

SUPPLY CHAIN MANAGEMENT OF PERISHABLE GOODS IN SUPERSTORES: A STUDY OF BANGLADESH

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Abstract

Superstore are becoming a rising business in Bangladesh and receiving higher responses from different income levels of consumers. Among hundreds of products Supershop also offers perishable goods to consumers. However, the supply chain of perishable goods is difficult with so many layers and intermediaries. Inventory management of different Supershop are different and the overall maintenance cost eventually increases the price of perishable goods. So lower and middle income people consider Supershop is a place for aristocrat people and choose the local market for their necessities. Primary and secondary data has been used for this study. Primary data were collected through personal interviews and online (google forms). We have also discussed with higher authorities of various superstore to collect their view on the perishable goods section. To solve the current supply chain, we have proposed a different supply chain system to come up with a long term solution.

We have discussed those models in flowcharts and useful case studies.

Keywords: Superstore, Supply chain, Local market, Customer preference, Perishable goods, Distribution channel.

1. Introduction

Though living in a digital era, it is still a matter of wonder that organized retail market aka superstore consumes less than 2% of total retail market in Bangladesh. But there is also a matter of hope that slowly but steadily people are moving towards superstores. Income factor, higher purchasing power, increase of white collar people, increase of working women, quality and brand awareness, convenience seeking mindset etc. are changing not only consumer preference but also purchasing habit as well as buying pattern. These are the reasons behind why the superstore's demand is increasing.

Bangladesh is an agricultural country. Everyone of this country prefer a plate of rice with a fish and some vegetable items on his menu. There are more than 100 types of vegetables, 400 species of fish and meat produced in Bangladesh (Banglapedia). So, historically supply chain of agricultural items especially perishable goods like vegetables, fish and meat etc. is a hot topic to consider for all time. The supply chain of an agricultural product starts with farmer, then the intermediaries, wholesalers, retailers and different types of distributors complete the chain by selling to the ultimate consumer. Superstores are one of the biggest party who sells agricultural product.

According to Oxford business dictionary, "Supermarket is a large self-service shop selling foods and household goods." Journey of Supermarket in Bangladesh began in between late 20th and early 21st century. Surely they established their own identical position on retailing industry with more than 200 outlets and 40 companies along with Shawpno, Mina Bazar, Agora, Prince Bazar, Unimart, Lyvender and other well-known brands. Superstores have multiple segments and a wide variety of products such as - groceries, electronic necessities, clothing, dry foods, household goods, fish and meat, and various vegetable items. Among them supply chain management of perishable goods has a unique circumstance and special distribution channel are required.

We aim to carry the study about the superstores supply chain management of perishable goods from farmer to consumer's plate. Finding out the suppliers, intermediaries, competitors and other parties involved with chain will help us to understand the actual conditions, supply chain layers, distribution channels and competitive supply chain position of superstores. Product buying system, transportation, storage, competition, obstacles and other related issues are important for analysis of pros and cons of perishable goods. This research goes further investigating about quality control and pricing method of superstores.

Almost seventy percent people in Bangladesh are related to agriculture directly or indirectly (Bangladesh.gov.bd). Farmers, most of them are individual producer of food items in this country grow the vegetables on their field, sell it to nearby market. Involvement of intermediaries help them reach different ends of the country. Intermediaries like Aratdar, Foria, Bepari, local supplier etc. play a big role in this sector. Superstores along with their competitors, whom are unorganized local retailers like – Vanwala, Sabjiwala, Golir dokan and other retailers, usually buy their agricultural products from those intermediaries.

Limited shelf life after harvest make the utility demolish in a very short period. This is the main reason vegetables, fish and other food items are called perishable goods. Post-harvest losses of fruit and vegetables were found to be 25-50% (Amiruzzaman, 1990). Miaruddin and Shahjahan (2008) found that post-harvest losses of fruit and vegetables were about 25-40%. So, proper transportation and storage policy is mandatory to maintain freshness of products.

Another primary concern of perishable goods supply chain is the position of intermediaries. They forcefully increase supply layers and ultimate price of goods get increased higher more than twice. While maintaining better quality, reducing supply chain layer is one of the major purpose of the research. Mutual support among supermarkets can help them secure distinctive position in the market and it can ensure competitive position over agriculture retailing.

