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Seminar report

on

**Supply Chain Management triumph- Traditional
to Supermarkets**

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INTRODUCTION

In recent data, Agriculture is the primary source of income for half of the population that contributed 17% to 18% to GDP. India is the second largest arable land area in the world and a coastline of over 7,500 kilometers. India is largest producer of milk, pulses, spices, tea and jute. India is second largest producer of fruits and vegetables, poultry, rice and wheat, fish and cotton. Agriculture is source and livelihood for 58 percent of the country's population and 44 percent of country's workforce employed in agriculture. India also observed the 11 percent increase in agriculture production in the past 14 years.

The love for dairy products increasing over the years from 52.1 kg/year per capita fresh dairy consumption in 1997 till estimated 116.20 kg/year per capita fresh dairy consumption 2027 (OECD-FAO Agricultural Outlook 2018-2027). Marine fish production in India was 3.56 million tons in 2019. Poultry population has been increasing in many poultry meat consuming states (Livestock census, 2019).

In India, farmers produce is generally disposed of in the village, rural/primary market or secondary agricultural market. In the era of fierce competition in today's global markets introduction of products with shorter life cycles and the heightened expectations of customers have forced business enterprises to invest in and focus attention on their supply chains. This, together with continuing advances in communications and transportation technologies (e.g., mobile communication, Internet, and overnight delivery) has motivated the continuous evolution of the supply chain and of the techniques to manage it effectively (Anonymous). In a typical supply chain, raw materials are procured and items are produced at one or more factories, shipped to warehouses for intermediate storage, and then shipped to retailers or customers. Consequently, to reduce cost and improve service levels, effective supply chain strategies must take into account the interactions at the various levels in the supply chain.

In traditional markets farmer is getting very less share in the consumer rupee. It is due to the involvement of more intermediaries' right from farm gate to till the end of consumers. Farm lands are far from market places and thus much time and money being spent on transportation. Handling of produce is also very unhygienic and improper. Produces are carried in wooden crates or gunny bags. By the time produce reaches the customers, fruits and vegetables are physically damaged and lost freshness and shelf life. Apart from this, consumers have become health conscious and prefer clean and packed items of superior quality. Hence, supermarkets with the intention of providing valued service to the customers are keen to practice supply chain management. It involves the integration of various activities between farmers, retailers and other resources with an intention of increasing efficiency, effectiveness and profit.

In India, the concept of food retail chains/ organized food retailing started in 1990s with the advent of international formats of retailing, especially with the emergence of food retail chains, such as 'Food world',

‘Nilgiris’, ‘Fabmall’, ‘MTR’, ‘Apna bazaar’, ‘Subhiksha’ and ‘Reliance fresh’. These food retail chains have brought in several changes in the supply chain management and logistics through the use of quasi-formal and formal contracts to ensure timely delivery of products with desired quality attributes. Food retail chains in India, due to several factors such as their recent origin, local or regional nature of their operations, existing legislation regarding procurement of agricultural produce, etc. have not been able to change the procurement systems. Most of the organized food retail chains procure their requirements of food grains (cereals and pulses) from the regulated market yards (APMC yards). It is being practised to comply with the APMC Act, which stipulates that all wholesale marketing of agriculture produce should be carried out at designated market yards, by paying the prescribed market fees and commission charges. Food grains that are procured from the wholesalers at the APMC yards are cleaned, sorted, graded and packed at godowns of the retail chains. Most retail chains repack the commodities under private labels. These food retail chains depend on traditional channels of food grain marketing and their entry has not led to shrinkage in the supply chains or any significant improvement in marketing infrastructure or marketing practices. Similar has been the situation for fresh fruits and vegetables (FFV). India’s traditional fresh fruits and vegetables marketing is characterized by fragmentation of the supply chain, concentration of market power with the wholesalers, existence of large number of intermediaries, little or no quality control, absence of standards, lack of product innovation, small volume for transactions and low inventories. The world over, despite food retail chains reaching saturation, the penetration into fruits and vegetables section is limited (Reardon and Berdegue, 2002; Weatherspoon and Reardon, 2003). The situation is more precarious in India, where food retail chains are of recent origin. Unlike the big impact of supermarkets/retail food chains in several other nations, they have not been able to make an impact on the supply chain in India, and continue to depend on the existing channels of marketing. However, recently few of the food retail chains have established backward linkages with farmers for procuring fresh fruits and vegetables. These linkages have been able to change the method of farming as well as marketing arrangements with food retail chains. These linkages have reduced market risks and transaction costs of farmers. Towards this endeavour, the present paper has reported the results of a study conducted to find the impact of the new institutional arrangement on producer’s resource-use pattern and income. With this brief background, the current seminar has been conceptualized with the following **objectives**,

1. To understand the concept of Supply chain management.
2. To know the role of supermarkets over traditional supply chain.
3. Various initiatives supporting the triumph of supply chain management.
4. To study/review the relevant research studies/case studies.

CONCEPT OF SUPPLY CHAIN MANAGEMENT:

Integrated Agri-supply chain management:

Supply chains are principally concerned with the flow of products and information between supply chain member organizations—procurement of materials, transformation of materials into finished products, and distribution of those products to end customers. Today's information-driven, integrated supply chains are enabling organizations to reduce inventory and costs, add product value, extend resources, accelerate time to market, and retain customers.

The real measure of supply chain success is how well activities coordinate across the supply chain to create value for consumers, while increasing the profitability of every link in the supply chain. In other words, supply chain management is the integrated process of producing value for the end user or ultimate consumer.

The supply chains of different agricultural commodities in India, however, are fraught with challenges stemming from the inherent problems of the agriculture sector. The Agrisupply chain system of the country is determined by different sartorial issues like dominance of small/ marginal farmers, fragmented supply chains, absence of scale economies, low level of processing/value addition, inadequacy of marketing infrastructure etc.

Early processing-based supply chain management success included improved relationships between warehousing and transportation within companies as a result of reduced inventory and better response time to customer requests for products and services. Supply chain management then entered a logistics stage where other functional areas within companies joined forces to incorporate manufacturing, procurement, transportation, distribution, and marketing to effectively compete in the marketplace. This stage was aided by the use of telecommunications, electronic data interface, and other technological advances that made the transfer of information more transparent across the functional areas between companies.

Food Supply chain Networks:

A processing-based and organised agri-supply chain functions as a part of a very complex network. Figure 1 depicts a generic supply chain at the organization level within the context of a complete supply-chain network. Each firm is positioned in a network layer and belongs to at least one supply chain, i.e. it usually has multiple (varying) suppliers and customers at the same time and over time.

