



Innovation | Technology | Excellence

# Pakiza Technovation Limited

A Sister Concern of Pakiza Group



**INTERNATIONAL UNIVERSITY**

**Internship Report**

**On**

**Analysis of Inventory Management of Pakiza Technovation Limited**

**SUBMITTED TO:**

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27 September, 2022

## Letter of Transmittal

Date: 27.09.2022

Ms. Nusrat Farzana

Assistant Professor

School of Business & Economics

United International University

Subject: Submission of internship report

Dear Ma'am Assalamuwalaikum,

With due respect and honor I want to thank you for the guidance and support you provide me during this report. This report is all about the summary and analysis that I get from Pakiza Technovation Limited during my internship time. I choose my report topic "Analysis of Inventory Management of Pakiza Technovation Limited".

Here I work practically and observe their day to day all activities and role of management and their competitor too. Here I learn great things. I gather all the information from my colleague and secondary sources like internet. By using all this information, I prepared this report.

In this report I might made many mistakes, please excuse me for mistake Ma'am.

Sincerely Yours,

Md. Amir Hossain

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## **Acknowledgements**

At first, I want to acknowledge almighty Allah because he gives courage and patience to complete this task.

I also grateful to my supervisor Ms. Nusrat Farzana ma'am because she guides me to complete this task. She showed me the right track which make easier my job. From beginning to end of the report she helps me in every step.

I am thankful to my supervisor of Pakiza Technovation Limited Md. Rabiul Islam, Sr. Executive – accounts department. Throughout the report he guides me, provide information and show me right track. I also thankful to Muhammad Panaullah Washi – Manager, Supply Chain Management and Biplob Hosen Executive, Supply Chain Management because they provide me all the information regarding inventory.

Lastly, I want to thank my family from the beginning of my life to till now for all the things that they done for me. I also grateful to all of my friends who always stay at my side like family member and support me in everything and help me. All my friends help me a lot directly and indirectly while making the report.

## Executive Summary

Pakiza Technovation Limited (PTVL) is the newest concern of renowned Pakiza Group, the standard of excellence in all its business sectors. With a mission to deliver excellence through innovation in designing solutions, implementing those in an innovative way using the right technologies, Pakiza Technovation Limited (PTVL) has started its journey. PTVL always love to optimize, not to be lowest in price, its solution to meet its client's requirement and thus ensure value for money. As visibility of ICT projects are result driven, it ensures the promised result and the project outcome becomes visible. Ensuring high quality in both product and service PTVL wants to give its clients a great experience and to be reliable and first choice of its kind. PTVL team is keen to understand its client's expectations and thrives to surpass expectations through expertise and achieve loyalty. ([Limited, n.d., p. Pakiza Technovation Limited](#))

Pakiza Technovation Limited (PTVL) goal is to be one of the recognized organizations for IT hardware solutions and Software development in the country. To achieve this goal, they ensure - IT Hardware and solution business, delivery of Bespoke Software (Design, Coding and Testing), and the follow-on customer service is an essential part of the quality process. All employees receive training to ensure awareness and understanding of quality and its impact on customer service. The leadership team are responsible for ensuring that the quality objectives, and commitments to satisfy any applicable requirements continually improve the quality management system. ([Limited, n.d., p. Pakiza Technovation Limited](#))

Pakiza Technovation Limited (PTVL) products and services are- Hardware solution, Software solution, Data Center & Passive Infrastructure Solution, Managed Service, Security & Surveillance etc. ([Limited, n.d., p. Pakiza Technovation Limited](#))

I have divided this report into five major chapters. Firstly, in the first chapter, I discussed about the Framework of the report- Background of the study, Significance of the report, Scope of the report, Objective, Methodology, Sources (Primary Sources, Secondary Sources), Limitations.

In the second chapter, I discussed about the About Pakiza Technovation Limited- An overview of Pakiza Technovation Limited, Organogram, Vision & strategies of the company, Vision, Code of ethics, Corporate responsibility policy, SHEQ (Safety, Health, Environment, and Quality), Products & services, Financial performance.

In the third chapter, I discussed about Economic Order Quantity (EOQ) & Inventory Management- Theoretical framework of inventory management- Objective of inventory management, Operating objective, Financial objective, why inventory management is important, Purposes of inventory, Key

functions, Movement inventories, Buffer inventories, Anticipation inventories, Control of materials, Associated risks and risk management, Theft, Inventory waste & damage, Inventory loss, Life cycle, Economic order quantity (EOQ), The EOQ Inventory model, Forecasting, Reorder point and safety stock.

In the fourth chapter, I discussed about Analysis of Inventory Management Practices: Application of EOQ Model- The purchasing plan of inventories, Suppliers of inventories and terms of conditions, Suppliers of inventories, Terms of conditions, Inventory business process, the framework, Pakiza Technovation Limited inventory management method– FIFO, what is FIFO? The motivation of Pakiza Technovation Limited to use FIFO, Product description, Advantages that Pakiza Technovation Limited get by using FIFO, EOQ analysis, Reorder point and safety stock analysis, Evaluation of the EOQ result, Inventory turnover ratio, Evaluation of the safety stock result, Evaluation of the inventory turnover ratio.

In the fifth chapter, I discussed about Findings & Conclusion – Findings, Conclusions, Appendix, References.

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## Chapter 1: Framework of the report

### 1.1 Background of the study

As I start to work in Pakiza Technovation Limited (PTVL) as an intern here I able to learn many things. From all of those learning I choose PTVL inventory management as my internship report topic. Pakiza Technovation Limited (PTVL) is a new concern of Pakiza Group. Pakiza Technovation Limited (PTVL) is new in IT sector. They start its business in 1<sup>st</sup> January 2016. As IT Firm PTVL products and services are- Hardware solution, Software solution, Data Center & Passive Infrastructure Solution, Managed Service, Security & Surveillance etc. Pakiza Technovation Limited (PTVL) is new big IT Firm in BD.

### 1.2 Significance of the report

We all know that education is the backbone of a nation. Without education a country can't progress. Educated people can make a bright country with taking lots of smart decision and their hard work. To get knowledge one can't rely on only theoretical knowledge, they need practical knowledge. In life of a student they just read books and get only theoretical knowledge which is not good for a developed country like us. So, at the end of university study a student must get some practical knowledge by working practically. And this is called internship.

In our university every student has to join any firm to get some practical knowledge by using their theoretical knowledge that they get from their study. We do our internship after completing all courses normally 120 credit. That's why I am making this report to fulfill my BBA requirements.

### 1.3 Scope of the report

My internship duration is three months. In Pakiza Technovation Limited (PTVL) I work in Accounts Department. Here I am able to learn how to operate Tally ERP software and firm Inventory Management System related information. Management of inventory is a vast filed of production management. Here the scope is, I will be able to know all the theoretical aspects of inventory management, how PTVL order goods from its supplier and sales them to its target customer.

### 1.4 Objective

Primary objective of this report is, it is part of my BBA program requirement that I have to complete. Secondary objective is to evaluate PTVL inventory management system, its process and find risk associates with it.

## 1.5 Methodology

To evaluate anything there are many ways or techniques. We also have many techniques to evaluate firm Inventory Management System. Those evaluating techniques are- Opening and ending inventory, stock and sales monitoring, Cash Flow Analysis, Balance Sheet Analysis, Ratio Analysis. EOQ Model is the widely used technique for evaluating Inventory Management. Calculate all the information as per as Pakiza Technovation Limited (PTVL) policies.

## 1.6 Sources

To collect any data there are two type of sources, which is primary sources and secondary sources. All the information we get by observation, face to face talking with concern person is called primary sources of data. All the information we get from online, newspaper, website, other person use data is called secondary sources of data. To get Pakiza Technovation Limited (PTVL) all the information I observe, talk face to face with various person, read firm report, company website, previous record and file, newspaper.

### 1.6.1 Primary sources

In this report primary data are-

- Observation
- face to face talking with concern person
- Discussion with my supervisor

### 1.6.2 Secondary sources

In this report secondary data are-

- Online
- Newspaper
- Website
- Other person use data
- Official records

## 1.7 Limitations

In every work there will be some limitation. Without limitations it is impossible to work anything. In this report I also face some limitations.