2. Literature Review

Since 2001, Supershops are slowly but surely integrating with people's life. Nowadays almost every middle-class background people used to shop at various kinds of Supershops like (Agora, Shwapno, Meena Bazaar etc.) for the day to day groceries and others. (ZAHID HASAN et al., 2019) In a survey (Pew 2005), it is found that low prices (50 %), broad selection/variety (22%), and location, hours, and other convenience factors (13%) are the parameters to choose superstores for shopping.

If we take perishable goods, it is essential to give high priority to the supply chain management of fresh items. The supply chain of fresh vegetables can "refers to the entire vertical chain of activities: from production on the farm, through processing, distribution, and retailing to the consumer — in other words, the entire spectrum, from farm to consumer's plate" (Hobbs et al., 2000, p. 9). To meet the demand of today's customers, the number of Supershops and their product offerings are increasing day by day. Selling perishable items in Supershops is still a challenging job. (Masum et al., 2012)

Modern perishable food market chain is in some cases simpler due to the improvement of a communication system including mobile phones, internet, and IT systems.

However, in many cases, it becomes complicated due to worldwide food and nutrition pressure, excessive consumption of foods. In the context of the Bangladesh market, farmers can directly sell and reach the consumer. Also, transportation, availability of commuters made it easy for growers to reach the retailer (Mahmoud et al, 2005).

The challenge for superstores in managing the supply chain of perishable foods is that the value of the product deteriorates significantly in a short time at rates that are highly dependent on the environment (Blackburn and Scudder, 2009). According to these authors, temperature and humidity are key factors in this process.

Because of the limitations imposed on the vegetable storing system (not more than 7 days at their storage) by BSTI hinders their mass storing also, insufficiency of transportation system, dependency on suppliers and increasing maintenance cost in the ultimate price of perishable goods getting higher. It is understandable that because of lacking an efficient and effective supply chain the prices of perishable goods increases at Supershops. Because of the higher prices of perishable products, customers tend to prefer the local market for buying perishable goods. With prices of the perishable goods being, offered below the prices of the nearby kitchen markers it is hoping to convince customers to change most of the consumer's shopping habits. (Mohammad Abul kashem, 2012)

Superstores have multiple segments and a wide variety of products such as - groceries, electronic accessories, clothing, dry foods, household goods, fish and meat, and various vegetable items. But the supply chain of the superstore is very complex, especially in perishable goods sectors. Among those perishable goods are sensitive and the traditional SC model (of the veg industry in Bangladesh) shows many unwanted intermediaries like Foria (commission agent or jobber), Bepari (trafficker or local, Dealer), Aratdar (keeper of the warehouse), dealer, syndicator, wholesaler, retailer, super chain shops, etc. who make the supply chain Lengthy and put the growers and end consumers in misery (Sabur 1992). Those intermediaries play a big role in the vegetable sectors and they are the key reason for increasing supply chain cost. Typically most Supershops carry a large volume of inventory in Bangladesh. Due to the effect of aggressive forecasting, the result is considerable wastage. (Dr. Muhammad Ziaulhaq Mamun et al., 2016). The supermarket should take the necessary steps to reduce the costs and make a fruitful and healthy supply chain to survive in the perishable goods sector. A successful supermarket business not only depends on how it serves its customers but also efficiency and effectiveness in its supply chain. (Boselie et al., 2003)

There are no enough researches regarding superstore supply chain perishable goods in Bangladesh. For that reason, there are not solid supply chain implementations on that part. This research will find the major challenges and factors those are directly or indirectly affecting superstore's perishable goods supply chain management. In our research paper, we have discussed the supply chain of Superstores in the perishable goods segment (fish-meat-vegetables). Through this paper, we have also analyzed

present supply chain problems and after conducting this research we are proposing the best possible solution of the supply chain of perishable goods.

3. Research Objectives

Broad Objective: To analyze the Supershop's supply chain management practices of perishable goods in Bangladesh.

Specific objectives:

1. To identify and visualize existing supply chain layers and distribution channels of supply chain management of perishable goods.
2. To identify the curb and hurdle of existing supply chain.
3. To evolve an organized & integrated supply chain distribution model for perishable goods in Superstores of Bangladesh.

4. Methodology

Both primary and secondary data and pertinent literature is used for the study, where the majority of the data is obtained from primary sources. Primary data is collected through a survey of 170 superstore's consumer of different demographic groups of Dhaka and Chattogram. The interview is arranged with five top executives and nine sales executives of seven leading superstores to receive information on the current operating status and prospect of superstores. The sampling procedure is a combination of non-probabilistic convenience and judgmental sampling.