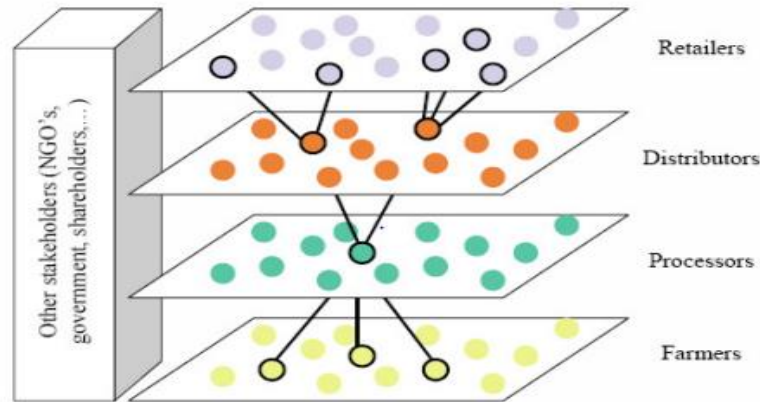


Figure-1: Schematic Diagram of Supply Chain

The advantages for supply chain member:

Individual suppliers, producers and marketers who are associated through a supply chain coordinate their value creating activities with one another and, in the process, create greater value than they can, when they operate independently. Supply chains create synergies in one of three ways:

- i) They expand traditional markets beyond their original boundaries and thus increase sales volume for members;
- ii) They reduce the delivered cost of products below the cost of competing chains and thus increase the gross margin for the working capital committed by members of the chain ; and
- iii) They target specific market segments with specific products and they differentiate the service, product quality or brand reputation of the products they deliver to these market segments and thus increase consumer perception of delivered value. In this way, they allow chain members to charge higher prices.

Generally, supply chains increase market contestability both at the producer end and at the consumer ends of the chain. At the consumer end, chains compete primarily through price, differentiated products and services and differentiated terms of sale. At the producer end of the chain, supply chains compete with one another primarily for "producer affiliation" and core vendor commitments.

Components of an Agri supply chain:

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.

Agri-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.

Following are the components of an organized Agri- supply chain:

1. Procurement or sourcing
2. Logistic management
 - a. Transportation
 - b. Material management
 - c. On the premise of supplying mostly from production not stock
 - d. Warehousing
 - e. Logistics Network modeling
3. Organizational management
 - a. Contracting
 - b. Strategic alliances and partnerships
 - c. Vertical integration
 - i. Long term storage
 - ii. Packaging technology
 - iii. Cold chain management
 - iv. Energy efficient transport
 - v. Quality and safety
4. Application of Efficient Consumer Response (ECR) System
 - a. Electronic scanning of price and product at the point of sale
 - b. Streamline the entire distribution chain

Agri marketing and emergence of coordinated supply chains in India:

The Agri supply chains in India and their management are now evolving to respond to the new marketing realities thrown by the wave of globalization and other internal changes like rise in the level of

disposable income of consumers, change in the food basket of the consumers towards high value products like fruits, vegetables and animal protein. The new challenges of the agricultural economy of the country have now spurred the government agencies to go in for different legal reforms for enabling and inviting private investment in agricultural marketing infrastructure, removing different entry barriers to promote coordinated supply chain and traceability.

The amended APMR Act, the major agricultural Marketing Act of the country, being implemented by the different states of India, now contains enabling provisions to promote contract farming, direct marketing and setting up of private markets (hitherto banned). These measures will go a long way towards providing economies of scale to the small firms in establishing direct linkage between farmers, and processors/ exporters/ retailers, etc. Thus, the measure will provide both backward and forward linkages to evolve integrated supply chains for different agri produce in the country.

Marketing channels:

While studying the supply chain-management issues of the agriculture sector, it is worthwhile to analyse the prevalent market channels of some commodities to bring the discussion to perspective. Marketing channels for fruits and vegetables in India vary considerably by commodity and state, but they are generally very long and fragmented. Figure 2 presents typical marketing channels for mangoes and onions in Tamil Nadu. The majority of domestic fruit and vegetable production is transacted through wholesale markets although depending on the state and commodity; farmers may sell to traders directly at the farm gate, to traders at village markets, or directly to processors, co-ops and others. Some of the the common problems in agri supply chains in India are presented in Table-1 and Figure-2 describes marketing channels of mango and onion, prevalent in Tamil Nadu.

Production	Supply Chain	Processing	Marketing
<ul style="list-style-type: none"> • Poor extension • Quality inputs • Low productivity • Deficient and inefficient production management • Non demand linked production • Improper post harvest management resulting in poor quality 	<ul style="list-style-type: none"> • Lack of storage • Poor transportation • High wastages • Multiple intermediaries • Fresh produce transported to mandis in open baskets or gunny bags stacked one on top of the other • Cold chain absent or broken, produce deteriorates rapidly • Food safety is major concern: Hygiene and pesticide MRL not monitored 	<ul style="list-style-type: none"> • Low processing • Lack of quality • Poor returns • Low capacity utilization 	<ul style="list-style-type: none"> • Poor infrastructure • Lack of grading • No linkages • Non-transparency in prices • Long delays from producer to retailer
Each segment working in an isolated manner resulting in multiple losses across the value chain			