As it is private company I am unable to get firm annual report because they don't make annual report. But due to Tally access I somehow able to get some information. And I also face problem regarding collect information because Pakiza Technovation Limited (PTVL) have three office – 1) Head Office, 2) Operation Office and 3) SCM Office. I worked in operation office that's why I face difficulty to get information and for not having good relationship with everyone because we are unable to communicate face to face frequently. Because of the limitation of information, some assumptions were made. So, there may be some personal mistake in the report

## Chapter 2: About Pakiza Technovation Limited

### 2.1 An overview of Pakiza Technovation Limited

Pakiza Technovation Limited (PTVL) is a new concern of Pakiza Group. Pakiza Technovation Limited (PTVL) is new in IT sector. They start its business in 1<sup>st</sup> January 2016.

Pakiza Technovation Limited (PTVL) goal is to be one of the recognized organizations for IT hardware solutions and Software development in the country. To achieve this goal, they ensure - IT Hardware and solution business, delivery of Bespoke Software (Design, Coding and Testing), and the follow-on customer service is an essential part of the quality process. All employees receive training to ensure awareness and understanding of quality and its impact on customer service. The leadership team are responsible for ensuring that the quality objectives, and commitments to satisfy any applicable requirements continually improve the quality management system. (Limited, n.d., p. Pakiza Technovation Limited)

#### 2.1.1 Mission of Pakiza Technovation Limited (PTVL)

To deliver Excellence through Innovation Using Technology. (Limited, n.d., p. Pakiza Technovation Limited)

#### 2.1.2 Vision of Pakiza Technovation Limited (PTVL)

To be the technology partner of choice for forward-looking customers by collaboratively transforming technology into business advantage. (Limited, n.d., p. Pakiza Technovation Limited)

#### 2.1.3 Values of Pakiza Technovation Limited (PTVL)

PTVL always love to optimize, not to be lowest in price, its solution to meet its client's requirement and thus ensure value for money as the visibility of ICT projects are result driven, it ensures the promised result and the project outcome becomes visible. (Limited, n.d., p. Pakiza Technovation Limited)

### 2.2 Organogram

Here is the top leader of Pakiza Technovation Limited (PTVL)



### 2.3 Code of ethics

Pakiza Technovation Limited believes in delivering Excellence through Innovation using Technology and ensuring high Satisfaction level of its clients, corporate responsibility policy. (Limited, n.d., p. Pakiza Technovation Limited)

### 2.4 SHEQ (Safety, Health, Environment, and Quality)

#### 2.4.1 Safety

Pakiza Technovation Limited take all kind of safety measurement for its employee. They are conscious and careful regarding their employee safety. They focus in safety first rules. There is fire extinguisher, fire hydrant.

## 2.4.2 Health

Pakiza Technovation Limited are conscious about its employee health. They provide healthy food for its employee by subsidies on food. They just take 1,250 /- taka monthly from its employee rest of the payment paid by Pakiza Technovation Limited.

## 2.4.3 Environment

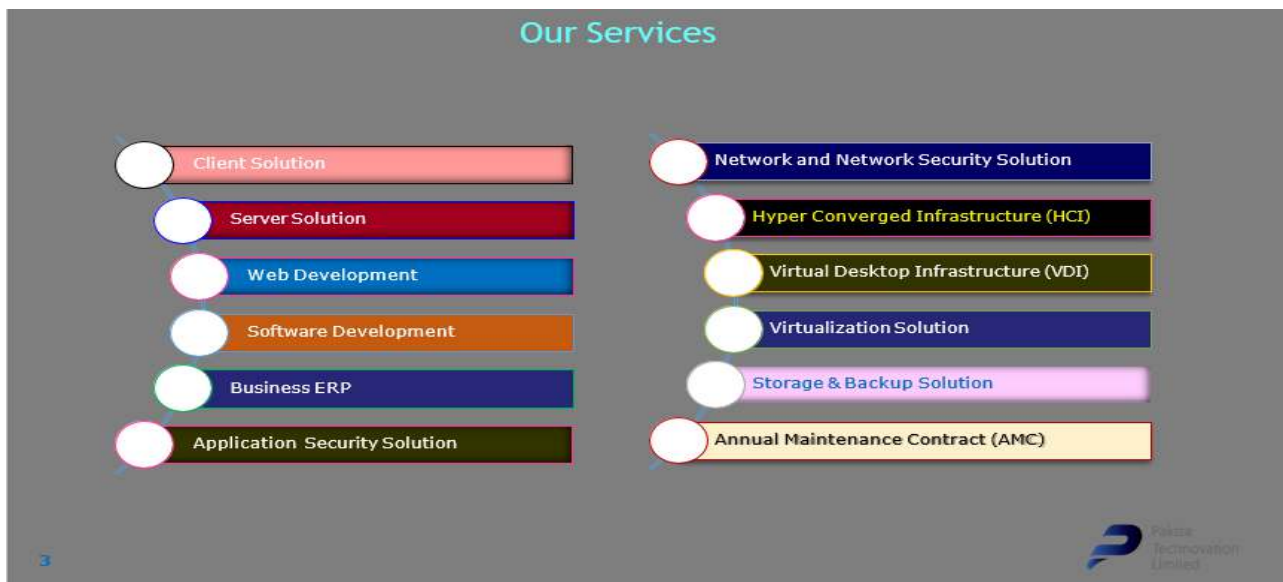
Pakiza Technovation Limited environment are friendly. Here everyone senior to junior executive to AGM called one another as Bhai. Every one cooperates one another. It's pretty good working environment.

## 2.4.4 Quality

Pakiza Technovation Limited (PTVL) don't compromise with their quality of products and service towards their customers.

## 2.5 Products & services

Pakiza Technovation Limited (PTVL) products and services are- Hardware solution, Software solution, Data Center & Passive Infrastructure Solution, Managed Service, Security & Surveillance etc.



## Chapter 3: Economic Order Quantity (EOQ) & Inventory Management

### 3.1 Theoretical framework of inventory management

Basically, inventory management is all about how an organization maintain and control goods. Organization structure and the operating policies should be made for stock goods. Inventory management team is responsible for ordering goods and receipts. For that they must aware of timing of the order placement and have to keep track of what has been ordered, how much, and from whom. Inventory management system main concerns is customer service with right goods, in the right place at the right time. Another concern is cost of ordering goods and carrying inventories. Pakiza Technovation Limited (PTVL) is 90% import-oriented firm. They also purchase inventory from local market too.

### 3.2 Objective of inventory management

There is some important objective behind inventory management. Inventory management is important These are- Operating objective,

#### 3.2.1 Operating objective

Pakiza Technovation Limited (PTVL) operating objective are-

- To know how much goods are in stock
- To avoid wastage
- To avoid out of stock
- To provide better service to its customer

### 3.3 Why inventory management is important

A well-managed inventory system helped a firm greatly. Like it reduces labor costs, its help firm by counting stock at less time, quickly and transport to the dealers. Because of inventory management employee is unable to the steal any sort of inventory. A proper inventory management as help a firm greatly to maintain a proper stock valuation, easily track stock.



Inventory management is important factor for any sort of company. A good inventory management can shine your business and also a bad inventory management can ruin your whole business too. In a business there are lots of benefits of inventory management like-

- ❖ Accurately fulfilment of order
- ❖ Firm can do better inventory plan and order goods
- ❖ By providing right goods on right time inventory management can crest customer satisfaction

Inventory management planning and controlling help firm to maintain their cash flow. Which helps firms to maximize its profit. Employee will be unable to steal any goods cause every information was recorded of inventory. A better inventory management reduce inventory damages. It also saves money of firms.

### 3.4 Purposes of inventory

The main purpose of inventory management is maintaining accuracy and current position of stock. It helps firm to analysis its product value in market. Because proper inventory management firm can easily find out reorder point that on which point they have to order stock again to maintain proper stock so that firm can run with proper flow to maintain profit margin. Which help firm to maintain its operation smoothly. It helps firm to reduce its cost.