The questionnaire includes open-ended and close-ended questions. Customers from both superstores and other markets have been conducted to determine the variables and have an idea about consumer's perception. Likert scale model and arithmetic mean is used to classify and analyze data.

The interviews were conducted with different level executives of superstores. The supply chain process, demand forecasting, supply chain layers and the factors affecting the supply chain of perishable goods were elaborately discussed during an in-depth interview. The entire supply chain process both for Supermarket and Local kitchen market was monitored.

The challenges during this study were evaluated carefully. Since there are very few researches conducted on superstores of Bangladesh, specifically for perishable goods, this was difficult to obtain market information and real competitive scenario. Lack of information on the superstore's website and Bangladesh Supermarket Owner Association (BSOA) publication was another challenge in this research area.

5. Consumers Response Analysis

Consumer preference is the main issue to consider for any successful business. We run a survey upon 170 consumers to find out their opinion and preferences about some major phase that drives supply chain mostly. **Price, Quality, Location, Delivery etc.** are the key supply chain factors that affects consumer buying behavior directly. Our questionnaire contain both open and close ended questions which we have asked and analyzed those data with Likert-scale Method and Arithmetic Mean Formula.

Using Likert-type items (questions) as measurement tools is common in research. Likert (1932) proposed a summated scale for the assessment of survey respondent's attitudes. Individual items in Likert's sample scale had five response as alternatives: Strongly agree, Agree, Neutral, Disagree, Strongly disagree. Likert noted that descriptors could be anything -- it is not necessary to have negative and positive responses.

Question 01- How many Supershop outlets are there in your area?

Answer: - 1-2 store (maximum).

Question 04- Do you think Superstores are more expensive than the quality of their perishable items? Almost 41% agree that they charge High. Weighted mean $M = 4.11$.

Question 05- Suppose 1kg Fish is being sold in the local market at a price of BDT 120 which you do not know whether there is formalin in it or not. The same fish is available in super market at a price of BDT 180, 100% formalin free certified. Will you buy it from superstore at a higher price? Surprisingly around 23% people strongly agree and the same portion of people disagree with that matter. Weighted mean $M = 3.44$

Question 06- If you give 8/10 to the quality of local perishable goods, how much will you give the products of the Superstore Outlet in your area?

Answer: - Average 7.6 as per respondents.

Question 09- After purchasing products from supermarket do you get (Outdated / Rotten / low quality / Bad smell) the products as good condition? Regarding this issue 28.24% respondents agree, 28.82% neutral and 24.71% disagree. The weighted mean $M = 2.79$ that rises question about their quality control.

Question 10- Do you trust Online Shopping and home delivery when it comes to Perishable Goods? Hence weighted mean $M = 2.45$ that demands customers do not trust online shopping for vegetables and fish items. 32.35% respondents disagree, 24.12% strongly disagree and only 4.12% strongly agree to trust online and home delivery service for perishable goods.

From the data analysis, we have learned that consumers of Bangladesh are mostly price sensitive. They even prefer an average quality product, but it has to be at a cheaper rate. Availability of local kitchen market is a major obstacle for superstores. Weak home delivery system as well as less variety of perishable products also stands a fact for customer to choose local market over superstore.

So, before measuring the superstore's condition we first reached to the consumer & asked them few questions about superstore's perishable goods perspective. We pointed out their thoughts and sort them as problems. After that, we went to the superstore's authority & asked them about each problem that their customers are facing.

6.0 Report Findings

6.1 Supply Chain conditions of perishable goods

Ways of collecting perishable goods (layers & chain)

Though it is said that superstore deals with farmer, but in practical world it's not true properly. There mainly exists third party between the Supershop and the farmer. They are known as Supplier.

Superstores in Bangladesh are mostly rely on their suppliers. It's their duty to collect the goods from the farmer, sort the fresh one, transport them timely and knock the Supershop's door according to their ordered item and amount.

In another scenario, some superstore has backup support too. Many Supershops are the subsidiary of big mother concerns. The main big company runs their business all over the country, so, they are capable to give support like- logistic, manpower, transportation. As that big company runs all over the country then there is a chance to connect with farmer directly. So, by getting this help some supershop can collect a huge amount around (50%-60%) of perishable goods from the very farmer.