Figure-2: Broken Links in Agri Supply Chain in India

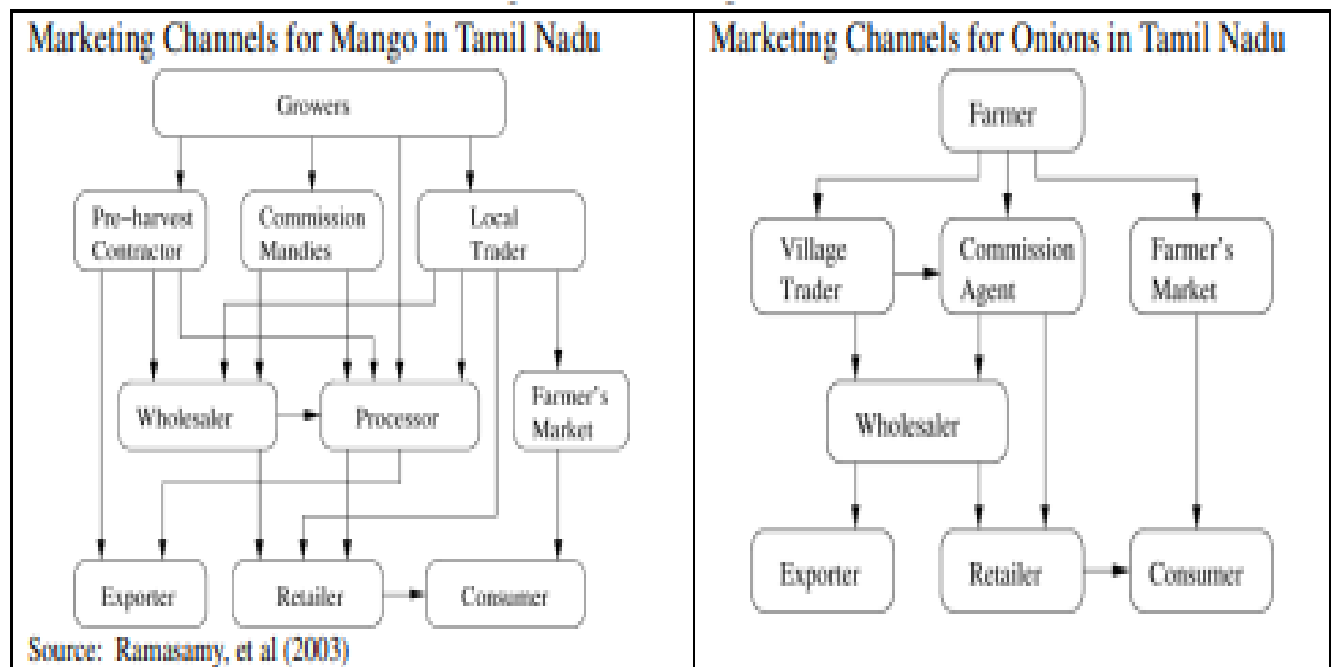


Figure-3: Marketing Channels

Coordinated supply chains:

In the last few years there has been an emergence of more coordinated supply chains for fruits and vegetables in India catering to the export market and to the high end domestic market. On the domestic front this trend has primarily been led by the growth of large hypermarkets, supermarkets and other organized retailers in metropolitan centers. For exports, the emergence of dedicated export chains has been prompted by stricter quality and safety standards in certain export markets.

Coordinated supply chains involve structured relationships among producers, traders, processors, and buyers whereby detailed specifications are provided as to what and how much to produce, the time of delivery, quality and safety conditions, and price. These relationships often involve exchanges of information and sometimes assistance with technology and finance. Coordinated supply chains fit well with the logistical requirements of modern food markets, especially those for fresh and processed perishable foods. These chains can be used for process control of safety and quality and are more effective and efficient than control only at the end of the supply chain.

Several companies in India are beginning to invest in integrated supply chain management systems and infrastructure with emphasis on quality and, to a lesser extent, on safety. Different models are emerging including fruit and vegetable retail outlets that directly procure produce from farmers or grower associations through various formal/informal contractual arrangements. Collection-cum-grading centers have been established in rural areas with all produce moving through a central distribution facility having modern infrastructure including cold storage, ripening rooms and controlled atmosphere chambers. Growers are required to follow certain specifications and are often provided with some inputs and technical advice about agronomic and post-harvest practices.

Contract farming for fruits and vegetables is already being practiced in several states and is likely to expand considerably due to legal reforms initiated in India, i.e., implementation of Model APMC Act. Until recently, contract farming was not legally recognized in most states and a legal framework for governing contracting arrangements was missing. Under the APMC Model Act a new chapter on 'contract farming' was added which provides for the registration of contract buyers, the recording of contract farming agreements, and time-bound dispute resolution mechanisms. It also provides an exemption from the levy of market fees for produce covered by contract farming agreements and provides indemnity to farmers' land to safeguard against the loss of land in the event of a dispute. Contract buyers will now be able to legally purchase commodities through individual purchase contracts or from farmers markets. Provision has also been made in the legislation for direct sale of farm produce to contract buyers from farmers' fields without it being routed through notified markets.

A terminal market for fruits and vegetables has been set up in Bangalore. The market (known as SAFAL) can physically handle up to 1600 metric tons of produce a day. It is linked to some 250 Farmers Associations and 40 Collection Centers that have been established in selected producing areas. The market receives sorted, graded and packaged produce from these associations and centers and this is then auctioned at the market. SAFAL also has forward linkages to a number of retail outlets (Cash and Carry Stores). The market has modern infrastructure, including temperature and humidity controlled storage facilities, and ripening chambers. This calls for the collective action in supply chains.

Initiatives are taken to establish more terminal markets based on modern infrastructure. MTMs would endeavour to integrate farm production with buyers by offering multiple choices to farmers for sale of produce such as electronic auctioning and facility for direct sale to exporter, processor and retail chain network under a single roof. In addition, the market would provide storage infrastructure thus offering the choice to trade at a future date to the participants. It is envisaged to offer a one-stop-solution that provides Logistics support including transport services & cool chain support and facility for storage (including warehouse, cold storage, ripening chamber, storage shed), facility for cleaning, grading, sorting, packaging and palletisation of produce and extension support and advisory to farmers.

The model presents integration of agri supply chains for perishables through MTMs. Presently in the regime of fragmented and inefficient agri supply chains there is no control and command of chain partners on the other following that they are not able to maintain quality of produce in their chain. In order to bring integrated command, source quality produce by way of organizing farmers in groups and providing them the right technical advice and link farmers to the market, modern terminal market complexes will prove a dent.

With increasing private investment in the food retail sector and impending changes in contract and marketing laws, shorter and more direct supply chains with traceability are expected to become more common. The incidence and spread of coordinated supply chains will be closely connected with the pace and direction of food retail sector modernization within India. Thus far, changes in food retail have been gradual, and considerably slower than observed in many other developing countries. Supermarket procurement regimes for sourcing of fruits, vegetables, dairy and meat strongly influence the organization of the supply chains. The rising scale of organized retail in the Asian countries (like Metro Cash & Carry, Tata Chemicals and Field Fresh Foods, Bharti Enterprises, Reliance Fresh in India) is now playing a vital role in organizing farmer production bases and integrating these into the retailers' fresh produce supply chain, thus procurement systems in this segment is changing fast responding to the consumer demand and competition. Fig-3: Changing Supply Chain with Entry of Organized Retailing Besides the presence of

retailers in the countryside for farm produce sourcing, now there are also some players; who are helping various retail chains for their sourcing requirements. For instance, DCM Shriram Consolidated Ltd (DSCL) is in the process of tying up with them to source fruits and vegetables from farmers and supply to the retail chains. DSCL is already doing this for Future Group's Food Bazaar, south based Subhiksha and RPG's Spencer. The new tie-ups would help the company to operate on economies of scale, and to operate all over the country.