Because of inventory management firm can easily and efficiently can manage its goods ordering, stocking, storing, and using of inventory. All of these are the main purpose of inventory management. If firm manage its inventory effectively and efficiently they will always able to know all the information of their products like- what items are in their stock, how many of them there are, and where they are located.

A well manage inventory system helps firm to maintain independence of operations. It ensures proper details of inventory stock. It helps firm to improve in production and sales, which help firm to maximize their profit.

### 3.5 Movement Inventories

Inventory is not remained in a same state always. Its constantly stay at flux state. Because of firm purchase inventory make finished goods and sales to customer and order inventory again to maintain cycle of raw materials to finished goods. Pakiza Technovation Limited (PTVL) always have close look at its inventory movement that an optimum level of stock is maintained.

### 3.6 Buffer inventory

Buffer stock is the amount required to hedge against customer-induced variations, or spikes in demand. It's similar to safety stock. Sometimes it's even called "buffer safety inventory." (Tutson)

Buffer inventory means safety stock. Every firm who maintain a proper inventory management they keep or maintain an amount of inventory to face sudden demand, in case of any emergency, on any unsudden failure of supply chain failure. For all of these firm focus on maintain an amount of inventory for these reasons. Pakiza Technovation Limited (PTVL) also aware of these uncertain circumstances. That's why they maintain 40% safety stock to face these uncertainties.

### 3.7 Anticipation inventories

Businesses that produce or sell products must keep inventory on hand to meet demand. Sometimes, in anticipation of events that will or might occur, businesses purposely keep more inventory than needed to meet current demands. This inventory is called anticipation inventory. (Wiley)

Anticipation inventories is similar like safety stock. Anticipation inventories is that there is some uncertain demand at some especial day, event, location to meet these demands a firm especially stock goods or inventories for these especial events. Pakiza Technovation Limited (PTVL) also done same things to cover up these demands, Pakiza Technovation Limited (PTVL) maintain on keep safely stock on anticipation inventories 5% from its total inventories.

### 3.8 Control of materials

Those firm have better material control techniques they are more successful and they get more turnover then poor materials controls firm. there are few materials control techniques, like

- 1) Purchase control
- 2) Storage Control
- 3) Warehouse control

#### 3.8.1 Purchase control

It refers that how a firm. negotiate in market at the time of purchase goods, on inventories before that they must need to read market demand and trends what is going on market, what is customer needs, wants and demands and which time they need what amount of goods they must keep storage to meet its customer needs. Here firms need to study market economic trends and especially what is competitor doing or

purchasing, and what amount they should purchase. The objective of purchase control is all about continuity of firm work cycle normally, to make market competitive which also help customer to get good qualities products at less cost, which can co also contribute many firm's productivity à directly or indirectly, increase firm profit.

### 3.8.2 Warehouse control

Its activities start as goods / inventory enter the warehouse. At first store keepers receipt the inventories, inspect goods then store. And at the time of goods delivery to dealer they inspect, get clearance

for delivery, delivery goods and preserve their inventory. And at the time of inventory receive they get clearance, delivery, inspect goods, take stock charging, and preserve inventory, check issue and return if there is any sort of inventory damages or any other issue.

### 3.8.3 Storage control

PTVL follow perpetual inventory system to control its storage. SCM office Receipt inventory, Issue in its system and maintain store inventory Records. Storage control technique is an important part of any firm.

## 3.9 Associated risks and risk management

In business nothing goes smoothly. In every operation or work there must have some associated risk. when people doing something to make profit there must have risk. For that firms always need to focus on how to identifying the associated risk in their business and to avoid and minimize those risk, what strategy they should take and get their desire outcome of making profit.

PTVL have some associated risk in their inventory system. These are-

- Theft
- Inventory waste & damage
- inventory loss

### 3.9.1 Theft

“Theft is the act of taking another person's property or services without that person's permission or consent with the intent to deprive the rightful owner of it”. ([Merriam-Webster, Retrieved 8 November 2021.](#))

Theft means stealing something from the storage. Theft is the most or biggest inventory associated risk for PTVL. As PTVL imports inventory from another country and they store their goods in SCM office and from there they delivery inventory to their vendor. So, at the time of importing there are risk to be theft of their inventory in the port or at the time of transportation from port to SCM office. SCM office employee have the most opportunity to stealing goods / inventory.

It is difficult to PTVL management to track these thefts because these internal employees know everything regarding the system and for that most of the time they erase all the evidence or tracking system.

To avoid these PTVL invest much amount on security purpose. They purchase camera, guards and lastly, they start to checking every employee body and bags they carry so that they can prevent this inventory theft.

### 3.9.2 Inventory waste & damage

Normally at the time of using inventory or at the time of importing or delivering inventories there are many chances of inventory wastages and being damage.

PTVL also have to bears its inventory wastage and damage at the time of importing inventory some times because of packing inventory get damages. It also damages at the time of delivering inventories to its vendor. Sometimes employee using more inventory which was not need that much as a result it cost wastage.

PTVL takes initiative to control these wastage & damages of inventory by auditing and counting which employee what they have and how much they have. If they have extra inventory and using without that inventory they can work normally PTVL sized that extra inventory which help them to prevent wastage of inventory. At the same time, they focusing on packaging inventory more strongly so that at the time of transportation and delivering inventory there won't be any damages.

### 3.9.3 Inventory loss

Inventory means current assets. Inventory loss means loss of current assets, which reduce firm equity. PTVL also have to bear inventory loss means reduction in their equity. Inventory loss append in PTVL because of employee carelessness, and unable to manage inventory.

So, to prevent these inventory losses they invest in advance system to control their inventor and which help them to find out exact loss amount and reason behind the inventory loss.

### 3.9.4 Life cycle

A life cycle is a course of events that brings a new product into existence and follows its growth into a mature product and eventual critical mass and decline. The most common steps in the life cycle of a product include product development, market introduction, growth, maturity, and decline/stability. (HARGRAVE, March 26, 2022)

Life cycle means a continuous process. As long as business run its operation, the cycle will go on. Pakiza Technovation Limited (PTVL) cycle is that they make forecast, order for inventory, received inventory, store inventory, check quality, received order, deliver inventory to vendor and again forecast of forecast its going continuous.

As Pakiza Technovation Limited (PTVL) doing its business of ICT product which has life cycle means if the product stay long time in the storage product might get damage or reduce its value. For these risk Pakiza Technovation Limited (PTVL) control its inventory management to avoid these risks and forecast exact amount of inventory they need to run its activity. And with new vendor they always focus on their old regular vendor to sells inventory.

### 3.10 Economic order quantity (EOQ)

The economic order quantity (EOQ) refers to the ideal order quantity a company should purchase in order to minimize its inventory costs, such as holding costs, shortage costs, and order costs. EOQ is necessarily used in inventory management, which is the oversight of the ordering, storing, and use of a company's inventory. Inventory management is tasked with calculating the number of

units a company should add to its inventory with each batch order to reduce the total costs of its inventory. (ERLENKOTTER)

Economic order quantity (EOQ) is basically a system of calculating cost of inventory. Economic order quantity (EOQ) is important for any firm to manage its inventory efficiently. In Economic order quantity (EOQ) the optimal order quantity minimizing total cost which are- ordering, receiving, and holding inventory in the storage. Economic order quantity (EOQ) will be higher if setup cost and product demand increase. Economic order quantity (EOQ) will be lower if holding cost increase.

