



# **INTERNSHIP REPORT ON INVENTORY MANAGEMENT**



# **DHAKA METRO RAIL PROJECT LINE-6**



**Daffodil**  
*International*  
**University**

**An Internship Report  
On  
Inventory Management**



**DHAKA METRO RAIL PROJECT  
LINE-6**

**Submitted To:**

**Dr. Md. Abdur Rouf**

**Associate Head of MBA**

Department of Business Administration

Daffodil International University

**Submitted By:**

**Md. Samchul Arefin**

**ID: 173-14-035**

Department of Business Administration

Daffodil International University

**Date of Submission: December, 2018**

## LETTER OF TRANSMITTAL

**Date:** December, 2018

**To**

Dr. Md. Abdur Rouf  
Associate Head of MBA  
Department of Business Administration  
Daffodil International University

**Subject:** Submission of internship report on Inventory Management of “DHAKA METRO RAIL PROJECT, LINE-6”

Dear Sir,

With due respect that I, Md.Samchul Arefin, would like to inform you that here is the report on “**Inventory Management of DHAKA METRO RAIL PROJECT, LINE-6**” that was assigned to me submit under the internship program. It was a great pleasure for me to do the assigned job. I have conducted my internship program in Metro Rail Project, Gabtali Casting Yard, with your kind supervision. I believe that the knowledge and experience I gather during the internship period, will be helpful in my future professional life.

I made every endeavor to prepare this report accurate, vivid and comprehensive and tired my level best to accumulate relevant and insightful information within the scheduled time and limited resources. Any short coming in this report is absolutely my fault.

I have invested my every effort to depict the service quality, functions performed by the Metro Rail Project. I will be grateful to you if you kindly accept this report.

Yours Sincerely,

**Md. Samchul Arefin**

**ID: 173-14-035**

MBA (Major in Finance)  
Department of Business Administration  
Daffodil International University.

## **SUPERVISOR'S DECLARATION**

It gives me immense pleasure to clarify that the projected report titled **“Inventory Management of DHAKA METRO RAIL PROJECT, LINE-6”** has been completed by **Md. Samchul Arefin**, ID: 173-14-035, student of MBA program, Department of Business Administration Daffodil International University, Dhaka under my supervision and guidance. As far as I know, this is an original work, which has not been published in any journal or submitted to any institution or department for any degree or diploma.

I do hereby accept it a fully recommend internship report for evolution.

.....

**Dr. Md. Abdur Rouf**

Associate Head of MBA

Department of Business Administration

Daffodil International University.

## **STUDENT'S DECLARATION**

I do hereby declare that the work presented in this internship report has been carried out by me and has not been previously submitted to any other University/Organization for any academic qualification. The work I have presented does not bench any existing copyright and no portion of this report is copied from any work done earlier for degree or otherwise.

I further undertake to indemnify the Department against in loss of damage arising from breach of the foregoing obligations.

.....

**Md. Samchul Arefin**

**ID: 173-14-035**

MBA (Major in Finance)

Department of Business Administration

Daffodil International University.

## ACKNOWLEDGEMENT

First i express my heartiest thanks and gratefulness to almighty Allah for his divine blessing makes me possible to complete this internship report successfully.

I fell grateful to and wish my profound my indebtedness to **Dr. Md. Abdur Rouf** Associate Head of MBA, Department of Business Administration, Daffodil International University,for giving me an opportunity to complete my internship report on **“Inventory Management of DHAKA METRO RAIL PROJECT, LINE-6”**

In fact, no devotee can achieve perfectness without the help of a scholar; similarly, a student can never be perfect without the help of a good teacher. A good teacher may be the landmark for any student. I am greatly indebted to I would like to express my deep sense of appreciation towards one of my supervisor **Dr. Md. Abdur Rouf** ,Associate Head of MBA, Department of Business Administration, Daffodil International University for giving me an opportunity to complete my internship report on **“Inventory Management of DHAKA METRO RAIL PROJECT”**. His suggestions and guidelines were really a great help to me.

I am also thankful to Md.Fakrul Alam, Admin Manager of Dhaka Mass Rapid Transit Development Project, CP-06, MRT Line-06. Sel Rose N Dale, 116 Kazi Nazrul Islam Avenue.

Who gave me the opportunity to allow me in the organizational arena. I would also like to express my excessively thanks to all officers of Metro Rail Project and my friends for their excellent support and proper guidance in completing my Internship Report.

## **ABSTRACT (SUMMARY)**

This internship is on “**Inventory Management of DHAKA METRO RAIL PROJECT, LINE-6**” will help the construction company to do their daily work smoothly with systematic way.

Construction Company purchase most of their raw materials from outside of the country and also few product they purchase from locally. Though most of the raw materials are imported, so they need to manage those all transaction in a format that they can ask any report any time. They need to maintain also the real time inventory that’s how they can make the plan for future import of raw materials and also how much finished good necessary for the next quarter.

To develop this project now they can input the total LC information, with bank activities, custom and port activities. They have several depot points to sale their finished good, so they need to know all the time what is the current quantity of a particular item. In this Inventory Management they will get total depot inventory at a time and it will help their construction firm to run smoothly.

After implementation of all functions, the system is tested in different stages and it works successfully as a prototype.