Storage system

- It is sure that superstore who deals with perishable goods has their own storage where they store their product.
- Because of being consumer's basic need, superstores buy perishable goods every day.
- Supershop does not store much perishable goods. They even find it wiser to buy perishable goods from supplier according to their selling amount.
- Due to BSTI's strict restriction vegetables are not permitted to be stored more than 7 days and BSTI seal is being attached to each item. So over storage is not possible.
- Superstore sell their every perishable goods according to FIFO (first in first out) method. Otherwise, they will face problem like- BSTI date issue, consumer's product quality related questions etc.

- Some concerned Supershop preserve their perishable goods in two ways.

I) Frozen system - meat & fish.

II) Chiller system – vegetables.

Supershop who does not have chiller system try to make the vegetables fresh through watering and cleaning.

Quality Control of Superstores Perishable Goods

- Big Supershop has a team to maintain and check the quality of their product.
- To check the product quality they use Formalin kit test.
- Maintaining the price superstores always try to follow the BSTI rules and regulation as much as possible. Otherwise, they will get punished by the government.
- Supershops those are not as much big can not assign quality team but at least they assign, one floor In-charge to maintain the quality.

Selling Position

- Superstore has a different product line up. According to our research, selling position of perishable goods differs from one Supershop to another; area to area; and even particular one Supershops outlet to outlet.
- From the information given by the authority of different Superstores we get to know that Supershop who try to achieve customer's habituation to their shop gives best priority of customer's everyday product. So, on that selling case perishable goods is their first priority.
- Big Supershop who gives priority to the perishable goods are happy with consumer's response and most of them keeps perishable goods 1st/2nd/3rd in proportion to other product lines.
- Selling priority and amount both depends on area and its total surroundings. If one branch authority of Shawpno/Unimart is satisfied with their sale of perishable goods than another branch authority is not satisfied.
- In some area the Local Bazar takes strong position and are well-established. They are located in crowded or close to residential area. So, Supershops of that particular area can not sale as much perishable goods. Certainly, they takes it last on their product selling list.
- In some area flyover & road constructions are happening. So, on that area the local market has become vanished in some point or exists but far from area of general people living. So, are people now getting habituated with Supershop. As a result, perishable goods selling has become a bit rise on that particular area's Supershop.

Expectation from Customer

Almost every Supershop authority wants a daily visit of a perishable goods customer. But more specifically they want a customer's twice a week visit to their outlet.

6.2 Supply Chain Challenges

Field to Outlet challenges

- Poor transportation system: As we have learned, northern side of Bangladesh is the major supplier of vegetable items. Transportation plays a big role here, but poor transportation facility damages the product quality sometimes.
- Poor infrastructure: Lack of technology, enough storage space, product wise frizzling facilities etc. make the chain laborious.
- Sometimes there is a difference between the qualities of a product in agreement and the quality that supplier provides.
- Superstore which is a subsidiary of any big company's says that, the mother concern logistics department takes the whole responsibility to maintain the field to outlet challenge. Sometimes, communication gap between two parties create imbalance between demand and supply.
- Local Merchant's Politics: Merchant's who possess a strong position over farmer, sometimes delay the chain and raise prices.

Outlet to Customer challenges

- Packaging challenge (quality should be 100% till the product does not reach the consumer's kitchen).
- Delivery challenge.
- Proficiency of Salesman.
- Availability of local market/vanwala (Bangla). They run their business wherever they want & distract the customers from superstores.

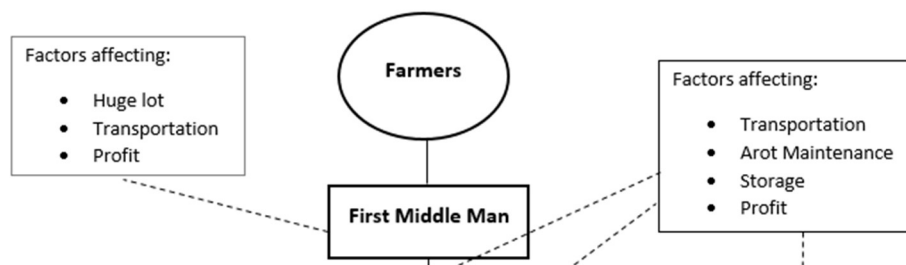
6.3 Problems Finding

1. For perishable goods, superstore has to maintain a risky storage. According to BSTI restriction, they can not store vegetables more than a week. So, unfortunately if that shop face a bit less customer's purchase then an amount of product kept on storage that they can not sale and becomes wastage as well as occurs loss.