### 3.10.1 The EOQ Inventory model

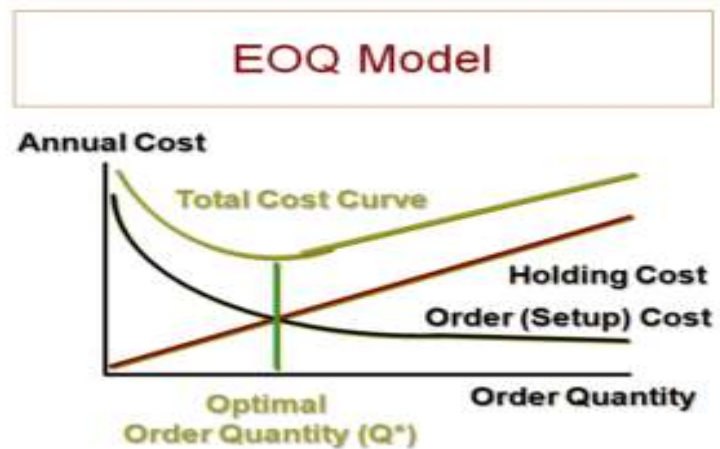
Earlier peoples don't understand what EOQ stands for and how it should be used for the purpose of business. Later James A. Cargal author clearly explains the fundamental theory of the Economic Order Quantity (EOQ). In an article James A. Cargal give the formula of, "The EOQ Inventory Formula".

Here is the formula of  $EOQ = \sqrt{(2 \times S \times D) / H}$

where: S=Setup costs (per order, generally including shipping and handling)

D=Demand rate (quantity sold per year)

H=Holding costs (per year, per unit)



### 3.10.2 Forecasting

Forecasting is a technique that uses historical data as inputs to make informed estimates that are predictive in determining the direction of future trends. Businesses utilize forecasting to determine how to allocate their budgets or plan for anticipated expenses for an upcoming period of time. (TUOVILA, September 24, 2020)

Forecasting is similar to analysis or estimating how much quantity of a product or service that consumers will purchase. Pakiza Technovation Limited (PTVL) forecast before purchase inventory. They forecast on the basis of historical data like- previously what type of inventory vendor is purchasing from him, what trends is going on the market, what will be change in consumer taste, new technology changes etc. Without

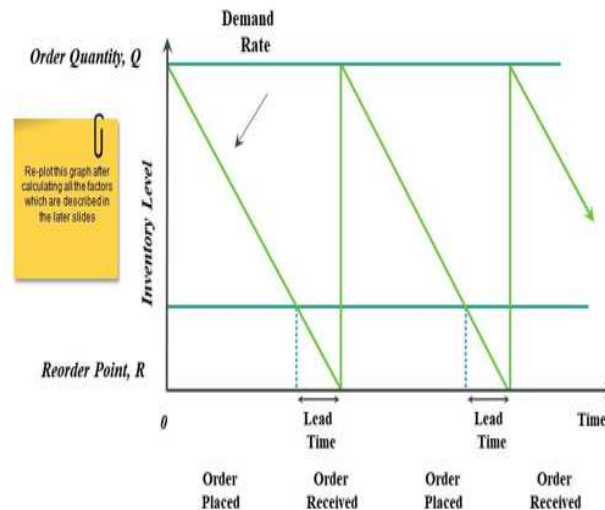
forecasting Pakiza Technovation Limited (PTVL) don't import inventory, because they know without forecasting if they forecast there are high risk. So, to make business profitable and risk free they always forecast before purchase inventory.

## Economic Order Quantity (EOQ) Model

### 3.10.3 Reorder point and safety stock

A reorder point (ROP) is a specific level at which your stock needs to be replenished. In other words, it tells you when to place an order so you won't run out of stock. (Kesavan)

Basically, reorder point (ROP) means at which point firm should purchase inventory again to continue its operational work. When a firm purchase inventory to do business at some point inventory will be empty. If the sold all the inventory then what will they sell next? For that before sell all inventory at a sudden stage keeping some inventory in hand firms have purchase inventory again.



Safety stock is an extra quantity of a product which is stored in the warehouse to prevent an out-of-stock situation. It serves as insurance against fluctuations in demand. (Kesavan, What is Safety Stock?)

Safety stock means when supplier is unable to supply inventory at right time for that delay firm will be unable to run its operation without inventory for that reason keeping some inventory at hands and order inventory that portion of stocking inventory is called safety stock. It is important for any firm to keep some safety stock in their hand to avoid circumstance risk. And can continue its operational work fluently.

The formula of Reorder point and safety stock are given below-

## Reorder Point = Daily usage rate\*Lead time (in days) Or Reorder Point = [Daily usage rate \* Lead time (in days)] + safety stock

## Safety stock = [maximum daily use\*maximum lead time] – [average daily use \* average lead time] = safety stock.

## Chapter 4: Analysis of Inventory Management Practices: Application of EOQ Model

### 4.1 The purchasing plan of inventories

Without plan nothing goes on right way. A proper plan can make a small firm profitable. Plan is the first step of doing anything. Purchasing plan of inventory is an important part of business. Cause if you purchase too many inventories then it will be damage and wastage, on the other hand if firm purchase less amount of inventory then firm will be unable to delivery inventory to its vendor at the right time. Which may result as loss to firm. For that it is important to firm that before purchase inventory they must have to do purchase plan.

Pakiza Technovation Limited (PTVL) make purchasing plan of inventories before purchase inventory. They done research before purchase inventory. Like – previous month number of sales products, what amount of purchase order (PO) they have in their hand and how more purchase order (PO) they will get, is any new vendor will purchaser from them or not, the market demand of IT product, how much amount of inventory are in their hand and the amount of safety stock are in their hand. Based on all these information Pakiza Technovation Limited (PTVL) make their purchasing plan of inventories.

The activity of the department for purchasing materials from others country is shown below:

- ❖ At first find out the source/supplier as per as requirement from different department.
- ❖ Secondly contract with the vender
- ❖ Then have to open LC in favor of vender
- ❖ Shipment with the information and documents to the bank
- ❖ Document withdraws from bank
- ❖ Have to contract with the clearing agent
- ❖ Transfer the materials to the storage
- ❖ Receive goods by SCM and they inspect the goods and give report.

### 4.2 Suppliers of inventories and terms of conditions

Pakiza Technovation Limited (PTVL) purchase its inventory from various vendor or supplier. PTVL purchase its inventory from Local market and also from others country.



#### 4.2.1 Suppliers of inventories

Pakiza Technovation Limited (PTVL) International/ Foreign Suppliers are-

|                                 |                       |
|---------------------------------|-----------------------|
| Redington Distribution Pte Ltd. | Inflow Technologies   |
| Compuage Inficom Ltd            | Oracle                |
| Star Seed                       | Dell Global           |
| Asia I Value Pte                | EZY Infotech Pte Ltd. |

Pakiza Technovation Limited (PTVL) Local Suppliers are-

|                                    |   |
|------------------------------------|---|
| 3NS Technology BD                  | New Tech Technology                                 |
| August Technologies Ltd.           | Z & Z Associates                                    |
| Bismillah BD.                      | Products Plus Solutions Ltd.                        |
| B.M Technology                     | Provident Technology                                |
| B-TRAC Technologies Ltd.           | Qfix Services                                       |
| Lucent Engineering                 | Rajib Electric Solution                             |
| EERNA                              | Studio Mason Ltd.                                   |
| EMACO Solutions Ltd.               | Richman Infomatics                                  |
| IT Source                          | Ryans Computers                                     |
| Janani Computers                   | Smart Technologies BD Ltd.                          |
| Gateway Communication & Technology | South Bangla Computer                               |
| I Network BD                       | Spot Security Solution                              |
| Tech Solutions (TS)                | MTEL Electronics                                    |
| IT Access                          | Star Tech & Engineering Ltd. (ICT Product Purchase) |

