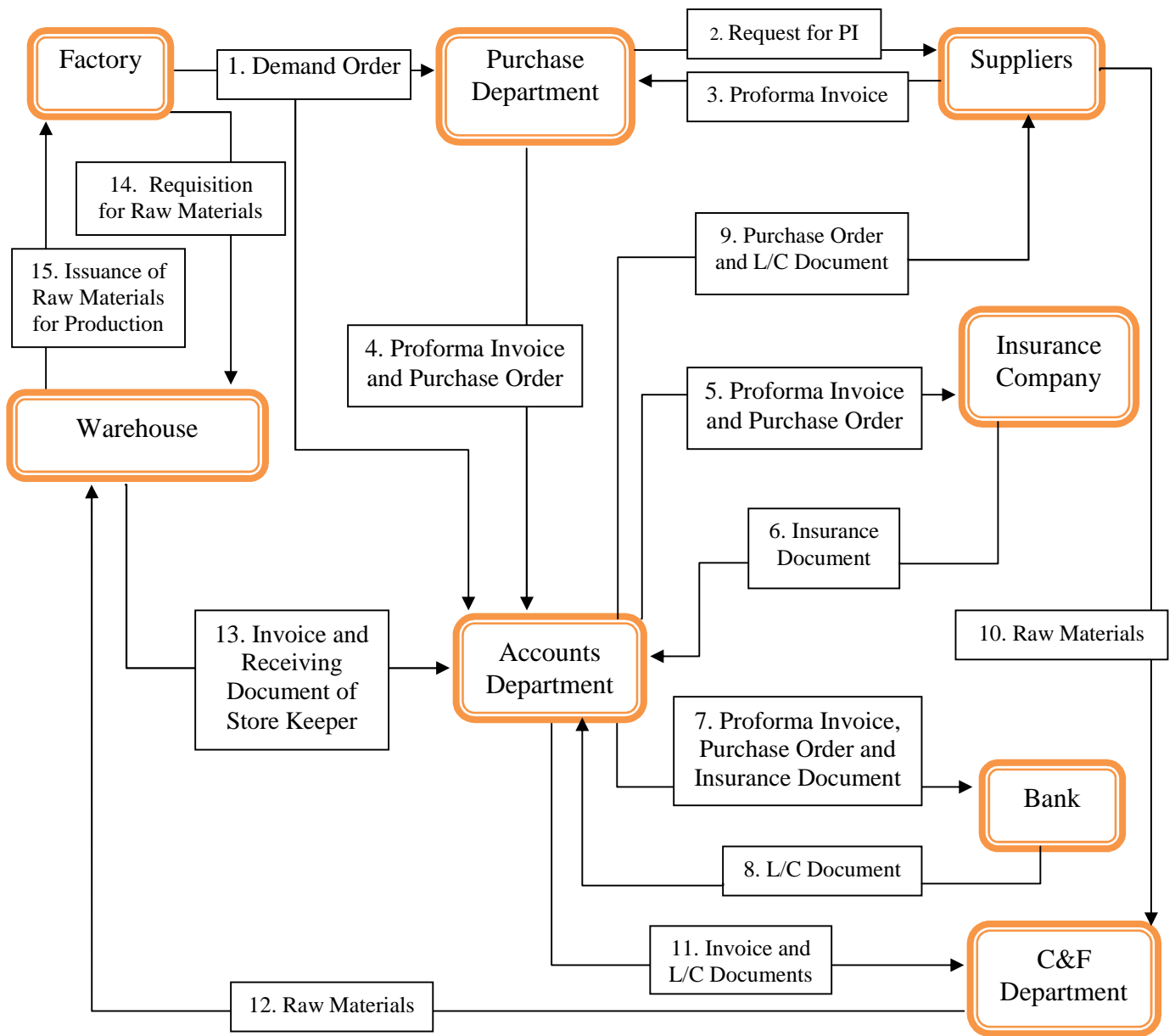


Diagram: Purchase of Raw Material

## **5.6 INVENTORY VALUATION:**

Inventory valuation is about determining the actual value of inventory in hand in different forms. As mentioned earlier raw materials are recognized in three different stages before they become finished goods. Along with these three stages, finished goods are also valued in different ways in Bengal Polymer Wares Limited.