2. In some area, local market is available and sometimes more than one exists. So, the superstore struggles to sell their goods.

3. People are not still habituated of superstore scenario enough. Superstore has a tiny regular customer base. For this reason, they are afraid of storing or displaying variety of perishable goods. In worst case scenario, if superstore takes this risk & display huge variety of goods but do not make the maximum sale, then it will occur a huge loss to them. Because the superstore neither can sell nor store due to BSTI restriction (not more than 7 days).
4. Superstores have less connection with core farmers. So, they depends on supplier that's why they can not make perishable product's price on their own totally. That's why average earning people reject to buy perishable goods for it's high pricing attitude.
5. Some Superstores are located in aristocrat area where they have a huge cost for maintenance. So, these superstores want to margin this cost by adding more price to the products.
6. In aristocrat area, people do not focus on pricing factor. Sometimes average pricing of a product is not accepted by the elite community for it's low price. They think more the price means more the quality. That's why some superstore make price according to the income status of an area people. So, there exists a price difference between outlet to outlet of same product. But, general people are not aware of this strategy. So, when they find this price difference, they take it unethical & that hampers the superstore's goodwill.
7. Local merchant interruption is one of the biggest problems. Some company want to reach the core farmers directly but can not for this merchant's illegal rush.
8. Delivery system has been still an unorganized part in superstore perspective. People who wants superstore's touch in product buying cannot hold their interest for superstore's poor delivery process. Most superstore have no delivery system. A few has but customers are not happy.
9. Poor transportation system is another issue. Sometimes superstore does not get their product timely as well as finds defective product due to poor transportation system. This transportation barrier also affects the product high price that makes a difference.
10. Sometimes a product price goes low or for layer problem price may go high. But it is possible that, this time buying price was higher than the average time of that product. But, if they add extra price on that particular product for layer cost then it may dissatisfy the regular customer. In that case, superstore has to sale that item with a bit loss price but this situation is rare.

7.0 Existing Distribution Channel



The traditional supply chain of perishable goods in Bangladesh, both for supermarket and local vegetable market is described below with a case study. Farmers are the ultimate supplier of perishable goods (vegetables & fish mostly). The northern side of our country (Rangpur, Rajshahi, Bogura, Mankigonj, etc.) is well-known for growing vegetables. The circle starts with the first Middle man or supplier who buys a huge amount of products from farmers from their remote area at a very cheap rate. Most of the time they have agreements with farmers even before harvesting. Then they supply the products to Aratdar, Bepari of big-city markets (like Karwan Bazar, Mirpur 1 and Gulistan, etc.) who buy a comparatively small amount. Now that Bepari divides them into lower lot and sell them to local vegetable retailers from whom we use to buy as our need. So, there are three supplying parties involved in the local vegetable market.

But supermarket chains go further, as they maintain desire quality and central buying system they have relied on their Purchasing & Quality control Team (most of the time mother concerns of the brand like ACI-Logistics for SWAPNO, Prince Group for PRINCE BAZAR etc. do the purchase on behalf.) That extra supply layer, quality concern, outlet maintenance, stuff, profit etc. force supermarkets to charge a higher rate.

7.1 Example: Case study 01

Farmers from Gazipur or Narayanganj grow eggplant (a common vegetable of Bangladesh). A first middleman who usually buys the whole firm or total eggplant ready to sell at a cheaper rate. Let's take this eggplant at BDT 20 per kilogram. He sells at BDT 25 to ARATDAR including his transportation cost, labor cost, and profit. Now ARATDAR adds his storage cost, labor, maintenance and profit so that he can sell at BDT 28/29. A VANWALA or the local vegetable retailer who has very low maintenance cost can sell the eggplant at BDT 30 with his BDT 2 profit per kilogram. Difference between Supermarket and Local market starts from here. P & QC Team or logistics support team of a supermarket buys from the same ARATDAR of Karwan Bazar. After buying they get a lot of costs adding list on their side. Transportation from Bazar to Outlet, stuff, shop maintenance, quality check etc. Increase the cost at least BDT 5 per kg. Even if the superstore outlet decides to only One Taka profit they have to sell it at BDT 35 per kilogram.