#### 4.2.2 Terms of conditions

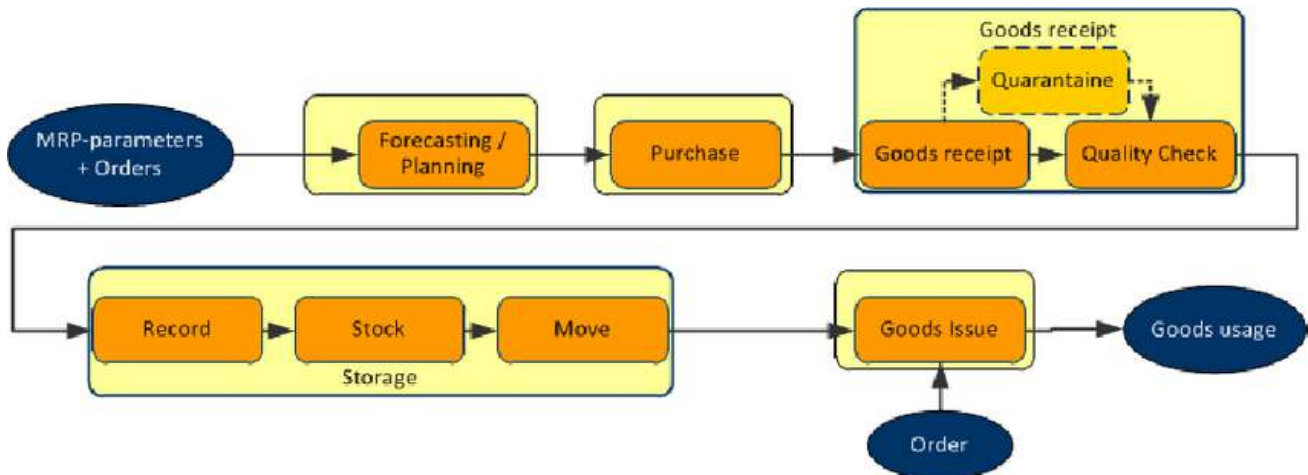
- ❖ Delivery to PTVL office, House 6/1-B, Lalmatia, Dhaka-1207 (Behind Lalmatia Mohila College), date of delivery.
  - ❖ Payment will be made by A/C payee cheque after receive the products.
  - ❖ This price is net.
  - ❖ Cash on delivery.
  - ❖ If the consignment is rejected on quality ground the entire quantity will have to be replaced at your own cost and add a discount option before total taka.
1. Materials: Must conform to the specification as described.
  2. Packaging statement: To meet the documents as per the LC terms.
  3. Shipment: To be made from any seaport to Chittagong port by sea.
  4. Delivery: To be made by specific date.

5. LC validity: LC remains valid for shipment and negotiation till (made upon agreement).
6. Product label: To be labeled in the container of goods as per the instruction in the LC.
7. Marine insurance: Will be covered by us soonest on receipt of your shipment advice under the open Marine policy, dated (specific date).

### 4.3 Inventory business process

Inventory management refers to the process of ordering, storing, using, and selling a company's inventory. This includes the management of raw materials, components, and finished products, as well as warehousing and processing of such items. (HAYES, July 25, 2022)

Basically, in inventory management process Pakiza Technovation Limited (PTVL) forecast and make plan of purchasing of inventory. After making the right forecast and purchase plan they import inventory and also purchase from local market. SCM office receipt inventory.



They check quality of the inventory is ok or not, if inventory pass the quality test then its goes to the storage and if it failed in quality test then consignment return to the seller. In storage at first record quality test pass inventory then stock inventory and if there any order to sell they move the order means place the order and ship the final delivery to vendor.

### 4.4 Pakiza Technovation Limited inventory management method

Pakiza Technovation Limited use FIFO method to manage its inventory instead of using LIFO method.

#### 4.5 What is FIFO?

FIFO means “First-In, First-Out”. Basically, FIFO is a method which is used for cost flow assumption to calculate cost of goods sold or COGS. According to this method it is assumed that a firm has to sell its oldest inventory first. ([What Is FIFO Method: Definition and Example, 2019](#))

#### 4.6 The motivation of Pakiza Technovation Limited to use FIFO

Pakiza Technovation Limited uses the FIFO method. FIFO means First-In, First-Out. Which means those inventory items that Pakiza Technovation Limited purchased first, they will sell them first. Oldest products will be sold first.

#### 4.7 Advantages that Pakiza Technovation Limited get by using FIFO

All over the world, every small to large business organization follows this FIFO method. There are many reasons to use this method. Pakiza Technovation Limited gets lots of advantages because of using the FIFO method. These are-

- ❖ Pakiza Technovation Limited saves its money and time by calculating the exact cost of inventory.
- ❖ FIFO method is a simple concept and it's easy to understand for everyone how it works, which makes everyone's work easier.
- ❖ With the help of the FIFO method, Pakiza Technovation Limited can easily find out the cost of the products at the time of sale.
- ❖ Pakiza Technovation Limited gets comparability and consistency using the FIFO method.
- ❖ The FIFO method makes it difficult to manipulate the financial statement.

## 4.8 Inventory Turnover Ratio

Table No-01: Sales and Purchase details

| Profit and losses for the Year of 2019 |             |             | Profit and losses for the Year of 2020 |            |            | Profit and losses for the Year of 2021 |             |             |              |
|--|-------------|-------------|--|------------|------------|--|-------------|-------------|--------------|
| Mon                                    | Sales       | Purchase    | Profit                                 | Sales      | Purchase   | Profit                                 | Sales       | Purchase    | Profit       |
| Jan                                    | -           | 13,978,127  | (13,978,127)                           | 38,513,140 | 4,721,254  | 33,791,886                             | 50,590,842  | 48,983,070  | 1,607,772    |
| Feb                                    | -           | 14,956,500  | (14,956,500)                           | 40,303,698 | 38,246,832 | 2,056,866                              | 117,318,269 | 143,612,063 | (26,293,794) |
| Mar                                    | -           | 18,471,916  | (18,471,916)                           | 48,372,888 | 47,266,904 | 1,105,983                              | 71,650,670  | 32,592,760  | 39,057,910   |
| Apr                                    | -           | 16,630,047  | (16,630,047)                           | 34,649,159 | 31,908,012 | 2,741,147                              | 152,633,266 | 47,943,803  | 104,689,463  |
| May                                    | -           | 29,541,898  | (29,541,898)                           | 7,656,860  | 193,850    | 7,463,010                              | 87,038,263  | 27,818,727  | 59,219,536   |
| Jun                                    | 19,964,995  | 7,726,964   | 12,238,031                             | 74,000,645 | 42,742,822 | 31,257,823                             | 76,102,061  | 44,329,215  | 31,772,846   |
| Jul                                    | 30,332,058  | 13,622,081  | 16,709,977                             | 55,407,605 | 10,560,525 | 44,847,080                             | 40,787,377  | 18,645,177  | 22,142,200   |
| Aug                                    | 29,864,711  | 60,314,813  | (30,450,102)                           | 42,273,722 | 17,987,555 | 24,286,167                             | 37,556,145  | 66,772,785  | (29,216,640) |
| Sep                                    | 100,160,321 | 222,182,117 | (122,021,796)                          | 72,436,737 | 76,505,312 | (4,068,575)                            | 80,722,985  | 64,164,230  | 16,558,756   |
| Oct                                    | 35,660,753  | 3,495,974   | 32,164,779                             | 48,086,276 | 18,091,353 | 29,994,923                             | 79,342,077  | 49,859,369  | 29,482,708   |
| Nov                                    | 45,445,283  | 54,470,728  | (9,025,445)                            | 91,447,790 | 86,674,077 | 4,773,713                              | 37,801,666  | 85,916,558  | (48,114,892) |
| Dec                                    | 98,366,429  | 51,244,244  | 47,122,185                             | 98,040,545 | 84,146,215 | 13,894,330                             | 121,085,823 | 58,984,989  | 62,100,834   |
|  |             |             | (146,840,858)                          |            |            | 192,144,354                            |             |             | 263,006,699  |

In Table No-01 we can see Year 2019, 2020, 2021-month wise sales, purchase and depending on sales and purchase we can also see their profit.

