

**Factors Effecting Supply Chain Management on Agro Products:
A Study on Superstores in Bangladesh**

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ABSTRACT

The superstore chains in Bangladesh are mainly concentrated in densely populated urban areas. Hassle-free shopping environment, fixed price, one stop service, brand image, quality commodities and convenient location are the key factors provoking the customers to visit the superstores. Most preferred superstore products are dry foods, toiletries and cosmetics followed by dairy, confectionary and groceries items. The shoppers are found positive about superstore product quality, and service dimensions; but they agree that the superstore products are a bit expensive. The shoppers feel the need for more quality perishable goods. The supply chain management is a major obstacle due to dependency on local market, distant transportation, middlemen, etc. For management, inefficiency, pilferage, theft, shopliftings are regular phenomena in superstores. But particularly on agro products supply-demand uncertainty, vulnerable supply chain system, inadequate infrastructures are the main roadblocks of the supply chain management on superstores in Bangladesh.

Keywords: fresh products, fixed price, brand image, vulnerable supply chain, supply demand uncertainty.

INTRODUCTION

A "superstore revolution" has been underway in Bangladesh since the early 1990s. The superstores have earned a lot of popularity among the urban dwellers in recent years. Superstores have now gone well beyond the initial upper and middle class clients to reach the mass market. The effects of this trend touched not only traditional retailers, but also the wholesale, processing, and farm sectors. The superstore revolution is a "two-edged sword." On the one hand, it can lower food prices for consumers and create opportunities for farmers and processors to gain access to quality-differentiated food markets and increase income. On the other hand, it can create challenges for small retailers, farmers, and processors who are not equipped to meet the new competition and requirements from superstores.

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Organized retailers in the country are focusing more on strengthening their backward linkage supply chain, a challenge faced by retail chain shops for product availability. As the superstore concept is not very traditional the superstore biggies have failed to grow accordingly due to proper and sufficient supply chain management. The most organized and disciplined retailers are trying to maintain their own supply chain management to bring fresh and quality products to the store in urban area from root level farmer directly. A supply chain management consists of all parties involved directly or indirectly. I have focused here about major challenges of supply chain management on agro products which are facing the superstores in Bangladesh

Superstore business can have great potential in a country like Bangladesh. At present in Bangladesh some 30 companies having about 70 outlets made foray into the business. In the early days of the business, around 500 customers would visit a superstore outlet a day, but some 5,000 customers come to a store everyday now. Agora, Sopno, Meena Bazar, PQS and Nandan with limited number of outlets are the major superstore players. Hassle-free shopping environment, hygienic commodities, fresh vegetables, meat and fish at the superstores are attracting the customers in superstores. Opportunity to use credit cards is another feature of these stores. Fresh vegetables directly collected from the farmers are one of the factors for increasing popularity of the superstores, though some of the customers often complain that the perishable goods of the superstores are not always fresh in the superstores. (Mamun, 2015)

STATEMENT OF PROBLEM

The new age consumer demands and wants to consume fresh products. The food industry faces huge challenges in offering fresh products to its customers. Typically the fresh food supply chain starts with the farm supplier, framers, and vegetable backers and then reaches wholesalers. From wholesalers, the fresh food moves to independent retailers or catering suppliers or the supermarket and then reaches to the customers. It is very difficult to offer fresh products to customers due to unpredictable environmental conditions. In order to offer fresh products, the food industry needs to establish higher delivery frequencies, smaller orders, less lead time, and a shorter order cycle to meet consumer demand. In fresh product supply chain, product identification is very challenging in terms of expiry date, product origin etc. Since most of the fresh products are seasonal products, the cold chain storage facilities play a very important role in keeping the products fresh, hygienic and safe. They are also crucial for meeting the demand-supply gap for fresh products.