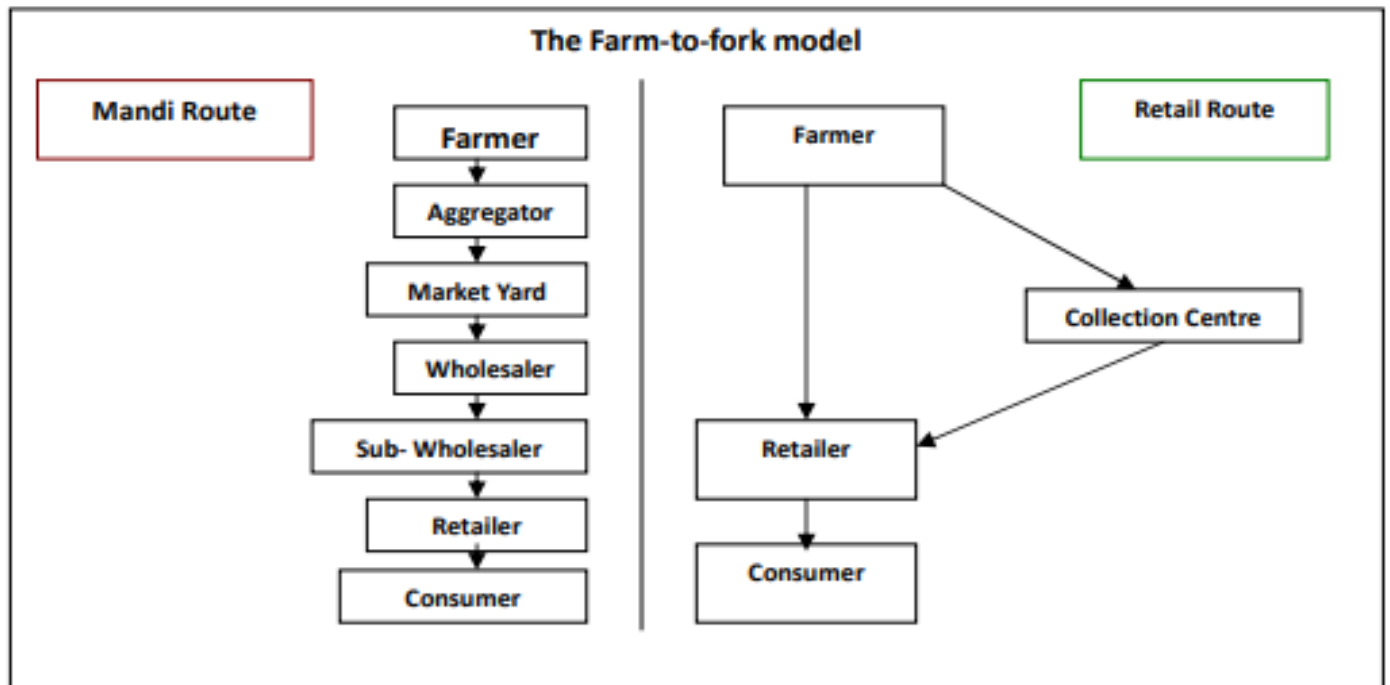


Figure-4: Changing Supply Chain with Entry of Organized Retailing

Seven distinct and important phases of Supply Chain Management are:

The First: The Transportation Era (1950s)

The Second: The Physical Distribution (1960s)

The Third: Physical Supply, Deregulation and Logistics (1970s)

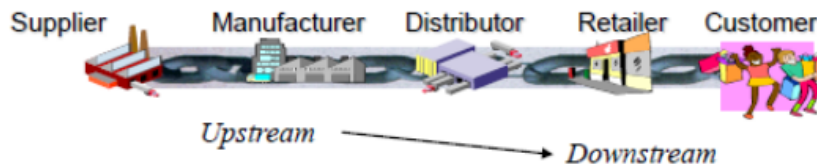
The Fourth: Transportation, Deregulation, Physical Distribution and Business Logistics (1980s)

The Fifth: Business Logistics (1990s)

The Sixth: Logistics and Supply Chain Management (2000s)

The Seventh: Supply Chain Digitalization (2010's)

- A supply chain consists of



- aims to Match Supply and Demand, profitably for products and services



- achieves



Figure-5: Elements of Supply Cchain Management

What is Supply Chain Management in the Manufacturing environment?

It involves all the activities involved in delivering a product from raw material through to the customer including sourcing raw materials and parts, manufacturing and assembly, warehousing and inventory tracking, order entry and order management, distribution across all channels, delivery to the customer and the information systems necessary to monitor all of these activities.

What is Supply Chain Management in the Service Industry?

It involves management of information, processes and funds from the earliest supplier to the ultimate customer, including disposal.

Integrated supply chains are enabling organizations to reduce inventory and costs, add product value, extend resources, accelerate time to market, and retain customers (Ellram et al., 2004).

ROLE OF SUPERMARKETS OVER TRADITIONAL SUPPLY CHAIN

Supermarkets

A supermarket is a self-service store that is divided into sections and offers a broad selection of food, drinks, and home items. Shop is larger and has a greater selection than older grocery stores. Fresh meat, fresh fruit, dairy, baked goods, and other items are commonly found at supermarkets. *Supermarkets first appeared in the United States during the Great Depression of the 1930s and in 1966 'Super Bazar' appeared in Delhi as 'India's first supermarket'. The absence of salespeople is the most*

distinguishing aspect of a supermarket. Supermarkets are a contemporary development that has mostly replaced marketplaces in India, particularly in metropolitan areas.

Advantages:

1. More share in the consumer rupee,
2. No or less intermediaries right from farm gate to till the end of consumers,
3. Handling of produce is proper and hygienic,
4. Supermarket collection centers are located closer to the villages than traditional wholesale markets,
5. Transportation costs are lower when selling to supermarkets,
6. Commission charges and other transaction costs that farmers face are lower,
7. Buyers in supermarket collection centers face lower transaction costs than in traditional whole-sale markets,
8. Supermarket supply chains further downstream are shorter, with fewer intermediaries who want to make some profit.
9. Supermarkets with the intention of providing valued service to the customers are keen to practice supply chain management.
10. It involves the integration of various activities between farmers, retailers and other resources with an intention of increasing efficiency, effectiveness and profit.

Disadvantages:

1. Need huge investment capital,
2. Problem of required space,
3. Difficult for customers in making selections,
4. Possibility of spoilage of perishable goods if not sold for long time,
5. Lack of credit facility,
6. Few employment opportunities etc.

Supermarket collection centers are located closer to the villages than traditional wholesale markets, meaning that transportation costs are lower when selling to supermarkets. In addition, commission charges and other transaction costs that farmers face are lower. Buyers in supermarket collection centers face lower transaction costs than in traditional whole-sale markets, because they save the commission fee that buyers are typically charged in public mandis. In addition, supermarket supply chains further downstream are also shorter, with fewer intermediaries who want to make some profit. Lower transaction costs for supermarkets would mean that they are able to pay somewhat higher prices to farmers, even if the retail price at the end

of the supply chain were the same as in traditional markets. Without this price incentive, too few farmers might decide to selling supermarket collection centers, which would jeopardize regular supplies.