Table No-02: Profit and losses for the Year of 2019

| Profit and losses for the Year of 2019 |           |                |                |                         |
|--|-----------|----------------|----------------|-------------------------|
| SL                                     | Month     | Sales          | Purchase       | Profit                  |
| 1                                      | January   | -              | 13,978,127.31  | (13,978,127.31)         |
| 2                                      | February  | -              | 14,956,500.00  | (14,956,500.00)         |
| 3                                      | March     | -              | 18,471,915.50  | (18,471,915.50)         |
| 4                                      | April     | -              | 16,630,046.60  | (16,630,046.60)         |
| 5                                      | May       | -              | 29,541,898.44  | (29,541,898.44)         |
| 6                                      | June      | 19,964,995.00  | 7,726,963.57   | 12,238,031.43           |
| 7                                      | July      | 30,332,057.98  | 13,622,081.00  | 16,709,976.98           |
| 8                                      | August    | 29,864,711.00  | 60,314,812.93  | (30,450,101.93)         |
| 9                                      | September | 100,160,321.00 | 222,182,116.58 | (122,021,795.58)        |
| 10                                     | October   | 35,660,753.00  | 3,495,974.34   | 32,164,778.67           |
| 11                                     | November  | 45,445,283.00  | 54,470,727.66  | (9,025,444.66)          |
| 12                                     | December  | 98,366,428.91  | 51,244,243.96  | 47,122,184.95           |
| <b>Total Profit / Loss</b>             |           |                |                | <b>(146,840,858.00)</b> |

Here we can see a table of profit and losses for the year of 2019 of PTVL. Here the table contains month wise total purchase and sales. We know that profit comes from Sales- Purchase. If sales value high and purchase value is low which means profit.

As PTVL start it all sort of activity in 2019 but before that they start its management activities also administrative activities. It mainly starts purchasing ICT goods in 2019. But it starts selling in June-2019. That year they sold total 359,794,549.89 and purchase 506635407.885 which means loss of 146,840,858.

Table No-03: Profit and losses for the Year of 2020

| <b>Profit and losses for the Year of 2020</b> |              |               |                 |                       |
|---|--------------|---------------|-----------------|-----------------------|
| <b>SL</b>                                     | <b>Month</b> | <b>Sales</b>  | <b>Purchase</b> | <b>Profit</b>         |
| 1   | January      | 38,513,140.14 | 4,721,254.00    | 33,791,886.14         |
| 2   | February     | 40,303,697.66 | 38,246,831.76   | 2,056,865.90          |
| 3   | March        | 48,372,887.56 | 47,266,904.34   | 1,105,983.22          |
| 4   | April        | 34,649,159.00 | 31,908,011.90   | 2,741,147.10          |
| 5   | May          | 7,656,860.00  | 193,850.00      | 7,463,010.00          |
| 6   | June         | 74,000,644.54 | 42,742,821.63   | 31,257,822.91         |
| 7   | July         | 55,407,605.24 | 10,560,525.38   | 44,847,079.86         |
| 8   | August       | 42,273,722.19 | 17,987,554.83   | 24,286,167.36         |
| 9   | September    | 72,436,736.99 | 76,505,311.99   | (4,068,575.00)        |
| 10  | October      | 48,086,275.50 | 18,091,352.69   | 29,994,922.81         |
| 11  | November     | 91,447,790.00 | 86,674,077.02   | 4,773,712.98          |
| 12  | December     | 98,040,545.16 | 84,146,214.89   | 13,894,330.27         |
| <b>Total Profit / Loss</b>                    |              |               |                 | <b>192,144,353.55</b> |

In 2020 PTVL completely start all its operational activities and also gather minimum experience which shows on their next year sale and purchase. They able to sale 651189063 and purchase 459044710 in 2020.

Table No-04: Profit and losses for the Year of 2021

| <b>Profit and losses for the Year of 2021</b> |              |                |                 |                       |
|---|--------------|----------------|-----------------|-----------------------|
| <b>SL</b>                                     | <b>Month</b> | <b>Sales</b>   | <b>Purchase</b> | <b>Profit</b>         |
| 1   | January      | 50,590,842.43  | 48,983,070.42   | 1,607,772.01          |
| 2   | February     | 117,318,269.00 | 143,612,062.75  | (26,293,793.75)       |
| 3   | March        | 71,650,670.00  | 32,592,759.94   | 39,057,910.06         |
| 4   | April        | 152,633,265.63 | 47,943,802.75   | 104,689,462.88        |
| 5   | May          | 87,038,263.02  | 27,818,727.30   | 59,219,535.72         |
| 6   | June         | 76,102,060.71  | 44,329,214.74   | 31,772,845.97         |
| 7   | July         | 40,787,377.00  | 18,645,176.89   | 22,142,200.11         |
| 8   | August       | 37,556,145.34  | 66,772,784.90   | (29,216,639.56)       |
| 9   | September    | 80,722,985.07  | 64,164,229.50   | 16,558,755.57         |
| 10  | October      | 79,342,077.02  | 49,859,368.77   | 29,482,708.25         |
| 11  | November     | 37,801,666.12  | 85,916,558.12   | (48,114,892.00)       |
| 12  | December     | 121,085,823.10 | 58,984,989.00   | 62,100,834.10         |
| <b>Total Profit / Loss</b>                    |              |                |                 | <b>263,006,699.35</b> |

In 2021 PTVL able to sale 952,629,444.44 taka and purchase 689,622,745.09 taka. In 2021 PTVL increase their sales and purchase of goods.

Table No-05: Profit and losses for the Year of 2022

| <b>Profit and losses for the Year of 2022</b> |              |                |                 |                      |
|---|--------------|----------------|-----------------|----------------------|
| <b>SL</b>                                     | <b>Month</b> | <b>Sales</b>   | <b>Purchase</b> | <b>Profit</b>        |
| 1   | January      | 50,666,631.00  | 51,144,003.42   | (477,372.42)         |
| 2   | February     | 60,430,452.37  | 41,965,123.21   | 18,465,329.16        |
| 3   | March        | 115,310,591.97 | 115,715,242.98  | (404,651.01)         |
| 4   | April        | 100,347,993.20 | 80,671,803.68   | 19,676,189.52        |
| 5   | May          | 30,778,400.51  | 29,639,583.27   | 1,138,817.24         |
| 6   | June         | 44,304,805.01  | 41,692,205.50   | 2,612,599.51         |
| 7   | July         | 36,254,203.00  | 5,463,447.00    | 30,790,756.00        |
| 8   | August       | -              | -               | -                    |
| 9   | September    | -              | -               | -                    |
| 10  | October      | -              | -               | -                    |
| 11  | November     | -              | -               | -                    |
| 12  | December     | -              | -               | -                    |
| <b>Total Profit / Loss</b>                    |              |                |                 | <b>71,801,668.00</b> |

Till June 2022 PTVL able to sale 438,093,077.06 taka and purchase 366,291,409.06 taka.

Table No-06: Yearly Profit and Losses

| <b>Yearly Profit and Losses</b> |                |                 |                       |
|---------------------------------|----------------|-----------------|-----------------------|
| <b>Year</b>                     | <b>Sales</b>   | <b>Purchase</b> | <b>Profit</b>         |
| 2019                            | 359,794,549.89 | 506,635,407.89  | (146,840,858.00)      |
| 2020                            | 651,189,063.98 | 459,044,710.43  | 192,144,353.55        |
| 2021                            | 952,629,444.44 | 689,622,745.09  | 263,006,699.35        |
| 2022                            | 438,093,077.06 | 366,291,409.06  | 71,801,668.00         |
| <b>Total Profit</b>             |                |                 | <b>380,111,862.91</b> |

Pakiza Technovation Limited mostly purchase from outside of the country by opening LC. Pakiza Technovation Limited foreign purchase percentage is 80% and local purchase 20% (approximate). These percentage vary depends on the needs and current market situation.

