



Impact of modern Retail over Food Supply Chain Management

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ABSTRACT

Retailing in India is one of the pillars of Indian economy and accounts for 14 to 15 percent of GDP. The Indian retail market is estimated to be US\$ 450 billion and one of the top five retail markets in the world by economic value. India is one of the fastest growing retail markets in the world, with 1.2 billion people. The unorganized and fragmented setup in the supply chain makes the retailing unprofitable to key chain players. The study analyzes the impact of modern retail in Tamilnadu with all key players in supply chain. For the study Chennai and Coimbatore districts were chosen purposively selected. A sample of 100 farmers, 15 intermediaries 10 retailers and customers are selected by adopting stratified random sampling to analyze the impact. The study also analyses the retail giant's performance and its impact on food supply chain in the developing nation like India. The study found that the major marketing constrain faced by growers were due lack of marketing information, lack of transportation facility. To overcome the problems the provision of cold storage facilities to the farmers, distribution centre, and dissemination of market information must be provided. 72% of farmers and 90% of retailers responded that modern retail would help to overcome the supply chain problem. 85% of intermediaries responded that FDI in retail would have an adverse effect in the supply chain resulting in the collapse of the entire food chain.

KEYWORDS : Food Supply Chain Management, Foreign direct investment, Modern retailers

1. Introduction:

Over the years, an organized supply chain in Agri-business sector has gained importance to develop rural economy in India. The rural economy contributes about 60 percent of total population, who are dependent on Agri-business. Any new policy implemented for rural population would affect the entire GDP of nation; therefore policy must be taken with extreme care. Nations urban population is fast growing due to various globalization and urbanization. Most of the people are shifting from rural base to urban area. This makes our agricultural activities into decline, which is considered as the backbone of rural economy. It widens the gap between the economy of urban and rural area. At this juncture, Cabinet decides on permitting Foreign Direct Investment upon 51 percent in the multi-brand retail. Modernization of retail is a critical and necessary decision for sustaining high growth and to reduce the gap between rural and urban economy.

2. Statement of Problem:

After the green revolution in agriculture, the yield has increased radically. But now the key problem faced by rural farmers is due to lack of efficient and organized supply chain in agri-food business. The small and marginal farmers have higher land holding when compared with large farmers, owing to net sown area (Table1). This results in increasing supply chain inefficiency making the entire chain unorganized. Major constrain faced by the small and marginal farmers are storing, distribution and marketing. They also suffer from poor post harvest management, lack of quality of seed, lack of market information, lack of cold chain. These constrain results in a loss of about 30-40% of their farm produce after harvest in fruits and vegetables. Rural Agri-food supply chain is crowded with lot of small farmers and layers of intermediaries. The intermediaries reduce the effectiveness in the chain by poor coordination, non proper communication, low value addition etc. About 98% of the go-down build under the subsidy of the Government are used by traders and middle-men. Even through India is one among the largest producer of a fruit and vegetables, most of the produce are lost due to inefficient and improper handling in the supply chain.

Table 1: Average size of Operational holding of farmers in India

Major size classes		Average size of operational holding				
		1970-71	1990-91	1995-96	2000-01	2005-06
Marginal	Below 1 ha	0.40	0.39	0.40	0.40	0.38
Small	1 to 2 ha	1.44	1.43	1.42	1.42	1.38
Semi-medium	2 to 4 ha	2.81	2.76	2.73	2.72	2.68

Lmedium	4 to 10 ha	6.08	5.90	5.84	5.81	5.74
Large	10 ha and above	18.10	17.33	17.21	17.12	17.08
All size classes		2.28	1.55	1.41	1.33	1.23

Source: Agriculture Census 2005-06. Agriculture Census Division, Department of Agriculture and Cooperation, Ministry of Agriculture, Govt. of India.