Procurement Management in Supermarkets:

- 1. Centralised Purchasing Pattern:** To optimise multi-store inventory control from one central location to manage Just-In Time replenishment.
- 2. Store level Purchasing Pattern:** Purchasing commodities for individual outlets as and when necessary, mostly followed by unorganised sector.

Sl No.	Items	Rythu bazaars	Reliance	Subhiksha
1	Marketing model	Government acts as facilitator bet Farmer and consumer Direct marketing model with forward linkages	Directly purchase from farmer. Direct marketing model with backward linkages	Directly purchase from farmer. Direct marketing model with backward linkages
2	Farmers share in consumer rupee	Farmers get good share compare to retail markets because of prices are fixed higher than local retail shops but less than reliance and subhiksha markets	Farmers get higher share than rythu bazars because of marketing model as it saves transport cost, marketing cost and other incidental charges	Farmers get higher share than rythu bazars because of marketing model as it saves transport cost, marketing cost and other incidental charges
3.	Role of middlemen	Partially and indirectly existing	Complete elimination of middlemen	Complete elimination of middlemen
4.	Consumer status	Below Poverty Line people, Middle Class, village middle class	High income group, Software professional, metro people	High income group, Software professional, metro people
5.	Organization	Government	Private	Private
6.	Goal	No profit/loss	Commercial/profit	Commercial/profit
7.	Consumer choice of grading	No grading	Grading	Grading
8.	Prices	Prices low	Low/high	More or less similar to reliance
9.	Marketing channel	Farmer-government- consumer	Company-farmer	Company-farmer
10.	Participants	Farmers, unemployed women, self help group, unemployed youth Government Agencies: Civil Supplies corporation, OILFED, MARKFED, Girjana Cooperative societies	Company	Company

Figure -6: Features of super market models of fruits and vegetables under different supermarket supply chains

S. No	Particular	Reliance	More	Heritage
1	Products they deal with	Deal with many types of vegetables and fruits.	They said that they will procure all types of crops grown in the locality.	Deal with all fruits and vegetables.
2	Market model	Direct market model with backward linkages.	Direct market model with backward linkages.	Direct market model with backward linkages.
3	Development initiatives by the respective companies	Arranging meetings with farmers and presentation of success stories from states like Karnataka.	Technical guidance sometimes offered by visiting farmers' fields.	Custom farming (agriculture diploma candidates will be formed into teams and sent to the fields for technical guidance).
4	Benefits of linking farmers with companies	Perfect payment - Perfect weighing - Fixed rate per each day - Returning Gunny bags	Low transport charges - No commission - Correct weighing	Wholesale is unassured, but selling to company is having assured market -Productivity will increase because of assured markets and proper planning
5	Constraints	- Initially it is taking time to acclimatize to collection centers	- Now paying 1% cess to government	- No credit is advanced
6	Effects	Effects	- Spiraling of prices and cobweb phenomena observed - Absence of middlemen	- Spiralling of prices and cobweb phenomena observed - Absence of middlemen
7	Opportunities	Development of high value commodities market supply chain	Development of high value commodities market supply chain	Development of high value commodities market supply chain
8	Suggestions	- Have to purchase entire quantity brought by the farmer irrespective of grading. -Seeds should be with high quality - Farm schools and Market schools to open	- Should supply seeds - Export linkage is suggested - Government has to regulate prices - Government has to open and operate retail outlets - Farm schools and Market schools to open	- Government should assess the production and consumption level and announce the MSP accordingly Farm schools and Market schools to open

Figure-7: The effects of supermarket chains on farmers, retailers and local vendors in horticulture marketing in Andhra Pradesh.

Private Retailer markets	Year entered	Ownership	Formats	Outlets/plans	Locations
Nilgiri's	1971	Local (part ownership by Actis, U.K.	supermarkets, convenience stores	40; plans for 500 stores by 2010	Major cities in South India
Trinethra/ Fabmill	1986	Local (Aditya Birla Group)	supermarkets, convenience stores,	170	Major cities in A.P., Tamil Nadu, Karnataka and Kerala
MarginFree	1994	Local Cooperative (Consumer Protection and Guidance Society)	Discount stores, Supermarkets	350	Major cities in Kerala, Tamilnadu, and Karnataka
Spencers	1996	Local (RPG Group)	Hypermarkets, supermarkets, convenience stores	97; plans to add 50 hypermarkets by 2008	Major cities in South India
Subhiksha	1997	Local (Subhoksha Trading Services Pvt. Ltd)	Discount stores	520; plans for 1200 stores all over the country by 2007/08	Major cities in Tamilnadu, A.P, Pondichery and Delhi region
Foodworld	1999	Local (Subsidiary of Dairy Farm International)	Supermarkets	55; plans to expand in South India	Bangalore, Hyderabad
Trumart	2001	Local (Pyramid Retail)	supermarkets, convenience stores	29; plans for 90 stores by end of 2007	Maharashtra and Gujarat, Bangalore, Chennai, Hyderabad,
Food Bazaar	2002	Local (Future Group)	Hypermarkets, supermarkets,	90; Plans for 250 store by 2010	National (major metros and large cities)
Metro Cash & Carry	2003	Foreign (Metro AG, Germany)	Wholesale "Cash& Carry"	3; plans to add 15-18 new outlets by 2009	Bangalore, Hyderabad, Mumbai, Kolkata, Chennai
My Dollar Store	2004	Local (Franchisee of My Dollar Store of the US)	convenience stores	50; plans for 400 stores by 2007	Nationwide
Shoprite	2004	Local (Subsidiary of Shoprite (PTY) Ltd; South Africa)	Hypermarket	1; plans to add 2-3 new outlets by 2007	Mumbai
Star India Bazaar	2004	Local (Trent; division of Tata Group)	Hypermarket	3; plans to add 23	Nationwide
Reliance Retail	2006	Local (Reliance Industries Ltd.)	Hypermarkets, supermarkets, convenience stores	230; plans for 3,000 stores, 2500 super markets and 500 hypermarkets by 2010	Nationwide
Spinach	2006	Local (Wadhwan Retail)	Super markets	89; plans to add 1500 stores in 90 cities by 2010	Nationwide
Max Hypermarkets	2007	Local-foreign joint venture (Spar International, Neth.)	Hypermarkets	Plans to develop 7 stores by 2009	Nationwide
Bharti 1	2007	Local (Bharti Enterprises)	Hypermarkets, Supermarkets	Plans to invest \$2.5 billion by 2014	Nationwide
Bhart Walmart	2007	Local-foreign joint venture (Wal-mart, USA)	Wholesale "cash & carry)	Plans for 15 stores by 2014	Nationwide
Birla "More"	2007	Local -Birla	Super markets \$2 billion by 2010	1000 stores	Nationwide

Figure-8: Details of different Private retail markets

Metro Cash and Carry:

METRO is the first HACCP [Hazard Analysis Critical Control Point]-certified wholesaler and compliant with global quality standards. Farmers' Collection Centers are part of METRO's DIRECT FARM program Over 5000 registered farmers across the country. METRO sources fresh fruits and vegetables directly from farmers that help them fetch a good price for their seasonal produce. It reduces transportation costs and eventually helps to eliminate food wastage and loss for farmers.