Table No-07: Sale Details

| Sale Details |             |            |         |             |            |         |             |            |         |             |            |         |
|--------------|-------------|------------|---------|-------------|------------|---------|-------------|------------|---------|-------------|------------|---------|
| Month        | 2019        |            |         | 2020        |            |         | 2021        |            |         | 2022        |            |         |
|              | Sale Amount | Total Unit | D. Time | Sale Amount | Total Unit | D. Time | Sale Amount | Total Unit | D. Time | Sale Amount | Total Unit | D. Time |
| January      | -           | -          | -       | 38,513,140  | 44,613     | 13      | 50,590,842  | 45,423     | 14      | 50,666,631  | 58,751     | 21      |
| February     | -           | -          | -       | 40,303,698  | 48,511     | 12      | 117,318,269 | 89,242     | 26      | 60,430,452  | 45,125     | 24      |
| March        | -           | -          | -       | 48,372,888  | 51,041     | 16      | 71,650,670  | 54,212     | 21      | 115,310,592 | 54,512     | 26      |
| April        | -           | -          | -       | 34,649,159  | 36,122     | 8       | 152,633,266 | 128,405    | 28      | 100,347,993 | 18,542     | 8       |
| May          | -           | -          | -       | 7,656,860   | 12,001     | 5       | 87,038,263  | 91,215     | 19      | 30,778,401  | 44,512     | 26      |
| June         | 19,964,995  | 20,296     | 15      | 74,000,645  | 54,213     | 21      | 76,102,061  | 84,352     | 18      | 44,304,805  | 41,856     | 29      |
| July         | 30,332,058  | 36,685     | 26      | 55,407,605  | 52,105     | 22      | 40,787,377  | 35,242     | 21      | 36,254,203  | 54,556     | 30      |
| August       | 29,864,711  | 36,010     | 16      | 42,273,722  | 48,985     | 17      | 37,556,145  | 42,105     | 15      | -           | -          | -       |
| September    | 100,160,321 | 69,050     | 21      | 72,436,737  | 54,212     | 20      | 80,722,985  | 80,421     | 16      | -           | -          | -       |
| October      | 35,660,753  | 40,151     | 20      | 48,086,276  | 52,143     | 19      | 79,342,077  | 75,425     | 16      | -           | -          | -       |
| November     | 45,445,283  | 44,348     | 18      | 91,447,790  | 75,485     | 23      | 37,801,666  | 46,582     | 18      | -           | -          | -       |
| December     | 98,366,429  | 60,421     | 19      | 98,040,545  | 75,613     | 24      | 121,085,823 | 101,201    | 27      | -           | -          | -       |
| Total        | 359,794,550 | 306,961    | 135     | 651,189,064 | 605,044    | 200     | 952,629,444 | 873,825    | 239     | 438,093,077 | 317,854    | 164     |

We can see in the table that in 2019 Pakiza Technovation Limited sold 306,961 units of different types of ICT goods and its approximate delivery time was 135 days from June to December. After that in 2020 they sold 605,044 units of different types of ICT goods and its approximate delivery time was 200 days. In 2021 they sold 873,825 units of different types of ICT goods and its approximate delivery time was 239 days. In 2022 they sold 317,854 units of different types of ICT goods and its approximate delivery time was 164 days from January to July.

Table No-08: Average Daily / Per day Unit Sales = Total Sales Unit / Days.

| Average Daily / Per day Unit Sales = Total Sales Unit / Days |      |                |                       |
|--|------|----------------|-----------------------|
| Year   | Days | Sales Quantity | Average per day Sales |
| 2019   | 210  | 306,961        | 1462                  |
| 2020   | 365  | 605,044        | 1658                  |
| 2021   | 365  | 873,825        | 2394                  |
| 2022   | 210  | 317,854        | 1514                  |

We can see overall information of Pakiza Technovation Limited and try to find out all on average per day sales. Pakiza Technovation Limited sold 1462 Unit Average per day in 2019, 1681 Unit Average per day Sales in 2020, 2427 Unit Average per day Sales in 2021 and 1514 Unit Average per day Sales in 2022.

Average Delivery Lead Time= Total days/ No of orders (Per month)

Table No-09: Average Daily/Per day Unit Sales

| Average Daily/Per day Unit Sales |               |              |                            |
|----------------------------------|---------------|--------------|----------------------------|
| Year                             | Delivery Time | No of orders | Average Delivery Lead Time |
| 2019                             | 135           | 49           | 2.8                        |
| 2020                             | 200           | 204          | 1.0                        |
| 2021                             | 239           | 168          | 1.4                        |
| 2022                             | 164           | 63           | 2.6                        |

In the above table we can see all four-year, delivery time, no of orders and Average Delivery Lead. In 2019 Average Delivery Lead Time was 3 days of Pakiza Technovation Limited. In 2020 Average Delivery Lead Time 1 days. In 2021 Average Delivery Lead Time 2 days. In 2022 Average Delivery Lead Time 3 days.

Table No-10: Inventory Details

| Inventory Details |                   |                |                   |                          |                          |
|-------------------|-------------------|----------------|-------------------|--------------------------|--------------------------|
| Year              | Purchase Quantity | Sales Quantity | Closing Inventory | Inventory Turnover Ratio | Inventory Holding Period |
| 2019              | 356925            | 306961         | 49,964            | 6.1436                   | 58.5972                  |
| 2020              | 611544            | 605044         | 6500              | 93.0837                  | 3.8675                   |
| 2021              | 884125            | 873825         | 10,300            | 84.8374                  | 4.2434                   |
| 2022              | 339854            | 317854         | 22,000            | 14.4479                  | 24.9171                  |

Here we can see the inventory details on table No- 10. Table contains purchase quantity, sales quantity, closing inventory, inventory turnover ratio and lastly inventory holding period.

Table No-11: Total Inventory Cost

| Total Inventory Cost |               |               |              |                      |
|----------------------|---------------|---------------|--------------|----------------------|
| Year                 | Purchase Cost | Ordering Cost | Holding Cost | Total Inventory Cost |
| 2019                 | 506635408     | 421858        | 532000       | 507589266            |
| 2020                 | 459044710     | 546240        | 1176000      | 460766950            |
| 2021                 | 689622745     | 516232        | 1104672      | 691243649            |
| 2022                 | 366291409     | 495131        | 518000       | 367304540            |

In table no-11 we can see total inventory cost table. This table contains purchase cost, order cost and holding cost. If we calculate all these 3 costs we will get TCL= Total Inventory Cost. In 2019 TCL was 507589266 but next year 2020 TCL decrease to 460766950 again in 2021 TCL increase to 691243649. These up and down happened because when firm purchase more inventory for that reason their TCL increase and when they purchase less which result low TCL.



#### 4.9 Evaluation of the inventory turnover ratio

Inventory is big factor for a sale-oriented company, whether they produce goods or import. Firms should have all the information like- how much is their purchase goods quantity, from purchase what amount of goods did they able to sale in a month or year or in a financial year. That's why firm focus to get information of its closing inventory after a month or year.

Here we can see Pakiza Technovation Limited (PTVL) closing inventory was in 2019 is about 49,964, 2020 it was 6,500, in 2021 it was 10,300, in 2022 it was 22,000 units of goods. Basically, inventory turnover start when it open LC or purchase goods to till sold out that goods and empty it stock storage.

Inventory turnover ratio refers that in a periodic inventory turnover the amount of time a firm can sold its inventory. Here in table no- 10 we can see that Pakiza Technovation Limited (PTVL) inventory turnover ratio was in 2019 is about 6.1436, 2020 it was 93.0837, in 2021 it was 84.8374, in 2022 it was 14.4479. We can see 2019 & 2022 till now inventory turnover ratio is low 6.1436 & 14.4479.

These low ratio means these time PTVL sales was weak. They were unable to sale enough inventory according to their projection. As a result, they have excessive inventory in their stock. But at the time of Covid-19 it was advantage for PTVL because we know, low ratio is advantages in the time of inflation period. These 2 year their closing inventory was in 2019- 49964, 2022-22,000.

But in 2020 and 2021 their inventory turnover ratio was high 93.0837 & 84.8374 which indicates strong sales. Strong sales mean high profit and which also indicates insufficient inventory in their storage. In 2020 their closing inventory was 49,964 & 2021- 10,300. In these two-year PTVL able to sale according to their sales projection that's why their inventory turnover ratio was high and closing inventory was low.

Inventory turnover help Pakiza Technovation Limited (PTVL) to make various decision, in terms of pricing its goods, how to marketing, purchasing and storage management. By this ratio Pakiza Technovation Limited (PTVL) able to know its business progress and by that they try to make next future plan according that. A higher inventory turnover ratio is better for any sort of firm. Pakiza Technovation Limited (PTVL) inventory turnover ratio was high which means PTVL is doing good business till now.

Inventory holding period means what amount of times a firm can able to hold its inventory at storage. Here we can see as beginners Pakiza Technovation Limited (PTVL) holding period was too much in 2019 but after that they are on the right track by managing to sales its stock timely and frequently.