## TABLE OF CONTENTS

Serial No.	Particulars	Page No.
1	Cover Page	i-ii
2	Letter of Transmittal	iii
3	Supervisor Declaration	iv
4	Student Declaration	v
5	Acknowledgement	vi
6	Abstract	vii

### Chapter-1(Introduction)

Serial No.	Particulars	Page No.
1.1	Overview/Background of the study	2
1.2	Conception & Origin	3
1.3	Objective of Metro rail Work	4
1.4	Methodology of Data Collection Primary & Secondary	5
1.5	Limitations of Metro Rail	6
1.6	Project Components, Dates and Progress	7
1.7	Route Alignment	8
1.8.1	Why Dhaka Need a Metro Rail?	9
1.8.2	Present Situation of Traffic System in Dhaka	9

### CHAPTER-2 PROCUREMENT SYSTEM

Serial No.	Particulars	Page No.
2.1	Existing System (Local Purchase)	11
2.2	Proposed System (Local Purchase)	12-13
2.3	Auto Voucher will be Generate	14
2.4	Flow Chart of Purchase Order	14
2.5	Table 1 Purchase Requisition	15
2.6	Table 2 Purchase Requisition	15



## CHAPTER 3: INVENTORY SYSTEM

<b>Serial No.</b>	<b>Particulars</b>	<b>Page No.</b>
3.1	Existing System (Inventory)	17
3.1.1	Proposed System (Inventory)	18
3.2	Transfer Products from one store to another	19
3.3	Flow Chart of Inventory Management	20
3.4	Inventory Control Department	21
3.4.1	Receipts and Issue of Inventories	21
3.5	Bin Card	21-22
3.6	Issue of Materials from Store	22
3.6.1	Material Return to Store	22
3.6.2	Material Return Note	23
3.6.3	Material Transfer Note	24
3.6.4	Transfer of Materials	25
3.6.5	Valuation of Materials Issues	25
3.6.6	Issue Pricing Method	26
3.7	FIFO	26
3.7.1	FIFO Advantages	27
3.7.2	FIFO Disadvantages	27
3.7.3	LIFO	27
3.7.4	LIFO Advantages	27
3.7.5	LIFO Disadvantages	28
3.7.6	Weighted Average Price	28
3.7.7	Weighted Average Price Advantages	28
3.7.8	Weighted Average Price Disadvantages	28
3.8	Inventory Turnover Ratio	29

## CHAPTER 4: Problems & Recommendation

<b>Serial No.</b>	<b>Particulars</b>	<b>Page No.</b>
4.1	Problems	31
4.2	Recommendation	32
4.3	Conclusion	33
4.4	Reference	34

# **Chapter-1**

## **Introduction**

## **: Overview/Background of the study**

The Dhaka Metro is an approved metro rail system under construction in Dhaka, the capital and largest city of Bangladesh. Together with a separate BRT (Bus Rapid Transit) system it has been long called for to solve the extreme amount of traffic jams and congestion that occur throughout the entire city on a daily basis, among the heaviest in the world. It is a part of the 20-year long Strategic Transport Plan (STP) chalked out by the Government's Transport Coordination Authority (DTCA).

Currently the metro rail system consists of one line referred to as the MRT (Mass Rapid Transit) Line-6, with other metro rail lines being added in the future. This Wikipedia article focuses mainly on Dhaka MRT Line-6.

The Dhaka Metro Rail Line-6 consists of 16 elevated stations each of 180m long and 20.1 km of electricity powered light rail tracks. MRT Line-6. All of Line-6, save for the depot, as well as some of its accompanying BRT, will be elevated above current roads primarily above road medians to allow traffic flow underneath, with stations also elevated.

Construction began on 26 June 2016 with an inauguration ceremony presided over by Sheikh Hasina. The civil work is being done by the Italian-Thai Development Public Company Limited and SinoHydro Corporation Limited JV and a Tokyo based construction company is developing the depot's land.

The deal for construction of the 20.1 kilometers (12.5 mi) Line 6, costing \$2.8 billion, was signed by the Government of Bangladesh with the Japan International Cooperation Agency on 20 February 2013. This first route, originally projected to start from Uttara, a northern suburb of Dhaka, to Sayedabad, in the south of the capital, was eventually extended north to Uttara and truncated south to Motijheel.

Each train will hold up to 1800 passengers. With 56 trains to be in service by 2019, Dhaka Metro is projected to serve more than 60,000 passengers per hour by 2021, with wait times of approximately 4 minutes. The entire route will be able to be travelled in less than 40 minutes at an average speed of 100 km/h (62 mph), expected to drastically reduce the number of private cars on Dhaka's streets as well as their potentially 7-hour-long standstills.

During an interview with a local news paper, Md Mofazzel Hossain, Project Director of Dhaka Mass Rapid Transit Development Project said "The metro rail would be noise-free, with noise barriers and vibration-free lines, and the cars would be made of stainless steel and aluminum alloy". The system plans to use magnetic contactless Integrated Circuit ticketing commonly also known as smart cards. Platform screening door (PSD) barriers used in the platform level will increase safety and increase efficiency.

When the service is in full operation, trains of six air-conditioned spacious cars will arrive every four minutes going each way at each of the 16 stations.

## **: Conception and Origin**

In a view to implement Dhaka City's 20-year long Strategic Transport (STP), Bangladesh Government invited Japan International Cooperation Agency (JICA) to conduct a primary survey and feasibility study on the transport system of Dhaka back in 2009–2010. In 2012 the Government's Executive Committee of National Economic Council (ECNEC) approved the project. A loan agreement between Bangladesh Government and JICA was signed in January 2013. The same year, Dhaka Mass Transit Company Ltd. (DMTC), the implementing agency of MRT Line-6 project was formed. The General Consultant (GC) namely the NKDM Association (See above) commenced work from February 2014.

In June 2013, Dhaka Mass Transit Company Limited (DMTC) was established by the Government to implement the Metro Rail Lines across the City. The project will be constructed under the supervision of (DMTCL) under the jurisdiction of Road Transport and Highway Division, Ministry of Road Transport and Bridges, Government of Bangladesh. Once complete, metro rail services would be operated by DMTCL.

## : Objective of Metro Rail Work

This work will be implemented to achieve the following objectives with respect to Metro Rail projects in Dhaka, Bangladesh, including the aforementioned MRT Line 6 project.