The problems faced by retail outlets, in traditional supply chain, the retail formats faced mainly the problems such as inadequate physical facility for the shop, failing in assessment of demand, timely supply of vegetables, price fluctuation, lack of transportation facility, more physical losses of produce, procurement problems and private competitors in the market. Respective problems were due to fewer amounts for investment, no proper planning for assessment of demand, high price fluctuation which depends on arrival and season for that vegetable, inadequate transportation facility which is costlier too, improper handling and no proper storage facility leads to physical loss of produce, no proper planning for procurement, and high competition from the outside markets. Hence it expected an adequate physical shop facilities and guidance to cope with the problems by providing training in retailing activities in the urban areas. In perishable product supply chain time is very crucial, because delivery delay to customer lead to product economic value is decreased even zero. Because its characteristic was perished, so to maintain perishable product's quality is needed technological effort to keep the rate of products deteriorating. The technological efforts are especially in products storing and transportation. Besides packaging that must be designed in order to keep products quality, in other hand transportation time is also must be as fast as possible in order that products delivery to customer are still within tolerable limit usage, it means products still have economic value. In this case the choices of transportation mode become the thing that cannot be avoided anymore in order that products are on time delivery. The better and faster transportation modes that are used the bigger costs that have to be spent.

Based on the description above it can be seen that there is the strong relationship among quality, time, and cost in handling of perishable products. There is a trade off among the three of variables. To maximize the quality of perishable products, delivery time must be as fast as possible with packaging techniques that can maintain products freshness. Its consequences are the spending of cost become high. This leads to the decreasing of profit earned by each supply chain party.

LITERATURE REVIEW

A supply chain consists of all parties involved, directly or indirectly, in fulfilling a customer request. The supply chain includes not only the manufacturer and suppliers, but also transporters, warehouses, retailers, and even customers themselves. Within each organization, such as a manufacturer, the supply chain includes all functions

involved in receiving and filling a customer request. These functions include, but are not limited to, new product development, marketing, operations, distribution, finance, and customer service. (Chopra & Meindl, 2007)

Agribusiness, Supply chain management (SCM) implies managing the relationships between the businesses responsible for the efficient production and supply of products from the farm level to the consumers to meet consumers' requirements reliably in terms of quantity, quality and price. In practice, this often includes the management of both horizontal and vertical alliances and the relationships and processes between firms. Agro-supply chains are economic systems which distribute benefits and apportion risks among participants. Thus, supply chains enforce internal mechanisms and develop chain wide incentives for assuring the timely performance of production and delivery commitments. They are linked and interconnected by virtue of shared information and reciprocal scheduling, product quality assurances and transaction volume commitments. Process linkages add value to agricultural products and require individual participants to coordinate their activities as a continuous improvement process. Costs incurred in one link in the chain are determined in significant measure by actions taken or not taken at other links in the chain. Extensive pre-planning and co-ordination are required up and down the entire chain to affect key control processes such as forecasting, purchase scheduling, production and processing programming, sales promotion, and new market and product launches etc.

There is a dearth of sufficient studies and literatures in the context of superstores and their expansion in Bangladesh. As a result, only few available published literatures have been reviewed for laying out the problem statement and developing the purposes of this study. Considering the future increasing demands of customers, organized retail business is increasing day by day with large volume of product categories and creating new opportunities for the business enterprises facing challenges. According to McTaggart (2004), competition and a fragmented state of the grocery stores are being faced with new challenges with the aggressive growth plans of super center. As a result, few considerable factors like range, price, expertise, convenience and experience have been recommended for retail business by McKinsey. Among these factors, price is comparatively much important factor in any business strategy in the dynamic business environment. Moreover, today's retailing has been revolutionized through online that have influence on investors and entrepreneurs to revamp accordingly to be effective with realizing the customer behavior. However, retailers should keep in their minds

regarding price factor and the factors related to dramatize revolution (Gupta, 2007; Nagle and Holden, 2002).

Azad and Bhuiyan (1992) have identified the characteristics and problems of grocery retailing in Bangladesh. Their study has found that grocery trade is connected with various problems such as irregular supply; quality variations from time to time and shop to shop, price fluctuation, bargaining, adulteration, shortage of adequate capital, high cost of transportation etc. From analyzing the findings of their study, it can be assumed that there is a chance to switch customers from traditional grocery stores to modern superstores to buy their grocery essentials and other necessary items at a large space without any hassle.