Malur is among the Six collection centers of METRO Cash & Carry in India to procure fresh fruits and vegetables directly from the local farmers. Malur collection center (2000 square feet) benefits over 500 native farmers from over 100 villages Araleri, Dyapasandra, Medatti, Mittiganahalli, Purasanahalli, Channakal, Mangapura, Anikarahalli, Sonnahalli, Doddakadathur, Daddashivara, Chikkakadathur, Doddakadathur, Doddasabbenahalli, Chikkasabbenahalli, Madivala, Chokkondahalli, Irabanahalli, Voppachalli, Doddakallahalli, Dinneri Harohalli, Sonnahalli, Bhavanahalli, Hosahalli, Hungenahalli, Tirumalakoppa, Hedaginabale to name a few. METRO sources 40-50 major vegetables and seasonal fruits directly from these native farmers. Malur and Chikkaballapur Collection Center in Karnataka contributes 3600 MT of volume per annum, which is almost 50% of the total volume of METRO stores in Bangalore.

VARIOUS INITIATIVES SUPPORTING THE TRIUMPH OF SUPPLY CHAIN MANAGEMENT

1. FDI in Indian agricultural activities:

100 percent Foreign Direct Investment (FDI) in agriculture sector in India is allowed through the automatic route in the following activities: Horticulture, floriculture, apiculture and farming of vegetables and mushrooms, animal husbandry, fish farming, and aquaculture, development of seeds, services related to agriculture and allied sectors. In addition, foreign investments up to 100% are allowed through the government route in the tea sector, including tea plantations.

2. Model Contract Farming Act, 2018:

It ensures buying of entire pre-agreed quantity of contract farming producer as per contract. To guide the contracting parties to fix pre-agreed price. To decide sale-purchase price in case of violent movement (upswing or downswing) of market price vis-à-vis pre-agreed price as a win-win framework. Provided contract farming facilitation group at village level to take quick and need based decision. Contract farming to remain outside the ambit of APMC Act. Catering to a dispute settlement mechanism at the lowest level possible for quick disposal of disputes. Contract Farming (Development & Promotion) Authority to carry out the assigned mandate.

3. Integrated Scheme for Agricultural Marketing (ISAM):

The schemes of Grameen Bhandaran Yojana (GBY) and Development/Strengthening of Agricultural Marketing Infrastructure, Grading and Standardization (AMIGS). It is being implemented in 2013 by the Ministry of Agriculture and Farmers' Welfare, Government of India. The overall budgetary allocation for ISAM is 4548.00 crores.

ISAM Objectives:-

- ❖ To develop agricultural marketing infrastructure.
- ❖ To promote innovative and latest technologies and competitive alternatives in agriculture marketing infrastructure.
- ❖ To provide infrastructure facilities for grading, standardization and quality of agricultural produce.
- ❖ To establish a nationwide marketing information network.

4. Agricultural Marketing Infrastructure (AMI):

It is being implemented in 2014 by the Ministry of Agriculture and Farmers' Welfare, Government of India. The AMI lays special focus on developing and upgrading of Gramin Haats as GrAMs through strengthening of infrastructure. These GrAMs may function as farmer-consumer market (retail market). Budget provision is 4000.00 crores for AMI. NABARD is the channelizing agency for release of subsidy @ 25% to 33.33% of the capital investment in warehousing, cold storage, primary processing, quality testing, grading, sorting, packaging. Total of 39,928 storage infrastructure projects (Godowns) have been assisted in the country.

5. Pradhan Mantri Gram Sadak Yojana (PMGSY):

PMGSY has been implemented as PMGSY- I, II and III by the Ministry Of Rural Development. PMGSY-III aims to facilitate improved all weather road connectivity to the Gramin Agriculture Markets (GrAMs), higher secondary school and hospitals. Road to GrAMs are facilitates improved transportation of agricultural produce from villages to urban centers and enable better reach of inputs to rural areas.

6. Mission organic value chain development for North eastern Region (MOVCD-NER):

The scheme was approved with an outlay of Rs. 400 crore for three years during 2015-16. It has completed two phases of 3 years each and is now moving forward in Phase III. Total Rs. 641.71 crore released; 170 FPO/FPCs created covering 83,096 farmers and 79,445 ha area. 141 post-harvest handling, processing and pack house entities created under FPO/FPCs and private ownership. The export of king chilli sauce, pineapple (canned) and ginger flakes to UK, USA, Australia, France and Switzerland has started.

RELEVANT RESEARCH STUDIES/CASE STUDIES

1. Research Study

A Novel Agribusiness Model for Backward Linkages with Farmers: A Case of Food Retail Chain

(K.P. Mangala and P.G. Chengappa , 2008)

Particulars	Food retail chain farmers	Traditional market farmers
Number of farmers	19	30
Age (years)	39	48
Literate (%)	100	67
Family size (No.)	7	5
Total landholding size (acres)	6	2
(a) Irrigated land	4.5	1.5
(b) Dry land	1.5	0.5
Bore wells per farmer	2	1
Gross income from agriculture (Rs)	1,72,000	70,000
Category of farmers		
a. Marginal (< 2.5 acres)	3 (15.8)	28 (93.3)
b. Small (2.5 -5 acres)	9 (47.4)	2 (6.7)
c. Large (> 5 acres)	7 (36.8)	0 (0.00)

Note: Figures within the parentheses are percentages to the total number of farmers, in Columns 2 and 3.

Figure-9: Socio-economic characteristics of farmers

Mangala and Chengappa (2008) found that one of the leading food retail chains, ‘Spencers’ have established backward linkages with farmers for procuring fresh fruits and vegetables for steady and continuous supply of fresh vegetables to the food retail chain and flow of income to farmers.

- ❖ It changed the method of farming and the marketing arrangement followed by the food retail chains.
- ❖ Reduced the market risks and transaction cost of farmers and has helped them in breaking away from the clutches of traditional brokers/wholesalers/commission agents.
- ❖ Direct supply by farmers has allowed the retail chain to simultaneously increase control over quality, supply reliability and price stability with flexibility to the farmers to exit from the system, if they are not satisfied with its functioning, since there are no written contracts.