Objective 1	Developing the minimum required Technical Standards for formulating technical plans, etc.
Objective 2	Revising the legislative/regulatory system relating to Dhaka MRT, including MRT Line 6 and future lines
Objective 3	Preparing the relevant laws/regulations and producing a Road Map and Work Plan aimed at establishing an approval and licensing system
Objective 4	Facilitating Cabinet approval of the Metrorail Act, which will serve as the basic law for MRT in Bangladesh

For this work, based on the Minutes of Discussion (M/D) signed by both JICA and DTCA on June 26, 2013, in order to achieve the above Objectives of Work for Dhaka Mass Rapid Transit Development Project I, the study described in the Work Implementation Method will be conducted and the Deliverables (reports, etc.) will be prepared and submitted. In conjunction, the authors will monitor the progress of this work as a whole and the progress status of the overall MRT Metro Rail Line 6 project and verify consistency with the work scope, schedule, etc. of GC and IDC for MRT Line 6.

## : Methodology of Data Collection Primary & Secondary

The road network of Dhaka city is composed of 199 kilometers of primary roads, 109 kilometers of secondary roads, 152 kilometers of collector roads, and about 2540 kilometers of access roads and others (Quium, 1995 cited in Alam J 2009). The prime public transport is buses. According to BRTA, 16,000 buses are running on the city roads to meet transport demand of 7.5 millions trips (Staff Correspondence, 2010). However, registered vehicles e.g. bus (Table 1) in Dhaka are low compared to those of currently running in the street. Recently, on April 14, 2009, bus route franchising was introduced in 30 kilometers of roadway (Anon n'd).

### Registered vehicles in Dhaka

Vehicle type	Number	Percentage
Motor Car	147283	27.93
Jeep/St. Wagon/ Microbus	58608	11.12
Taxi	10682	2.03
Bus	8210	1.56
Minibus	8317	1.58
Truck	30015	5.69
Auto-rickshaw/ Auto-tempo	14820	2.81
Motor-Cycle	219443	41.62
Others	29907	5.67

Source: BRTA, Dhaka, 2010

According to STP and BRTA, the number of automobiles in Dhaka (cars, jeeps, station wagons, pickup trucks and small vans) increased significantly in the recent years from 80,000 in 1994 and 166,000 in 2003 to 205,891 in 2010. According to registered fleet, the auto ownership is about 16 per 1,000 populations or 1 per 15 households (STP 2005).

In any consideration, the primary mode is rickshaw<sup>2</sup> (except walk) e.g. BRTA mentioned currently 8.4 millions trips are done by rickshaws (Staff Correspondence 2010). Dhaka Urban Transport Project (DUTP) and STP found that the modal share is always significant for rickshaws and pedestrians (20% and 34% respectively).

## **: Limitations of Metro Rail**

- Fixed Route.
- Depending on government attitudes.
- Will be a crowd place.
- Available for specific locations.
- Less security.
- Many people lost their land.
- Huge investment.
- Air pollution and sound pollution (in construction period).



## **: Project Components, Dates and Progress**

During an interview with daily sun, Md Mofazzel Hossain, Project Director of Dhaka Mass Rapid Transit Development Project said that the project will be implemented under eight construction packages (CP). The development components or construction packages include – CP-01 (Depot Land Development), CP-02 (Depot Civil & Buildings), CP-03, CP-04 (Viaduct & Stations, Uttara-Agargaon), CP-05, CP-06 (Viaduct & Stations, Agargaon-Motijheel), CP-07 (Electro-Mechanical Systems) and CP-08 (Rolling Stock & Depot Equipment).

Utility relocation from Mirpur-10 to Agargaon was planned to start August 2016, Other surveys have already been completed during the period of 2014 – October 2016 as mentioned by the project director Topographic Survey, Traffic Survey, Geotechnical Survey, Right of Way (ROW) Survey, Historical Importance/ Archeological (HIA) Survey, Environmental Baseline (EBL) Survey, Soil Electric Resistivity (SER) Survey and Utility Verification Survey.

As of May 2015, soil testing for the line was completed, with construction for the first section having begun on 26 June 2016, and construction for the second section planned to begin in July 2017, for planned public operation by the end of 2019 and sometime in 2020, respectively.

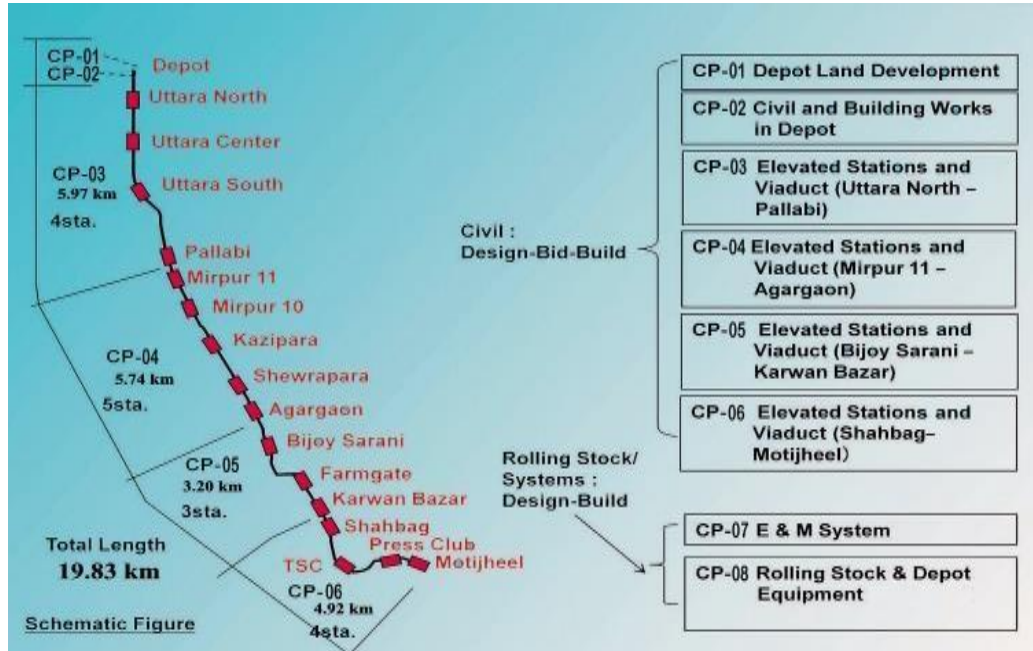
A Japanese firm Tokyo Construction Ltd, is carrying out the depot land development work (CP-01). Tokyo Construction Ltd will develop the depot on a 23.84-hectare of land during the construction period at the cost of around □5.67 billion (US\$73 million). He said the Pre-Qualification (PQ) of CP-02 has already done and 15 firms are qualified for this. Tender for CP-02 is already floated and the last date of the submission is 6 September this year. While asked about CP-03 and CP-04, he said PQ process has been done on 20 April this year. Tender has been invited and the last date of submission is 8 August 2016. But the date may be extended, he mentioned.