Objectives:

- To study the impact which was created by the retailer like WalMart, Tesco, Carrefour in food supply chain with the developed nations.
- To analyze the impact of modern retailing over food supply chain management with respect to all key players of the chain in the State.
- To identify the perception among all key players of the food chain about modern retailers in the State.

3. Methodology:

The state of Tamilnadu comprises of 32 districts. To study the perception of modern retail among the food chain members in Tamilnadu, Chennai and Coimbatore are purposively selected keeping density of population and urbanization in mind. In order to justify the objectives, a stratified random sampling technique is adopted. From selected districts different retailers were selected randomly for study. Among 10 selected villages on the basis of land holding farmers were selected randomly. In the selected village intermediaries (transporter, agent) were selected randomly for the study. Chi square analysis is used to test the hypothesis. A descriptive study is done to find out the impact created by retail giants in other developing nation and some conclusions are suggested based on the analysis of a modernized retail sector which benefits both customer and farmers.

4. Hypothesis:

1. There is no significant association between the impact of modern retailers and improving farming activities.
2. There is no significant association between the impact of modern retailers and consumerism.

5. Results and Discussion:

5.1 Impact of modern retail over food supply chain in developing countries:

Although modern retailers are proliferating across developing countries, it is difficult to assess their impact. The investments such retailers make in developing efficient supply chains are critical in assessing their impact on welfare and food demand but there is little evidence that consumers pay lower prices in modern grocery format.

China's modern retail sector has been growing rapidly over the past decade. This growth is driven by both foreign and domestic retailers, and has been encouraged by the Government (Gale and Hu, 2007). However, despite this growth and a supportive regulatory environment, there is circumstantial evidence that modern retailers have not significantly invested in more efficient supply chains.

Brazil's modern retailers purchased over 60 percent of their products from traditional traders (IBGE, 2010). However, foreign firms not only acquired domestic firms as they entered the market, but also brought their own supply chain models. Now retailers, both foreign and domestic, have started purchasing directly from farmers and have incorporated them into the supply chain (IBGE, 2010).

5.2 Impact of modern retailer in Tamilnadu:

Based on the framed questionnaire to different key players in the food supply chain the preference was studied. The selected farmers are mostly the beneficiaries of corporate farming techniques. The preference from retailers and customers are collected from metropolitan city. Based on the response results have tabulated in table

5.2.1 Optimization of resource use and output management:

An efficient food supply chain can contribute to an increase in marketing surplus by scaling down the losses arising out of inefficient processing, storage and transportation. So from the previous experience nearly 82% of farmers responded that the organized retailers could bring optimum of resource use. 90% of retailers feel that FDI in retail would make the agricultural marketing efficiency.

5.2.2 Increase in farm income:

An efficient supply chain ensures high levels of income for the farmers by reducing the level of farmers. Nearly 65% farmers responded positively that the modern retailers could improve their income. But still 52% of marginal farmers and 90% of intermediaries fear that monopoly could prevail after the entry of retail giant. They also fear about marketing of low grade produce. 90% of retailers feel that it would improve purchase power of farmers.

5.2.3 Widening of market:

An effective supply chain could widen the market for the products by taking them to remote corners both remote outside the country. The widening could deal with the surplus of produce. The retailer giants with information of different market could help our agricultural produce to reach different market feels 90% of retailers. 80% of farmers feel that the quality agricultural produce could get better price and could widen the market.

5.2.4 Adoption of new technology:

A modern marketing system helps farmers in adoption of new scientific and technical knowledge. This adoption of new technologies requires huge investments. These could not be implemented by farmers as they have more other credit issues. So the 85% percent of farmers feel that the modern retailers could help them in adopting new technology for overcoming their pre and post harvest management issues. Nearly 90% of retailers responded that modern retailers could bring in some technical innovations. Still 90% of intermediaries felt that the farmers and agents must be dependent on foreign players.