#### 4.10 Reorder point and safety stock analysis

Table No-12: Re-Order Point

| <b>Re-Order Point = (Average per day Sales * Average Delivery Lead Time) + Safety Stock</b> |                                   |                              |                     |                       |
|---|-----------------------------------|------------------------------|---------------------|-----------------------|
| <b>Year</b>   | <b>Average Delivery Lead Time</b> | <b>Average per day Sales</b> | <b>Safety Stock</b> | <b>Re-Order Point</b> |
| 2019  | 19.29                             | 1462                         | 10,232              | 38,422                |
| 2020  | 16.67                             | 1681                         | 11,765              | 39,776                |
| 2021  | 19.92                             | 2427                         | 16,991              | 65,335                |
| 2022  | 23.43                             | 1514                         | 10,595              | 46,056                |

Basically, re-order point means when a firm should re-purchase inventory. No firm order inventory after selling all the stocks it has. If they do that they have to wait till their next order inventory came to stock again. In this stock, out gap firm will be unable to do business. For that firm have to lose their regular vendor. For that reason, sound management organization re-order stock before they have some inventory in hand.

Pakiza Technovation Limited (PTVL) management aware of stock out. They order inventory before stock out. For that they find out their re-order point. They have all the information like Average Delivery Lead Time, Average per day Sales, Safety Stock, Re-Order Point.

In 2019 Pakiza Technovation Limited (PTVL) re-order point was 38,422, in 2020 it was 39,776, in 2021 it was 65,335, in 2022 till now re-order point was 46,056. Keeping these amounts of minimum inventory in stock Pakiza Technovation Limited (PTVL) re-order inventory again.

Table No-13: Safety Stock

| <b>Safety Stock= Average sales*Safety days</b> |                    |                              |                     |
|--|--------------------|------------------------------|---------------------|
| <b>Year</b>                                    | <b>Safety Days</b> | <b>Average per day Sales</b> | <b>Safety Stock</b> |
| 2019   | 7                  | 1,462                        | 10,232              |
| 2020   | 7                  | 1,681                        | 11,765              |
| 2021   | 7                  | 2,427                        | 16,991              |
| 2022   | 7                  | 1,514                        | 10,595              |

#### 4.11 Evaluation of the safety stock result

Most of the organization mostly concentrate on only selling but they don't notice they have enough inventory in hand to sell. Normally small organization do these types of work. Before stockout firm reorder its inventory again. The gap time between reorder to inventory in the stock full, firms need some inventory

in their hand to continue its organizational activities. For that organization keep some inventory in stock so that in that reorder period they can sell them and these stocks is called safety stock.

Basically, safety stock is an additional amount of inventory which help firm not to stock out. Safety stock reduce organization risk.

Here in table no-13 we can see safety stock information of Pakiza Technovation Limited (PTVL). The table contains of safety days and average per day sales of Pakiza Technovation Limited (PTVL). Pakiza Technovation Limited (PTVL) safety days is 7 and their average per day sales vary in different year. In 2019 Pakiza Technovation Limited (PTVL) safety stock was 10,232, in 2020- 11,765, in 2021- 16,991, in 2022 safety stock was 10,595. As a sound organization Pakiza Technovation Limited (PTVL) aware of its stock. Before reorder inventory they keep safety stock in their hands so that in the gap of reorder inventory they can continue its operational work.

#### 4.12 EOQ analysis

Table No-14: Economic Order Quantity, EOQ

| EOQ = square root of: $((2*S*D) / H)$ |               |              |            |           |
|---------------------------------------|---------------|--------------|------------|-----------|
| Year                                  | Annual Demand | Holding Cost | Order Cost | EOQ       |
| 2019                                  | 1,500,000,000 | 532,000      | 421,858    | 48,773.95 |
| 2020                                  | 1,700,000,000 | 1,176,000    | 546,240    | 39,739.97 |
| 2021                                  | 1,900,000,000 | 1,104,672    | 516,232    | 42,140.30 |
| 2022                                  | 1,950,000,000 | 518,000      | 495,131    | 61,055.88 |

#### 4.13 Evaluation of the EOQ result

In above table no-14: Economic Order Quantity, we can see Pakiza Technovation Limited (PTVL) annual demand, annual holding cost, annual order cost. By this information we able to know that Pakiza Technovation Limited (PTVL) Economic Order Quantity or EOQ. EOQ means which amount of quantity purchase overall cost will be less. For that product price must be fixed. ICT goods price aren't fixed. Its price goes up and or down, for that we can say unstable price. Here product price we calculate was average.

After calculating EOQ, we can see that in 2019 EOQ was 48,773.95, in 2020 EOQ was 39,739.97, in 2021 EOQ was 42,140.30, in 2022 till July EOQ was 61,055.88. These costs are the best for their respective year to order goods, purchase goods, carrying cost, holding cost in storage and lastly delivery cost to final delivery to vendor.

Above 4 years EOQ was less in 2022, it was 39,739.97 taka. In 2020 product order delivery cost, purchase goods, carrying cost, holding cost in storage and lastly delivery cost were less. Which help Pakiza Technovation Limited (PTVL) to maximize its profit by minimizing its overall product related cost.

## Chapter 5: Findings & Conclusion

### 5.1 Findings

The total inventory management of Pakiza Technovation Limited (PTVL) is excellent. For that reason, they are able to make such remarkable position in the market in this short span of their working period.

As I work here almost 3 months, working with different person, communicate with different person in different departments and also with management, as an observation I found something about the inventory management related issue. Pakiza Technovation Limited (PTVL) is quite managed organization. In every step of PTVL are professional. They follow all the rules and regulation and all the terms and condition of a reputed organization. They have their own software to keep information regarding stock, they always have information of Re-Order Point (ROP), Safety Stock, Economic Order Quantity (EOQ), Safety Days, Inventory Turnover Ratio, Inventory Holding Period. These are all the sound findings of Pakiza Technovation Limited (PTVL).

Along with all this above sound information I have able to find some negative aspect of Pakiza Technovation Limited (PTVL). There are some people who mislead stock valuation. Pakiza Technovation Limited (PTVL) didn't consider their EOQ model properly. If they focus more on EOQ model they can able to do better. Pakiza Technovation Limited (PTVL) focus to get a shorter lead time. Pakiza Technovation Limited (PTVL) always try to take advantage of FIFO method. Pakiza Technovation Limited (PTVL) has their own storage which reduce their inventory holding cost, warehousing & administrative cost. Pakiza Technovation Limited (PTVL) follow EOQ method, keeping safety stock. Pakiza Technovation Limited (PTVL) focus on strong packaging system for that their product damage becomes almost zero.

### 5.2 Conclusions

There is some mismanagement of Pakiza Technovation Limited (PTVL) which reduce their growth and profit. It happens because of mismanagement in inventory stock valuation. PTVL have to more focus on their inventory management and keep an eye on those people who closely works with them. Pakiza Technovation Limited (PTVL) also unable to minimize their overall inventory related cost although they use Economic Order Quantity (EOQ). Pakiza Technovation Limited (PTVL) also can use ABC classification for their inventory management.

Pakiza Technovation Limited (PTVL) should focus on reducing their cost to maximize more profit, growth and create a great impact in IT business. They can be a leader in this sector. For that they must implement all the recommendation that given.

### 5.3 Appendix

- 1) Average Daily / Per day Unit Sales = Total Sales Unit / Days.
- 2) Safety Stock= Average sales\*Safety days
- 3)  $EOQ = \sqrt{(2 \times S \times D) / H}$
- 4) Re-Order Point = (Average per day Sales \* Average Delivery Lead Time) + Safety Stock
- 5) Average Delivery Lead Time= Total days/ No of orders (Per month)
- 6) Closing Inventory = Purchase – Sales
- 7) Inventory Turnover Ratio = Sales Quantity / Closing Inventory
- 8) Inventory Holding Period = 360 / Inventory Turnover Ratio (Instead of 365 days in a year, I take 360 days)
- 9)  $TIC = PC + OC + HC$

### 5.4 References

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