## : Route Alignment

Tentative alignments have been decided upon for the three initial metro lines. Only Line 6, as of 27 June 2016, has a definite station layout.

### MRT Line 6

Uttara North  
 Uttara Centre  
 Uttara South  
 Pallabi  
 Mirpur 11  
 Mirpur-10  
 Kazipara



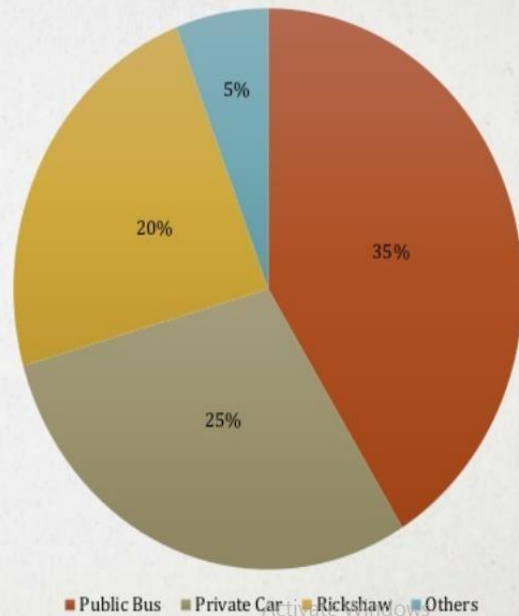
Shewrapara  
 Agargaon  
 Bijoy Sarani  
 Farmgate  
 Karwan bazaar  
 Shahbag  
 Dhaka University  
 Bangladesh  
 Secretariat  
 Motijheel



## : Why Dhaka Need a Metro Rail?

- Unprecedented growth of personal vehicles.
- Growing Traffic Congestion.
- To avoid Congestion at Peak hours.
- Time saving.
- Reduced Fuel consumption.
- To solve the extreme amount of traffic jams.
- Transport huge amount of passengers at a time.
- Lack of good railway system.
- Lack of Required amount of public transport.
- better and modern commuting system.

**Current % of Traffic in Dhaka**



## : Present Situation of Traffic System in Dhaka



# **Chapter 2**

## **Procurement System**

## **: Existing System (Local Purchase)**

When I gather the total information about the local purchase system of **Dhaka Metro Rail project** In terms of raw materials and construction materials I found that they maintain the below procedure.

1. Purchase department of Metro Rail collects SPR from Factory
2. They take decision in purchase indent how much quantity they should purchase.
3. After taking decision they collect quotation from different suppliers.
4. From the quotations collected by the purchase department, management gives approval to the particular quotation.
5. After that a purchase order created by the purchase department. According to the purchase order supplier delivered the required item.
6. Inventory department matches the delivered quantity with the purchase order and they prepared a MRR (Materials Required Requisition)
7. After that they update the inventory.
8. Then they give it to supplier. Then Supplier submits the MRR to the accounts department.
9. Accounts department verified the MRR and management approve the bill.
10. After that accounts department give payment to the supplier.

## **: Proposed System (Local Purchase)**

From the system analysis phase, I have found a number of gaps to the entire chain.

Proposed purchase order procedure is given bellow:

### **Step 1(Create Purchase Requisition):-Done by Purchase Dept**

Respective users of **Dhaka Metro Rail project** raise SPR (Store Purchase Requisition) for necessary items on the basis of items availability.

### **Step 2(Approve SPR):- Done by Authorized Person**

From SPRs management will approve the quantity required.

### **Step 3(Quotation Entry):-Done by Purchase Dept**

Purchase department will collect quotation from different suppliers and give input to the system.

### **Step 4(Quotation Approval):-Done by Authorized Person**

From the quotations those are entered by the purchase department, management will approve the supplier.

### **Step 5(Create Purchase Order):-Done by Purchase Dept**

Purchase department creates a Purchase Order (P.O.) according to the quotation and also creates GRN/MRR for the purchase order.

Purchase Order will be printed by **Dhaka Metro Rail project** to give work order to suppliers.

### **Step 6(Confirm GRN):-Done by Dhaka Metro Rail project User**

After getting the work order, supplier will deliver the required quantity of particular item to the store. Users will click a button named Confirm for QC.

**Step 7(QC Entry):-Done by QC Dept**

QC Department will physically check the products according to purchase order and give input whether items are up to the mark or not.

**Step 8(Complete Order):-Done by Store**

Users will pick final warehouse after QC and click complete button to update stock automatically.

**Step 9(Create Supplier Bill):-Done by accounting people**

Accounts department will give a bill entry according to supplier's challans. They will cross check those challans with software one whether those are valid or not. After then, they will confirm the bill which will create a payable voucher in Accounts module automatically.