### **5.6.1 RAW MATERIAL INVENTORY VALUATION:**

Raw materials that are kept in the physical store are recognized as raw material inventory. The cost of ordering the inventory for purchase, transport cost and all other cost associated with the raw material to reach the physical store are considered while valuating the raw material inventory. So the purchasing cost added with the ordering cost, transportation cost, L/c commission, C&F department cost taxes are considered as purchase price of that amount of raw materials. After that this amount is added with the existing price of the raw materials and then this amount is considered as the value of the raw material inventory.

After that the value of the inventory is divided by the number of unit existing in the warehouse and this is considered as the unit cost of the raw material inventory. When raw materials are issued for production this unit cost is charged and by multiplying with the amount issued is deducted from the raw material inventory.

### **5.6.2 INJECTION MOLD MACHINE INVENTORY VALUATION:**

The raw materials which are issued for production are recognized as injection mold machine inventory. The unit price at which the inventory are entered are weighted averaged with the existing value of inventory and the new rate is set. In this stage no labor or other cost is added with it. In injection mold machine raw material are first melted and then fixed and then they are poured into cases where they are made cold at different temperature. Then the finished product is delivered.

### **5.6.3 FINISHED PRODUCT INVENTORY VALUATION:**

When cases are imported as machineries they come with an estimate of how much raw material should be poured in to it and what should be the temperature. Factory has a BOM (bill of material) for every individual product and design. As a result when a product is produced they can identify how much raw material has used to produce it. The moment the finished product came out of the injection mold machine and enters in to the finished product ware house ERP automatically reduce the amount of raw material which have been used to produce the product from injection mold machine raw material and increase the raw material of finished product inventory. At this stage direct labor and other indirect costs are added over whole inventory though not specified over individual products.

At this stage the quality of the product is checked and holographic sticker is tagged on the product. Then product is packed and the product is ready to be sold and is send to CDC (Central Distribution Centre) warehouse from where products are distributed all over Bangladesh. When product is issued from finished product inventory ERP reduces the manufacturing cost of that product from the finished product inventory.

### **5.6.4 CDC INVENTORY VALUATION:**

At CDC warehouse products are valued at selling price. This is mainly done for the sake of simplicity. As they follow periodic accounting system they recognize sales at selling price and when sold products are returned they are treated only by the selling price.

### **5.6.5 ISSUES REGARDING SALES RETURN:**

There are two types of sales return. One is sales return where products remain in resell able condition. On this type of sales return, returned products are sent to CDC warehouse. Here stock of CDC is increased by the amount at which products have been sold and the receivable to the respective party is also reduced for the same amount.

On the other hand for sales return which are caused because of damaged products are send to separate warehouse, which is known as defective and damaged inventory warehouse. From

there defective and damaged products are crashed and then they are added to raw material inventory.

For these type of return Bengal recognize it as an expense and do not increase the amount of CDC warehouse, rather they recognize the lose and send the damaged product to be treated as raw material. Here they recognize the difference between the cost of finished product and the cost of the damaged product after they are been crashed as their loss.

#### **5.6.6 COST OF GOODS SOLD CALCULATION:**

Cost of goods sold calculation starts with the calculation of the beginning raw material inventory. ERP itself generate this information on weighted average method. This amount is added with the amount of raw material purchased within the period. Purchase amount includes all other related cost, for example transportation cost, L/c commission etcetera. From that the ending raw material inventory is deducted and raw material used in production is found. After that direct labor and other indirect cost added with it. Then beginning injection mold machine inventory is added with it. ERP also provide this information on weighted average method. Then ending injection mold machine inventory is deducted. Generally Bengal does not have work in process in finished product inventory. If they have any, they consider the BOM (Bill of Material) to calculate the beginning and ending inventory. Beginning amount is added with previous amount and finished one is deducted. After that beginning CDC (central distribution centre) inventory is added and ending CDC inventory is deducted and finally the cost of goods sold is found.

But there is a twist regarding beginning and ending CDC inventory calculation. As they value the CDC inventory on selling price they need to calculate beginning and ending CDC inventory manually on cost basis.