Crops grown	Food retail farmers (n=19)		Traditional market farmers (n=30)	
	Area (acres)	Percentage	Area (acres)	Percentage
Vegetables				
Ash gourd	0.5	0.5	-	-
Baby corn	2.0	2.5	-	-
Beet root	2.0	2.5	-	-
Bitter gourd	1.0	1.0	0.5	-
Bottle gourd	1.0	1.0	-	-
Brinjal (egg plant)	2.5	3.0	-	-
Cabbage	3.0	3.5	5.7	12.0
Capsicum	0.5	0.5	-	-
Carrot	8.5	10.0	13.5	29.0
Cauliflower	10.0	12.0	6.2	13.5
Chicdi Avare	5.5	6.5	6.0	13.0
Chow chow	2.0	2.5	3.5	7.5
Cucumber	1.5	2.0	-	-
Double beans	1.0	1.0	6.5	14.0
Exotic vegetables	16.0	19.0	-	-
Green Chilli	2.0	2.5	0.5	1.0
Little gourd	-	-	1.2	3.0
Musk melon	0.5	0.5	-	-
Potato	9.0	10.5	0.5	1.0
Pumpkin	0.5	0.5	-	-
Ridge gourd	1.0	1.0	-	-
Tomato	15.0	17.5	2.7	6.0
Total area under vegetables	85.5	100.0	47.0	100.0
Cereals				
Ragi	28.5		15.0	
Grand total	114		62	

Figure-10: Comparison of cropping pattern followed by FRC and traditional market farmers

Conclusion: Mangala and Chengappa (2008) found that gross income from agriculture of Food Retail Chain farmer (Rs. 1,72,000 per year) was more than traditional market farmer (Rs 70,000 per year), due to improved agricultural practices and growing of exotic vegetables. Thus, it was found that crop diversity was higher for Food Retail Chain (FRC) than traditional market farmers.

2. Case Study

Supply Chain Management of Fruits And Vegetables In India

(Sihariya Gourav, Hatmode Vipin B. And Nagadevara V., 2013)

Methods for sourcing of fresh fruits and vegetables:

Local farmers (direct sourcing, Mandi), Inter-state movement, national sourcing and international sourcing.

- ✓ Direct sourcing route: Farmers transport vegetables from farming location to the buying centers (also known as collection centers).
- ✓ Small farmers and contract farmers are the primary source of supply of vegetables and constitute 80% of the sourcing volume.
- ✓ Vegetables are transported from buying centers to distribution center (or City processing centers) in

both temperature-conditioned and unconditioned trucks.

- ✓ A distribution centre is served by one or more buying centre and a buying centre serves one or more distribution centre.
- ✓ Vegetables are cleaned and then sorting and grading is done at the distribution centre. Distribution centre also buys small volume of vegetables from the local wholesale market (mandi) to balance demand supply gap which constitute 20% of the entire sourcing volume.
- ✓ Some exotic fruits are sourced internationally and constitute the rest 20%.
- ✓ Fresh vegetables are then transported from distribution centre to stores in small trucks.
- ✓ A store is served by only one distribution centre.
- ✓ To tackle the issues of perishability and seasonality of fruits and vegetables, Reliance has adopted a very different approach.
- ✓ They work closely with the farmers and help them in crop planning. For example, if Reliance estimates that there will be a demand of 3000 tonnes for cauliflower in Karnataka in the month of May, they would inform the farmers about this opportunity.
- ✓ Help farmers by providing information about fertilizers, pesticides and irrigation techniques. They will also help farmers in getting good quality seeds which can be sown even in summer months. Reliance maintains close contact with various seed/fertilizers companies.
- ✓ Waste reduction measures adopted by Reliance include pre-cooling of harvest, better post-harvest handling (less number of human touches/contacts), and special type of packaging for soft products. Reliance has its own patented packaging process which ensures less wastage during handling and transport.
- ✓ Focuses on training of staff and use cold-chain for interstate movement of fruits and vegetables.
- ✓ From collection centre to retail stores wastage levels reduced from 25-30% (when Reliance-Fresh started operations) to 7-8%.
- ✓ Wastage mostly occurs in the farming stage itself.
- ✓ Since Reliance has stringent quality standards for procurement, wastage at later stages is very low (maximum 2-3%).
- ✓ These things helped Reliance in achieving higher net margins and increased profitability.

Conclusion: Sihariya et.al., (2013) stated that Reliance Fresh in its direct sourcing route enables farmers transport vegetables from farming location to the buying centers (also known as collection centers). Small farmers and contract farmers are the primary source of supply of vegetables and

constitute 80 per cent of the sourcing volume. To tackle various issues, Reliance work closely with the farmers and help them in crop planning and other aspects. Reliance has its own patented packaging process which ensures less wastage during handling and transport. They also focus on training of staff and use of cold-chain for interstate movement of fruits and vegetables

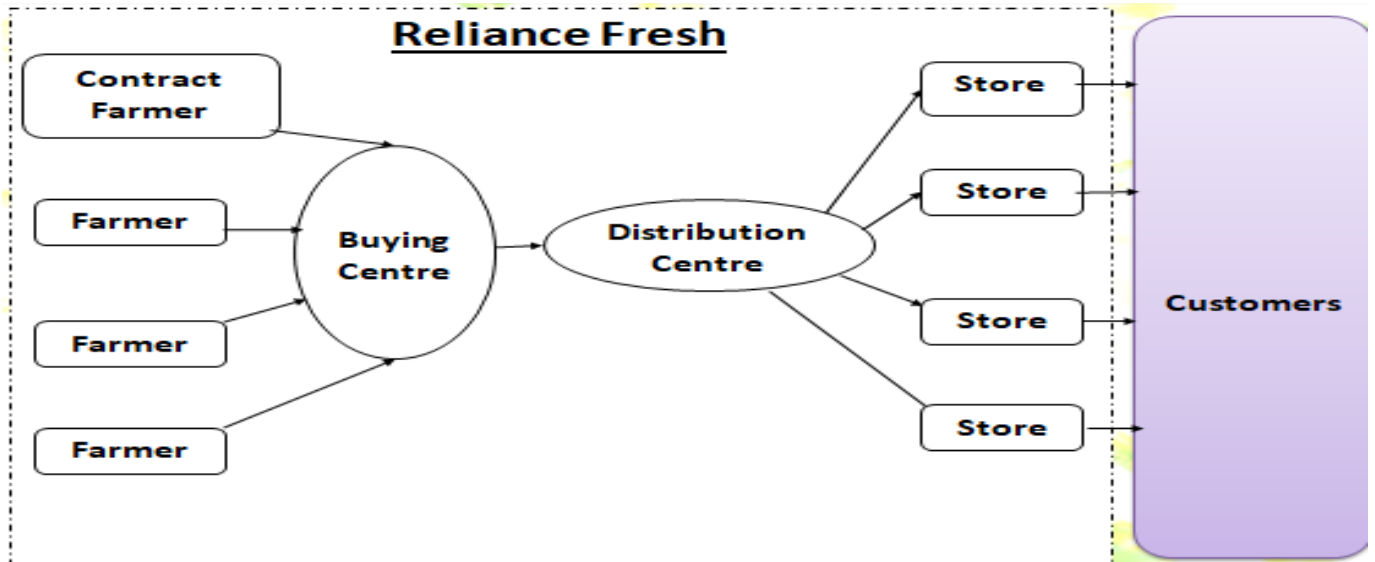


Figure-11: Summarized representation of the entire supply chain of fruits and vegetables adopted by Reliance Fresh