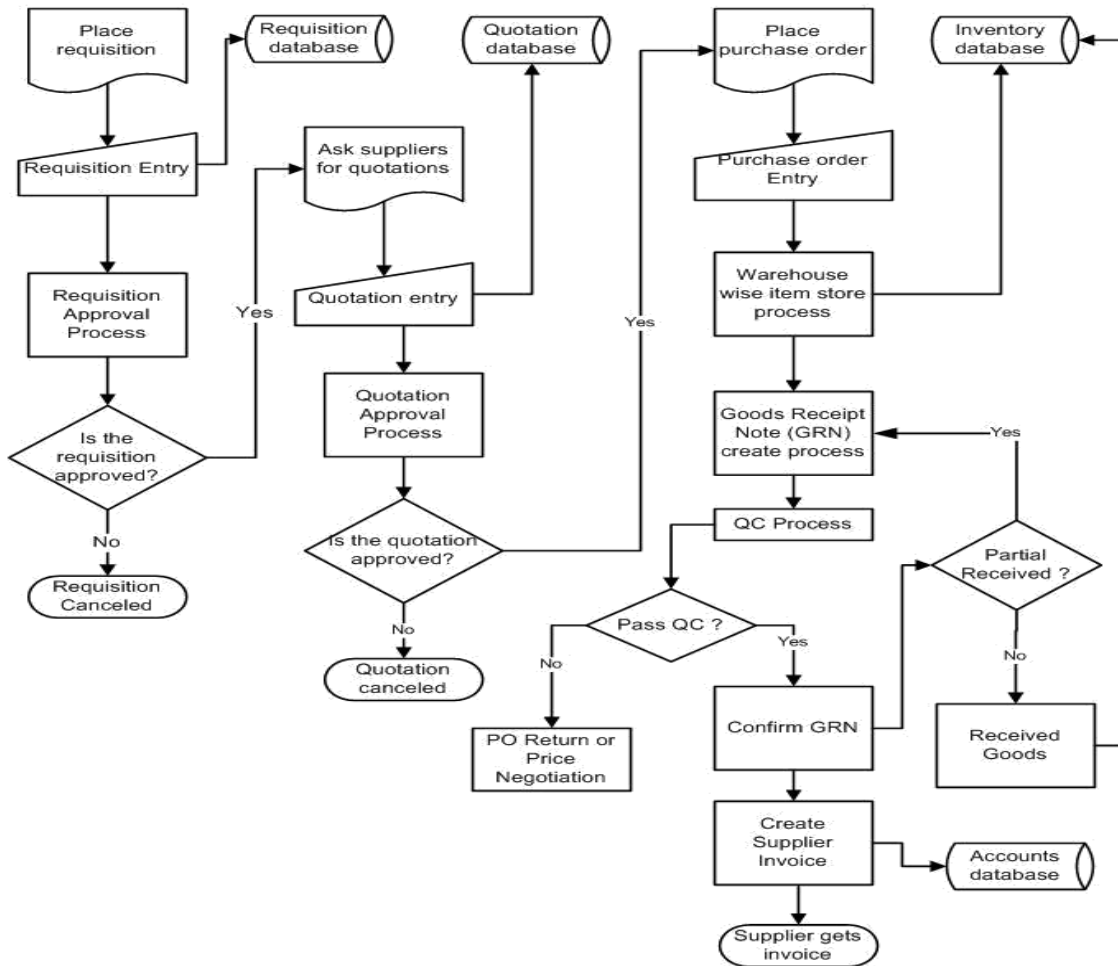


**: Auto Voucher will be Generate**

Accounts Head	Debit	Credit
Stock of Finished Goods	****	
A/C Payable(Supplier)		****

**2.4:**

Flow Chart of Purchase Order



**: Table 01 Purchase Requisition:** User wills entry the purchase requirement in this portion. Requisition No. and will be automatically generate by the system, they just need to click the add option. Requisition will be automatically generated.

<b>Purchase Requisition:</b>			
<b>SL</b>	<b>Column Caption</b>	<b>Name</b>	<b>Data Type</b>
1	Entry Time	ztime	datetime
2	Update Time	zuptime	datetime
3	Business ID	zid	int
4	Requisition No	xporeqnum	varchar(12)
5	Requisition Date	xdate	datetime
6	Status	xstatusreq	int
7	Entry User	zemail	varchar(20)
8	Last Update By	xemail	varchar(20)
<b>Primary Key</b>		zid,xporeqnum	
<b>Primary Key</b>		zid reference zbusiness.zid	

**: Table 02 Purchase Requisition Details:** in the details table user need to entry the item name and total quantity.

<b>Purchase Requisition:</b>			
<b>SL</b>	<b>Column Caption</b>	<b>Name</b>	<b>Data Type</b>
1	Entry Time	ztime	datetime
2	Update Time	zuptime	datetime
3	Business ID	zid	int
4	Requisition No	xporeqnum	varchar(12)
5	Requisition Date	xdate	datetime
6	Status	xstatusreq	int
7	Entry User	zemail	varchar(20)
8	Last Update By	xemail	varchar(20)
9	Last Update By	xemail	varchar(20)
<b>Primary Key</b>		zid,xporeqnum	
<b>Primary Key</b>		zid reference zbusiness.zid	

# **Chapter 3**

## **Inventory Management**

## **: Existing System (Inventory)**

Metro Rail store and other stores are not linked with Head office. So, each receive an issue in the store must have written documents like SPR. In store, users maintain stock register manually. After day long works, it comes to Head office and users in Head office update stock in the software. If management wants current stock position of a particular item, they have to make a phone call to store and store in charge gives information on assumption. As a result, nobody gets a real-time stock position due to manual system.

### **3.1.1: Proposed System (Inventory)**

As all modules in Head office and factory will be integrated each-other, stock will be updated automatically through respective modules.

Besides, users have to do Direct Issue Entry and Transfer Order Entry through Inventory modules.