For beginning CDC inventory they take their last term ending inventory as their beginning CDC inventory. Actually they need to calculate the ending CDC inventory. For that they use the schedule of cost of goods sold. There they first take the beginning raw material inventory then add total purchase of raw material inventory in the period and then deduct the ending raw material inventory. That gives them the amount of raw material inventory used in production. Then direct labor and other indirect cost are added with it. After that beginning

work in process inventory is added and ending work in process is deducted. This gives them the cost of goods produced. After that this cost of goods produced is divided by the number of product produced. Thus the production cost per unit for each type of product is calculated. After that the unsold unit of product is multiplied with their respective production cost per unit and this gives the ending CDC inventory which will be deducted from production cost after adding beginning CDC inventory. This provides the figure of cost of goods sold. Cost of goods sold is stated in income statement and ending raw material, ending work in process and ending CDC inventory is stated in balance sheet.

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## 6 FINDINGS AND ANALYSIS

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## **6.1 COMMON WAREHOUSE:**

Though they keep record of inventory in separate virtual warehouses but physically they use a common warehouse. This common warehouse is also used by other sister concern of Bengal as well. As a result it is extremely difficult to find out actual warehouse expense for Bengal Polymer Wares. As a result they could not calculate carrying cost for their inventory. On the other hand because of these their cost of goods sold calculation cannot be accurate and this has an impact of the net income as well.

## **6.2 STRONG INTERNAL CONTROL OVER INVENTORY:**

Tracing of inventory flow is fully automated in Bengal Polymer Wares. When inventories enter into a warehouse or move from one warehouse to other warehouse it is traced by ERP and manually as well. So which warehouse have how much inventory is very much clear for the user of the inventory.

## **6.3 SAFETY STOCK AND REORDERING POINT:**

Bengal Polymer Wares import their raw material from different countries and as a result they have different lead time for different raw material. As a result they need to calculate safety stock and reordering point differently for every raw material and when the number of raw material is 135 to 150 it is a huge task and Bengal Polymer Wares are doing it quit commandingly. They have never faced any stock out.

## **6.4 LACK OF COORDINATION:**

Lack of coordination and planning harms Bengal Polymer Wares badly. Because of lack of coordination and planning it often happened that the raw materials that imported are waiting in Clearing and Forwarding department as Bengal Polymer Wares are not being able to pay the bank for their L/c documents. It causes them to increase inventory cost unnecessarily.

### **6.5 LACK OF EMPHASIZE ON ECONOMIC ORDER QUANTITY:**

Bengal Polymer Wares generally do not separately calculate warehouse expense as a result they could not estimate the carrying cost for the raw materials. As they could not estimate carrying EOQ (Economic Order Quantity).

### **6.6 IMPROPER ALLOCATION OF COST:**

Cost related to warehouse should be considered while calculating cost of goods sold. But Bengal Polymer Wares could not exercise this because of lack of man power and some other administrative obstacles. The some cost that incurred for maintenance and other purpose related to warehouse considered as utilities and other as administrative expense. As a result their cost of goods sold and gross profit calculation become vitiated.

### **6.7 IMPROPER VALUATION OF CDC WAREHOUSE:**

In CDC warehouse inventory are valued at selling price. Selling price includes profit as well. According to accounting principle it is inappropriate to recognize profit before it actually incur. Though when they prepare balance sheet they do not consider this selling price but still it is avoiding an accounting principle as if at any point within a year it is asked about the value of CDC inventory they will answer based upon the selling price.



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## 7 RECOMMENDATION AND CONCLUSION

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## **7.1 RECOMMENDATION:**

- Bengal should use at least partition to separate ware houses of different sister concern
- Should recognize the warehouse expense and consider it while calculating cost of goods sold
- Should use appropriate cost centre while recognizing the warehouse expense
- Should consider depreciation of warehouse while preparing cost of goods sold
- Should determine carrying cost for their product which will allow them to calculate their economic order quantity
- CDC warehouse inventory should be recognized on cost basis
- Budget, Planning, Purchase and Cash flow statement should be coordinated to avoid unnecessary losses regarding inventory issues

## **7.2 CONCLUSION:**

Bengal Polymer Wares Limited is working hard to improve their inventory management system. By achieving better internal control over inventory they have succeeded a portion of total inventory management. They now need to focus on financial and accounting issues relating inventory management to achieve more efficiency.

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