Unfortunately, for the supermarket of Bangladesh that Five Taka makes a huge difference on consumers buying decision and superstores lose their Lower-middle class customers.

One of the major obstacles for not being able to buy from the farmers is that the first middleman hold a powerful economic and political position over his area usually. He buys even before crops are ready for sale and usually buys total crops produced by a farmer.

So, buying a huge lot is also a major issue if you want to buy at a cheaper rate. The problem of the supermarket is that they can only buy as per their outlet demands. Bangladesh Standards and Testing Institution (BSTI) regulations restrict them for not storing any perishable goods for more than 7 days. So, none of the supermarket brands are able to buy such a huge amount of products from the farmers and ultimately become dependent on their supplier or Aratdar or some other middleman supplying party. As a result, their cost goes higher always.

8.0 Proposed Supply chain model

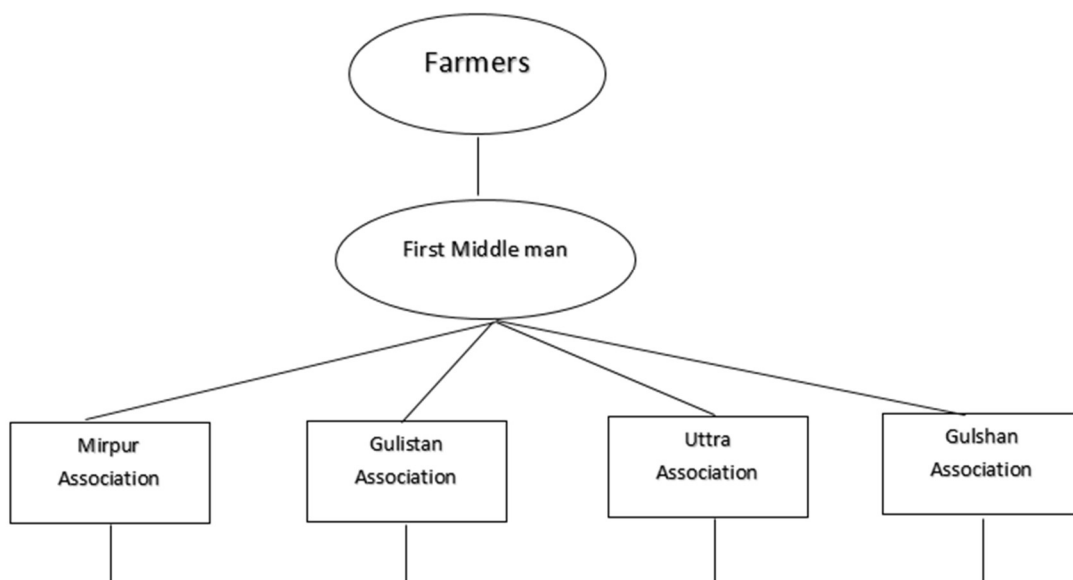


Figure 02: Proposed supply chain model for perishable goods.

As shown in figure 2.0 we are proposing an integrated buying system. BSOA can take the responsibility to make the deal and regulate the system. As a result, integrate Purchase and Quality Control Team (P & QC Team) will buy on behalf of supermarkets. P & QC Team will take the order for the next day as per their demand of outlets. As we have learned every supermarket already maintains a P & QC Team or Logistics Support. So, there will be no additional expenses for forming and funding any new support team or supply layer. The supermarket of Dhaka city will be divided into some subsections. We proposed Four Geographical Area Associations, such as- GULSHAN ASSOCIATION, MIRPUR ASSOCIATION, GULISTAN ASSOCIATION and UTTARA ASSOCIATION.

8.1 Case Study 02 (Assumption)

Let's take the Gulistan Association for our study. Gulistan has many superstore outlets near the area like SWAPNO, AGORA, MINA BAZAR, DAILY SHOP, etc. Agora needs 20-kilogram eggplant per outlet (Demand may change as per outlets location). They have 7-8 outlets near Gulistan (Gulistan road, mailbag, Motijheel, Shabagh etc.) So, they need nearly 150-kilogram eggplant per day. Similarly, Swapno, Mina bazar, Daily shop and other brands will also order as per their demand (70/100/120/150). So, tomorrow Gulistan Association will need at least 300-kilogram eggplant. Similarly, Mirpur, Uttara, Gulshan will order as their demand and the total order goes around 1000 kilograms.