#### **Direct Issue Products:**

##### **Step 1(Create Issue Entry):- Done by Store**

Users have to input issue date, reference no, warehouse, item code, quantity etc to create an Issue Order.

##### **Step 2(Approve Issue Entry):-Done by Authorized Person**

If required item is available, management approves the entry considering necessity of item's required quantity.

##### **Step 3(Confirm Issue Entry):- Done by Store**

Users will get approved issue entry on the screen. They will confirm the entry by clicking a single button named Confirm to update stock automatically.

## **: Transfer Products from one store to another:**

Users often transfer products from one store to another through transfer order. Some steps have to be followed to do this.

### **Step 1(Create Transfer Entry):-Done by First Store**

User from first store gives information like date, from warehouse, to warehouse, item code, quantity etc to create a transfer order.

### **Step 2(Release Transfer Order):-Done by First Store User**

When user of Main store disburses products for sub store, he will just click a button named Release. It will make available the transfer order for second store user.

### **Step 3(Transfer Cost Entry):- Done by Second Store User**

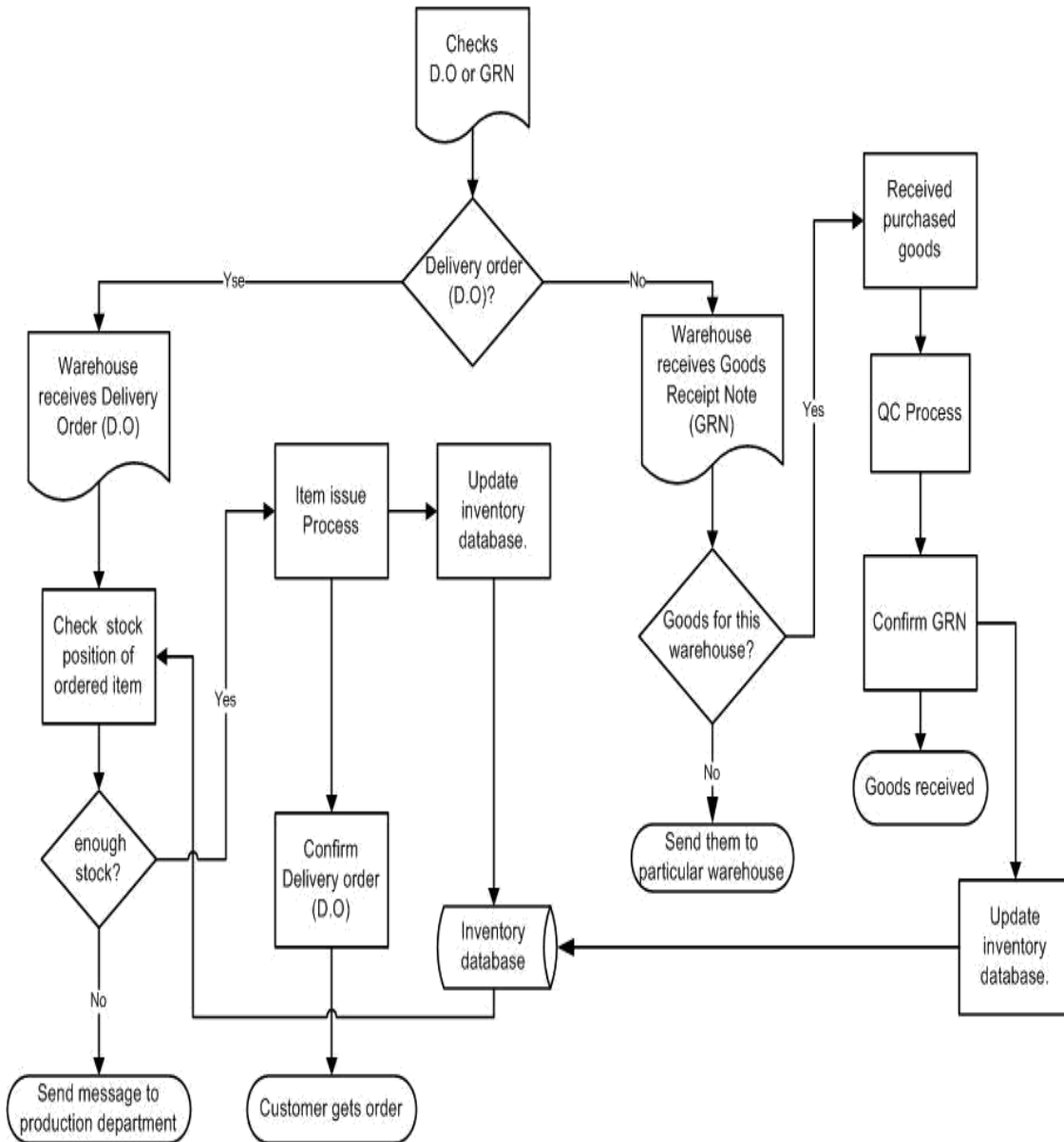
User of second store will give input to measure cost during transfer of products before entering the products into store.

### **Step 4(Confirm Transfer Order):-Done by Second Store User**

Users will click a button named Confirm to the available TO showing on the screen. In this way, software will automatically update stock from one store to another.

### 3.3:

#### Flow Chart Inventory Management



### 3.4: Inventory Control Department

It may be a subdivision of the cost accounting department, although in many concerns, it is a part of the stores keeping department.

- A) It keeps perpetual inventory records.
- B) Adjust the stock on receipt of the property authorized adjustment notes.
- C) Prepare weekly or monthly, statement of receipts, issue, balance and average consumption of materials both in terms of quantity and value.

#### 3.4.1: RECEIPT AND ISSUE OF INVENTORIES:

##### (a) Receipt Inventories in to store:

After incoming materials have been examined and approved they are passed on to the appropriate stores together with the goods received note. Articles are inspected and passed and on the stores in the usual way. In order to keep the accounting procedure uniform, it is desirable that a goods received note be prepared for these articles also, the store keeper then places the inventory in appropriate bin or shelf and make necessary entries in the receipt column of the Bin Card.