Asaduzzaman and Ithora (2008) shows that consumers were highly regarding their health had medium awareness regarding the environment hazards caused by agro-chemicals. But the supply of organic items in the local market was insufficient; and most mentioned that organic rice, fruits, fish, shrimp, egg and chicken satisfied less than half of their family demand.

There are not enough researches regarding superstore supply chain agro products in Bangladesh. For that reason there are not solid supply chain implementations on that part. This research will find the major challenges and factors these are directly or indirectly effects superstore agro supply chain.

OBJECTIVIES

The research proposal has the following objectives:

- To find out present supply chain management challenges of agricultural products of superstore retailing in Bangladesh.
- To find out flaws, if any, in the supply chain management system of agricultural products of superstore retailing in Bangladesh.
- To understand the customer's impressions about the agro product of superstores in relation to the traditional market.
- To suggest policy measures to develop efficient supply chain management of superstore retailing of agricultural products in Bangladesh.

METHODOLOGY

The research will be Descriptive in nature. Other relevant issues:

- **Population:** Customers and managerial people of superstores.

- **Survey Areas:** Dhaka city.
- **Survey Technique:** Census superstores operating in Dhaka city.
- **Source of Data:** Both primary and secondary sources will be used for the research purpose.
- **Data Collection Techniques:** Questionnaire with open ended and closed questions.
- **Data analysis techniques:** Likert scale will be used to classify and analyze data.

DATA ANALYSIS

Using individual (not summated) Likert-type items (questions) as measurement tools is common in agricultural 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 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.

Q-6: Is the quality of fruits and vegetables of the superstore is good? Regarding this issue almost 20% respondents are strongly agree, 50% are agree and 15% are neutral and the weighted mean $M= 3.7$ that shows the customers of superstores are somewhat satisfy about the quality of fruits and vegetables.

Q-7: Do you use holiday for shopping at superstore? About the most preferable day in a week almost 45% respondents are strongly agree with holiday shopping and others are prefers to their convenient time. The weighted mean $M= 3.4$ that indicates demand is high particularly on holiday.

Q-8: Is the price range of agro products higher than the commodity market's? Price is a vital factor for purchasing anything compare to others. Regarding the pricing issues almost 75% respondents are strongly agree that the price of vegetables and fruits is higher than road side shop's. The weighted mean $M= 4.6$.

Q-9: Do you have any complaint of the contaminated fruits and vegetables? Food adulteration issue is one of the most concerning matter at this moment. Almost 45% respondents do not have any complain regarding this matter but others are not sure about this issue. The weighted mean $M= 2.8$ indicate that customers are neutral about this issue.

Q-10: *Is the product assortment efficient for the consumers? The availability of products is a important factor for customer satisfaction. Regarding this matter almost 30% are*

strongly agree and 45% are agree about the product assortment. The weighted mean M= 3.85 highlighted that the product assortment is good to the customers.

Q-11: Are the vegetables of superstore better than unorganized retailers? Regarding the freshness and availability issues compare to the unorganized retailers almost 45% respondents are disagree about this matter and the weighted mean M= 2.7 focused that people some time prefer to buy fruits and vegetables in fronts of their home or near about the home in terms of availability and freshness issue.

Q-12: Are there suppliers capable to provide fresh products? About that matter almost 45% respondents are strongly agree and 35% are agree regarding this issue and the weighted mean M= 4.35 shows that suppliers are able to provide fresh products but the storing and cold storage issues can hamper the freshness of goods.

Q-13: Should the superstore concentrate more on agro products? It means some of the branches are not more focused on the agro products. About that matter almost 40% are neutral and 25% are strongly agree and the weighted mean M= 3.40 highlighted that customer wants more focus on agro products.