On the current buying system, Prince Bazar needs only 100 kilograms. So, they have to rely on Aratdar. In this proposed supply chain method, BSOA Purchase and Quality Control Team has demanded over thousands of kilogram. So, they can agree with the farmers of Gazipur, Narayanganj or the Northern side to buy their crops at a cheaper rate.

Even if that agreement can not be done for the position of local powerful middleman, they can buy from the first middleman who will supply them from farmers.

Associations will act as the role of ARATDAR, BEPARI, FORIA of Karwan Bazar, Mirpur 1 or Gulistan Local Market.

8.2 Result of case study 02 (Assumption)

The farmer who sells eggplant at BDT 20 per kilogram, BSOA Purchase Team can buy directly from him. Let's take the worst case scenario, they have to buy from the middleman who have already purchased from farmers. After adding his expenses and profit he will supply the fresh vegetable in the morning to Gulistan Association at BDT 23 per kg. Now, Gulistan Association knows the demands of outlets as they have ordered yesterday evening.

While all other outlet expenses remain the same (as per case study 01) market will spent BDT 5 for quality control, transportation, Outlet expense, stuff etc. they can still save BDT 3 per kilogram by reducing two existing supply layer and expenses like- Storage, Labor, The profit of Aratdar, Aratdar to outlet transportation etc.

After buying at BDT 23 and adding BDT 5 additional expense, Supermarket outlets can still sell at BDT 30 (less/same as vanwala or local shop) with at least BDT 2 as profit per kg.

of Bangladesh will get to know about their respective customers thought and complain on their perishable goods prospective. Because firstly we have made questionnaire according to consumer's prospective like- what problem they face in

9.0 Limitations of the study

While trying to visualize actual scenario, authentic information is a must. Problem is superstores of Bangladesh are not much concern about their Research and Development sector yet. This is one of the major reasons for not finding much pertinent literature on perishable goods supply chain. Even representatives of some outlet do not accept researchers cordially to share their information, though this research paper aim is to help their supply chain management.

Though we get permission from many superstores authority to visit and ask them few questions, but we didn't consider them all. Because many superstore does not run their business in perishable goods sector. But we almost contact with every leading superstore who deals with it.

10. Contribution and Implications

This research paper will help you to know the real fact behind the superstore's perishable goods high price, supply chain layer problem, quality management and all other bindings. One of the most crucial part this research paper contains that, every

superstore of Bangladesh will get to know about their respective customers thought and complain on their perishable goods prospective. Because firstly we have made questionnaire according to consumer's prospective like- what problem they face in superstores? What the reason they do not buy perishable goods from them? What corrections customer's want from them etc. Our research paper will boost up the existing knowledge of superstore's supply chain management of perishable goods & obviously it will add an extra value.

By applying our proposed supply chain model, superstores can eradicate their price variance not only between each other but also one particular superstore's outlet to outlet. Superstores won't be heavily dependent to the middleman or supplier if they follow our proposed method. They can easily keep heavy supply chain layer and buy products directly from the farmer with a cheaper price.

11. Conclusion and Recommendations

While talking about the supply chain of perishable goods, relations with farmers, supply intermediaries, transportation, storage and pricing system are the key factors. The lower-middle-class family is the most vital group to consider if establishing a supermarket business in Bangladesh. People are habituated to buy from the local kitchen market.

The main obstacle of perishable goods (vegetables, fish etc.) is that, it can not be stored for a long time as it loses utility in a short period (3-5 days usually). This is the reason to call it perishable goods. Price is so determining factor that most of the respondent's customers of the study choose comparatively low-quality products at a low price rather than buying from superstores that claim better quality at a high price.

To maintain an efficient and effective supply chain superstores should reduce its supply chain layers. The creation of more connections with the farmer, fixed suppliers and an integrated buying system can reduce both supply chain costs and the influences of the middleman. Less storage can help cost minimization and maintenance of better quality. Using advanced technology in inventory management can save unremunerated demand forecasting. By applying our proposed supply chain model, supermarket brands can survive together and a healthy competitive market between superstores and local markets will be possible.

The study noted that there is ample potentiality for superstores in Bangladesh. Further research sectors like efficient inventory management in perishable items, logistic supports, creating brand value among customers and other supply chain studies fields will get help from the research.

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