### 3.5: BIN CARD

DESCRIPTION: MAXIMUM LEVEL:

MINIMUM LEVE:

ORDERING LEVE:

ORDERING QUANTITY:

UNITS:

RECEIPTS			ISSUES			BALANCE	AUDIT
Date	Goods received Note No.	Qty (units)	Date	Requisition Note No.	Qty (units)	Qty (units)	Initial & Date



## **: BIN CARD**

For each kind of materials or article a Bin Card attached to the bin which each individual's materials is stored. A bin card provides a running record of receipts, issues and stock in the simplest form. An entry will be made at the time of each receipt or issue and new balance will be extended.

These cards should agree with the quantities entered in the relevant accounts in the stores ledger. The main advantage is to enable the stores keeper to ascertain at a glance the quantity of materials in stock and remind him to place purchase requisition for further suppliers the ordering level has been reached more over they provide an independent check on stores ledger and anciently a second perpetual inventory. If the bin card is from three years then the transactions are made in same card. If Bin Card does not exist new Bin Card to be opened.

## **: Issue of Material from Stores**

The storekeeper issues materials on receipt of proper authorized document usually called a materials requisition or a specification of material. Material requisition is a document which authorities and records the issue of materials for use.

The materials requisition details the items required for the showing the quantity, description, and code or part number and the cost center of job to be charged. Requisition is normally prepared in triplicate: the department receiving the goods retains one copy and the other two copies are handed over to the two copies are handed over to the storekeeper. He keeps one along with him and enters on the issue sides of the appropriate bin card day – today transactions are noted in stores ledger. Stores ledger:

The stores ledger which is usually a loose leaf or card type, contains an account for each class of materials their ledger is kept in the cost department and contains such information as well facilitate the ascertainment of all details relating to the materials in the minimum of time.

## **: Materials returned to Stores**

Where materials are issued or borrowed in excess of requirement the excess quantity is returned to the stores together with materials return note.

Since the materials return to store from a work order is a reduction in the amount recorded as issued, the preferable entry is to enter the number of units and the value of materials returned and received in a different work in the issue column of the stores ledger account.

These values are deducted from total issues, and amount returned by each department as shown by materials return note is deducted where return of materials to stores return of material to stores is a major problem it is customary to use a materials and supplies journal for keeping records of items.

## : MATERIAL RETURN NOTE

FROM:

NO:

DEPARTMENT:

DATE:

JOB NO:

ORDER NO:

<b>Qty.</b>	<b>Description</b>	<b>Code No.</b>	<b>Office Use only</b>		<b>Remarks</b>
			<b>Rate</b>	<b>Amount</b>	
<b>Approved by</b>	<b>Returned by</b>	<b>Returned by</b>	<b>Bin NO. Stores ledger Follow No.</b>	<b>Cost officer Ref. No.</b>	<b>Priced by</b>

**: MATERIAL TRANSFER NOTE**

NO:

DATE:

FROM:

TO:

DEPARTMENT:

DEPARTMENT:

JOB NO:

JOB NO:

ORDER NO:

ORDER NO:

<b>Qty.</b>	<b>Description</b>	<b>Code No.</b>	<b>Office use only</b>		<b>Remarks</b>
			<b>Rate</b>	<b>Amount</b>	
<b>Approved by</b>	<b>Issued</b>	<b>Received by</b>	<b>Cost Ref. No.</b>	<b>Officer</b>	<b>Priced by</b>

## **: Transfer of materials**

Transfer of materials from one job to another is prohibited unless the detail is adequately recorded on the materials Transfer note. Such transfer is permissible only where an urgent order has to be made and work started on a less urgent order may be appropriate. Such a note shows the necessary date for ordering and debiting the cost accounts affected. These notes are passed direct to the cost office for the appropriate adjustment in the work - in -progress ledger.

All these four notes including stores ledger and bin card are major for inventory management which are valued and checked for every quarterly or half yearly or annual.

## **: Valuation of Materials Issues**

The fixation of the price at which the materials are issued are to be charged to production is an important one from the point of view to inventory management. These are numerous factors to be taken into account in pricing the material they are.

- a) The nature of the business and type of production. The frequency of purchase price fluctuations and issues of materials.
- b) Range of price fluctuation and value of material issued and size of batch of materials issued.
- c) Requirement that purchasing efficiency should be revealed or not.
- d) The accuracy with which issues can be computed.
- e) The durability of stock i.e. whether it evaporates absorbs moisture or deteriorates quickly.
- f) The length of inventory turnover period and quantity of material to be handled with the necessity for maintaining uniformity within an industry.

## **: ISSUE PRICING METHODS**

There are two categories

### **(I) Cost prices :**

- (a) FIFO (First in First out)
- (b) LIFO (Last in first out)
- (c) Specific price
- (d) Base stock price
- (e) HIFO (highest in first out)

### **(II) Delivered from cost prices**

- (a) Simple average price
- (b) Weighted average price
- (c) Periodic simple average price
- (d) Periodic weighted average price
- (e) Moving simple average price
- (f) Moving weighted average price

### **(III) Notional prices**

- (a) Standard price
- (b) Inflated price
- (c) Re- use price
- (d) Replacement price

### **: First in First out (FIFO)**

This is the price paid for the material first taken into stock from which the material to be priced could have been drawn.

Under this method stocks of materials may not be used up in chronological order but for pricing purpose it is assumed that items longest in stocks are used up first. The method is most suitable for use where in material is slow - moving and comparatively high unit cost.

### **: Fifo Advantages:**

Price is based on actual cost and not on basis of approximations such as no profits or losses arises by reasons of adopting this method.

The resulting stock balance generally represents fair commercial valuation of stock.

It is based on traditional principles.