Q-14: Should the superstore give more focus on frozen foods? Customers are somewhat reluctant to buy frozen foods like fishes, poultry and mutton etc. Customers are not sure about when products are freeze. Almost 75% respondents are strongly agree and the weighted mean M= 4.55 means customers want more fresh products.

Q-15: Should superstores give offer seasonal discount to increase sales volume? About this issue almost 90% respondents are strongly agree and the weighted mean M= 4.80 indicate that customers want more discount regarding agro products.

Q-16: Is the quality of vegetable and fruit sometime bad? When vegetables are stayed more than one or two days, these lost the freshness. For that issue almost 55% respondents are strongly and almost 30% agree about this issue. The weighted mean M=4.40.

Q-17: Should superstore open some new branches to increase the responsiveness? In terms of responsiveness customers want more brunches and almost 75% are strongly agree with that and the weighed means M= 4.70.

Q-18: Should superstore sell rural home made products for the customers? Product assortment with rural home made products, almost 20% are strongly and 45% are agree with this issue and the weighted mean M=3.65.

Q-19: Should superstore specify the area where the fruits and vegetables are yield? Customers are biased when they know where the products are yield. About this matter almost 50% respondents are neutral and 20% agree with this issue and the weighted mean $M= 3.15$.

Q-20: Should superstores start home delivery system? Customers want to save time and hassle free shopping. For that matter customer prefers online shopping and home delivery systems. Almost 52% are agree and 25% strongly agree and the weighted mean $M= 4.20$.

Q-21 Should superstores increase the variety of different kinds of fishes? Bangladesh are now 5th position in terms of fish production. So customers want more local fishes. Regarding this issue almost 50% are neutral and 25% are agree about this matter and the weighted mean $M=3.25$.

RESEARCH FINDINGS

Overstock Problem: The main challenge is overstock problem in terms of supply and demand uncertainty. Overstock problem may happen huge wastage such kinds of perishable items. But weekend the scenario is changed. Basically on Friday customers come to buy their weekly shopping. So this day demand is high in meat and vegetables items. Sometime customers prefer to buy their vegetables item from the road side shops. The unorganized retailers create challenges about the superstore vegetables and fruits demand.

Lack of Collaborations: Lack of collaboration with suppliers of agro products still creates problem to ensure fresh agro products. Most of the suppliers on vegetables and food sector are not very educated so the real objects are not fulfilled. If suppliers know the way to create the supply chain system they will take some stapes to reduce the number of damage products. When suppliers understand the objects of keeping relationship with agility, they will ensure quality on every part of their work.

Demand Uncertainty: Vegetables and other agro products market are now very competitive. People choice there place where they can purchase their daily necessary products especially perishable items are very nearest location of their house. Most of the superstores are located in the busiest area of Dhaka city. But people prefer to buy their goods in the nearest area of their home. So demand is vary particularly on agro items. However, they are to deal with distributors and suppliers, some of whom are

unprofessional. In order to secure a reliable supply of goods, superstores are developing the sourcing channel of fruits and vegetables directly with groups of farmers.

High Price: The price of agro products is higher than that of road side shops. So people compare that to purchase products in the superstores. There is no chance of bargaining or negotiation over the products price due to fixed price practice in superstores. Superstore marketers can provide commodities at lower prices because they buy in bulk. However, sometimes they offer seasonal and occasional offers and discounts to their customers. Improvements in food quality and freshness are also important factors. Superstores are trying to achieve these by using quality controls, better hygiene and correct storage conditions like cooling and refrigerating. The study also reveals that entrepreneurs face challenges for time required to get all the necessary permissions before opening a new store in a new location, sometimes even a year or more.

Classifications of Consumers: Consumers of Bangladesh turn to their interest to shop in the modern and well-decorated superstores due to having many facilities and congenial atmosphere. Because of quality of products and comfort of shopping in the superstores, popularity of such stores is scattering in higher middle class and middle class people of Bangladesh. Educational competency of employees to refrigeration system for keeping fresh and ensuring quality of the perishable goods is also one of the most attractive factors to the customers to choose superstores in their buying decisions. Most of the superstores want to consume population based on Bangladesh. In addition, some superstores are now focusing on the middle class people along with higher class and higher middle class people.