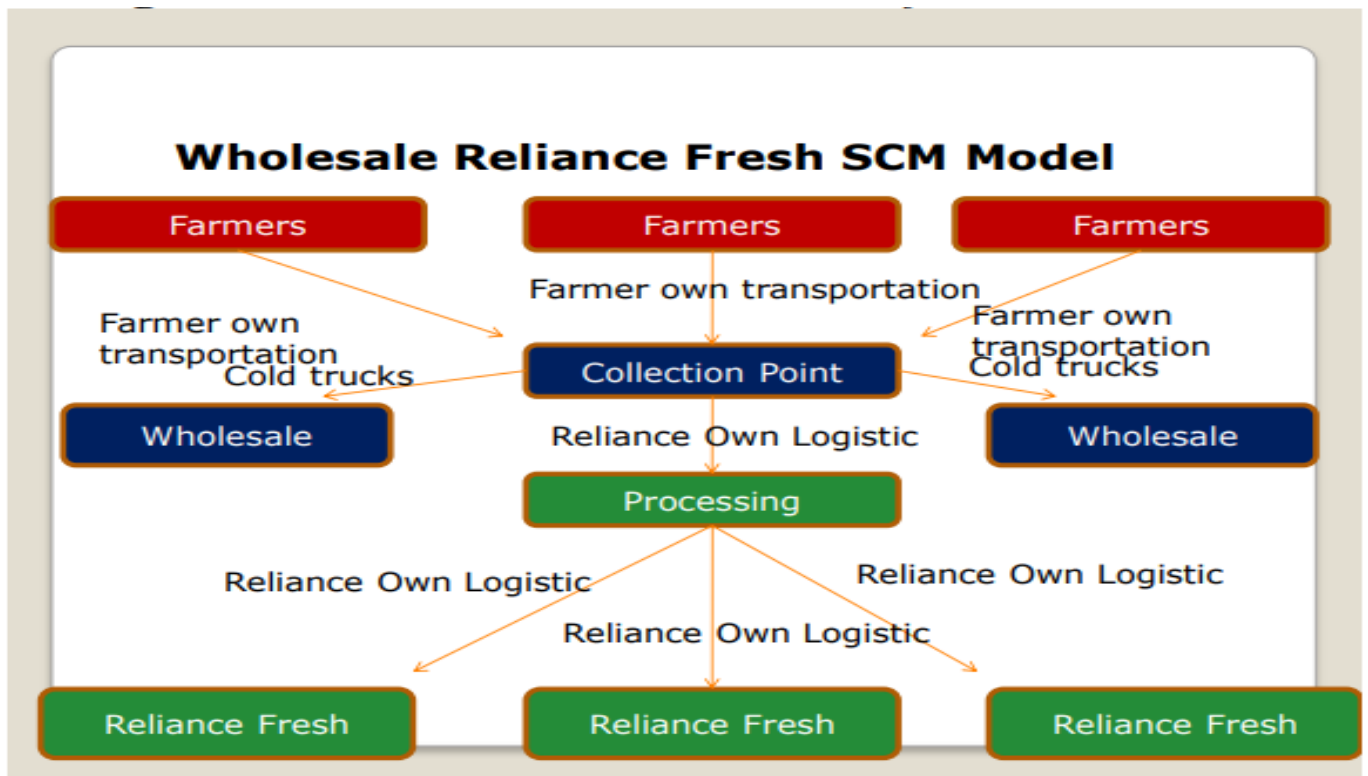


Figure-12: Supply Chain Management – Reliance Fresh

CONCLUSION

Rapidly growing urbanization, increasing income, changing global demand, shifting consumer demand is enabling today's retailers' operating system with far more disruptive technology than was case in the past. The farmers directly supply their produce to collection centres without intermediaries such as commission agents which is real saving to farmers. The challenges faced by supermarkets were identified as erratic nature of production linked non-availability of produce on a continuous basis, wide fluctuation and high rental values of outlets due to rise of real estates. Due to advantages and challenges for farmers in Supermarkets, having a hybrid model of going with both traditional supply chain and supermarkets would be way forward on situation basis.

DISCUSSION

1. Why farmers are opposing the farm bills?

The new laws prevent the state governments from collecting a market fee, cess, or levy for trade outside the APMC markets; this has led the farmers to believe the laws will "gradually lead to the deterioration and ultimately end the mandi system" thus "leaving farmers at the mercy of corporates".

2. How farmers are exploited by the corporate system?

The problems faced by farmers due to corporate system are:

1. Particularly when growing new crops, farmers face the risks of both market failure and production problems.
2. Inefficient management or marketing problems can mean that quotas are manipulated so that not all contracted production is purchased.
3. Sponsoring companies may be unreliable or exploit a monopoly position.
4. The staff of sponsoring organizations may be corrupt, particularly in the allocation of quotas.
5. Farmers may become indebted because of production problems and excessive advances.

3. What is the difference between Push and Pull marketing?

In push marketing the goal is to bring your brand or products to your customers. This form of marketing is a lot more deliberate and proactive than other inbound methods. Because push marketing is a bit more aggressive than the alternative it's generally preferred by businesses taking advantage of a short time-period or trying to generate sales quickly.

Pull marketing, on the other hand, involves naturally accruing traffic. The reasoning

here is to create high-value content suited for your target audiences and letting them come to you. Of course this doesn't mean doing nothing. Pull marketing simply means being aware of the fact that there are already users actively seeking out the products, services, or information that you offer and making it easier for them to find it, and making it easier for them to get to their ultimate goal.

4. Are all supermarkets successful? What are the reasons behind the failure of Food Bazaar?

No, Some supermarkets failed due to Out-of-Control Expenses, out-of-Control expenses, failing to manage gross income, out-of-control inventory etc. Food Bazaar failed due to following reasons: overcharging, monopolizing the products rather than providing options to customers, ignorant staff, and bad customer service.

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