### **: Fifo Disadvantages:**

- (I) The number of calculations in the stores ledger involved tends to be Complicated with increase in clerical error.
- (II) The cost of consecutive similar jobs will differ if the price changes suddenly.
- (III) In times of rising prices, the charge to production is unduly low as the Cost of replacing the material will be higher.

### **: Last in first out (LIFO)**

This is the price paid for the material last taken into stock from which the materials to be priced could have been drawn. This method also ensure material being issued at the actual cost. Its use is based on the principle that costs should be as closely as possible related to current price level. Under this method production cost is calculated on basis on replacement cost.

### **: Lifo Advantages**

- (I) Production is charged at the most recent prices so that it is based on the principle that cost should be related to current price levels.
- (II) It obviates the necessity for continuously ascertaining the replacement price.
- (III) Neither profit nor loss is usually made by using this method.
- (IV) In the times of rising prices there is no wind fall profit as would have been obtained under FIFO.

## **: Lifo Disadvantages**

- (I) Needs more clerical work.
- (II) Compassion among similar jobs is very difficult.
- (III) Stock values relating to prices of the oldest cost on hand may be entirely out of the current replacement prices.

## **: Weighted average price**

This is the price which is calculated by dividing the total cost of material in the stock from which the material to be priced have been drawn, by the total quantity of material in the stock. This method differs from all other methods because here issue prices are calculated on receipts of materials and not on issue of materials. Thus as soon as new lot is received a new price is calculated and issues are then taken.

## **: Weighted average price Advantages**

- (I) This method is advantageous where the price varies widely as its use even out the effect of these wide variations.
- (II) The basis of price calculations is a simple one involving only the division of total amount of material in stock by quantity in stock.
- (III) Calculation of new prices arises only when receipt of stocks are received.
- (IV) Stock records under this method give a fair indication of the stock values, which can be used in financial analysis.

## **: Weighted average price Disadvantages**

This method is completed than simple average because it takes into consideration the total quantities and total costs in stock.

- (I) Profit or loss may be incurred as in simple average price.
- (II) As LIFO or FIFO this method calls for many calculations.
- (III) In order to calculate the accurate value of issues the average price must normally be calculated to four to five decimal places.

### 3.8: Inventory Turnover Ratio

#### What it is?

This ratio is often a firm's inventory turns over during the course of the year. Because inventories are the least liquid form of assets, a high inventory turnover ratio is generally positive. On the other hand, and usually high ratio compared to the average for the industry could mean a business is losing sales because of inadequate stock on hand.

#### When to use it

If a firm's business has significant assets tied up in inventory, tracking its turnover is critical to successful planning. If inventory is turning too slowly, it could indicate that it may be hampering the firm's cash flow.

Because this ratio judge's annual inventory turns, it is usually conducted once a year.

**The formula:** 
$$\frac{\text{Cost of goods sold}}{\text{Average value of inventory}}$$

YEAR	COST OF GOODS SOLD	AVG VALUE OF INVENTORY	INVENTORY TURN OVER RATIO
2014	70340.33	4076.86	17.25
2015	75687.45	4800.64	15.76
2016	184082.21	12583.99	14.63
2017	190053.62	16067.13	11.83
2018	419760.92	10185.20	41.21



# **Chapter 4**

## **Problems & Recommendations**

## **: Problems**

1. ITD Construction firm faces the problems of competitions with others construction firms.
2. ITD Construction firm faces the problems of proper skilled employees in the house keeping section in gabtali casting yard.
3. ITD have no records of wastage items. It is not good for operating profit of the company.
4. In organization store assistant have no proper knowledge about engineering goods & raw materials.

## **: Recommendation**

1. The organization gives proper knowledge & training for unskilled employees for their work.
2. There should proper record for wastage; It is good for the ITD.
3. Store manager give the proper knowledge about engraving & raw materials.
4. ITD should have proper staff in HR.

## **: Conclusion**

The Dhaka Mass Rapid Transit Development Project (Metro rail project), is being implemented in the capital, aiming to ensure an effective, safe and environment -friendly mass transportation system for the city's dwellers. The project, when completed, would also contribute in easing the traffic congestion plaguing the city for decades. Piling is being done across Dhaka, along with the construction of depots and rail stations. The residents of Dhaka had braced themselves for another period of inconvenience, which they usually face during the construction of flyovers. However, various people-oriented initiatives taken by the authorities have ensured minimal hassle while construction is in progress.

The correspondent has visited Uttara, Mirpur and Agargaon areas to get a firsthand view of the impact of the ongoing construction around the city. According to project insiders, four lanes have been kept open on roads to minimize road congestion. Hard barriers (fences made of concrete and steel) have been installed around construction areas to contain dust pollution. Water is being sprayed around the construction site to keep the air breathable. Soil, which piles up after digging, is being taken to a dumping site in Uttara. The project construction perimeter fences are minimizing public inconvenience. Construction has picked up momentum in several key areas of Dhaka, such as Mirpur 12, 10, Kazipara, Shewrapara, Taltola and Agargaon. In Agargaon, cranes and excavators have been brought in for piling work. Construction workers are actively working to help prevent traffic congestion near construction zones. At least eight to nine workers have been tasked with this duty at every kilometer. A temporary project office has also been built in front of the Sher-e-Bangla Agricultural University. Musa, a local rickshaw puller, said: "Vehicle traffic continues on roads despite the fencing that has been installed around the project site. The level of inconvenience is much lower than the troubles we face during flyover constructions." Meanwhile, an insider from the Road Transport and Bridges Ministry said: "The contractor firms have been directed to finish construction within the permitted scheduled. "Bangladesh has already signed a deal with Japanese firm Kawasaki Mitsubishi Consortium, for procuring metro rail coaches. The insider revealed that Road Transport and Bridges Minister Obaidul Quader is directly supervising the metro rail project.

## 4.2: Reference

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