Unorganized Distribution System: The distribution system is not organized properly. As a result, sometimes the commodities cannot be delivered to the stores on time. Lack of backward integration and less interest with long term partnership with backward stakeholders are the main obstacles to established synchronize supply chain management system regarding superstores supply chain on agro products.

Lack of Visibilities: Adulteration of food with toxic chemicals harmful to health has reached an epidemic proportion in Bangladesh. It is very difficult to find a sector of food industry which is free of adulteration. From raw vegetable and fruits to milk and milk products to fish, meat and processed food—every food item is contaminated. Contamination of foods with toxic chemicals pose a serious threat to public health, especially in a country like Bangladesh where due to poor health literacy, level of awareness is very low. It is sometime difficult to the superstores quality management

authority to watch out all time to collect fruits and Vegetables free from adulteration and chemical.

CONCLUSION AND RECOMMENDATION

According to the superstore managers supply chain management is a major obstacle for superstores management. In the process they have to rely on local market, transport facility, middlemen, distance, etc., which are highly erratic, inconsistent and unreliable. Starting a new outlet is also an obstacle for them due to unavailability of adequate space, especially in the high demand areas. Internal control and management is also a major problem for superstore operation. For management inefficiency pilferage, theft, are regular phenomena in superstores.

Collaboration among the various stakeholders along the food value chain is extremely important. The interdependencies between stakeholders in the chain and the wider network should be considered as potential locations of collaboration. Collaborative platforms help supply chain partners to have an end-to-end view of the chain. Collaboration between producers and processors (with the use of appropriate technology) can help reduce post-harvest food losses. Superstores authority should take decisions about the backward integrations which can improve the development of trust, commitment and transparency among suppliers especially vegetables and food suppliers with long term relationship. For that reasons it will be easy to train them with a proper way for yielding risk free fresh vegetables and fruits. Balance with supply and demand is one of the vital parts of supply chain management. Perfect demand forecasting with flexible relationship with suppliers give the more pleasing area. Vegetables suppliers and supply chain manager can jointly plan and control the flow of goods to balance supply and demand. Customer relationship is also important and retaining customers by proper customer services with reasonable price can improve the brand loyalty to the customers. A super shop must arrange their product as a way that customers can easily purchase all kinds of products at a short time, because most customers remain busy. So maintain their products with systematically for reducing the time consumption. Here customers give the agree statement for time consumption for purchasing products

The study noted that there is ample scope for more superstore outlets in the country. They should segment their market for different groups on the basis of price, product,

variety and brand. To respondents fixed price, one stop service, brand image and convenience of location are the key factors provoking the customers to visit the superstores mostly. They can think of adding new lines of products and augment their scope of service by providing online shopping facilities and home deliveries.

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Appendix: A

Value	5	4	3	2	1		Total Weighted	Weighted Average
Question	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	<i>Total Respondents</i>	Score	Score
Q6	4	11	1	3	1	20	74	3.70
Q7	7	3	3	5	2	20	68	3.40
Q8	14	5	0	1	0	20	92	4.60
Q9	2	5	2	9	2	20	56	2.80
Q10	6	9	2	2	1	20	77	3.85
Q11	2	3	4	9	2	20	54	2.70
Q12	9	7	3	1	0	20	87	4.35
Q13	5	3	8	3	1	20	68	3.40
Q14	13	5	2	0	0	20	91	4.55
Q15	17	2	1	0	0	20	96	4.80
Q16	11	7	1	1	0	20	88	4.40
Q17	14	6	0	0	0	20	94	4.70
Q18	4	9	5	1	1	20	74	3.70
Q19	2	4	10	3	1	20	63	3.15
Q20	6	11	4	0	0	20	86	4.30
Q21	2	5	10	2	1	20	65	3.25
						Total	1233	61.65