5.2.5 Employment Creation:

An improved and organized supply chain system provides employment to millions of persons engaged in various activities such as grading, packaging, transporting and processing. The response to job creation is not promising. Only 10% of farmers believe that advanced retailers could improve employment opportunity. Intermediaries responded that it would kill the present job opportunities.

5.2.6 Pricing Impact:

An organized chain could bring down inflation as it helps to create demand and supply equilibrium in the chain. This is can be only achieved through demand based production of goods. In concept like contract farming and corporate farming the farmers assured of a minimum basic price for a produce before they go for cultivation. The study identified that pricing is three times higher than the local agents purchase in the case of contract farming in Tamilnadu. 65% of farmers are willing to enter into contract with corporate as they get more pricing..

5.2.7 Growth of agro-based industries:

Tamilnadu has an ample opportunity in the growth of agro-based industry as currently only 6% of agricultural produce is processed and only negligible amount of agricultural produce is being exported. The state rates second in the production of fruits. So if we are to develop an efficient supply chain we must build such processing industries. 80% of farmers and 90% of retailers feel that the potential retailers could bring enormous growth in the agro-base industry by analyzing the potential of such market.

5.2.8 Utility creativity:

Most of the agricultural produce are easily perishable and lose its value at high temperature. So an efficient effective supply chain could build form utility, place utility, time utility and possession utility. The intermediaries feel that modern retailers could reduce the possession utility as they are not aware about different chain performance of different area and would create a huge mess in the chain. 50% of retailers also fear that FDI in retail could create a mess in current food supply chain.

5.2.9 Consumerism:

Consumerism is a form of protest of consumers against unfair business practices and business injustice. Consumerism eliminates nature of misbranding of products, sale of spurious and unsafe product, sale of obsolete products, adulteration of products, price collusion among sellers, misleading advertisement. 80% of customers feel that modern retailers could improve the consumerism and they are eager to have such shopping experience.40% of customers feel that they come across unsafe and obsolete produce in present retail system.

Table 2: Key supply chain players perception over modern retail

Particulars	Re-tailers and	cus-tomers	Inter-mediary		Farm-ers	
	Mean Rank	Chi value (P value)	Mean Rank	Chi value (P value)	Mean Rank	Chi value (P value)
Optimization of resource	5.91		3.45		5.45	
Increase in farm income	7.45		4.36		4.00	
Widening market	4.64		5.95		5.18	
Growth of agro based industries	3.82	254.29 (0.00)	7.18	38.32 (0.00)	3.14	36.94 (0.00)
New technology adoption	2.77		6.18		5.77	
Improving utility value of products	6.00		5.86		7.00	
Price stability	2.41		3.41		2.23	
Consumerism	7.45		6.23		5.32	
Transportation facility	4.55		2.36		6.91	

5.3 Improving farming activities:

Based on the collected data chi square analysis is made to test the hypothesis. The test is made considering the factors that influence farming activity. It is found that calculated value (0.593) is less than the tabulated value with 5% degree of significance. So from the analysis we find that there is a positive perception impact of modern retailers over farming activity.

5.4 Improving consumerism:

Based on chi square test the retailers and customers responded that the modern retailers could have a positive impact on the consumerism. It is found that calculated value (0.609) is lesser than tabulated value with 5% degree of significance. But the intermediaries responded in opposite way. In the aspect of consumerism the calculated value (5.32) is more than tabulated value. So it is found that the chain efficiency could be affected by the modern retailers.

6 Recommendations:

• The farmers who are already dealing with corporate are feeling re-

lieved as they are free from credit and other problem in the chain. The foreign retailers must get in touch with those farmers and with the support of such farmers the retailers should get new farmers of different area.

- The present food supply chain helps to flourish only the traders and intermediaries. So if an organized supply chain is build then such players will lose their part. That is the reason behind opposing the new model of modern retailers. As the intermediates are governing the chain the foreign players can't introduce a new model presently. Initially modern retailers should operate in the same chain and adopt changes slowly.
- As more customers are in preference that the product price would be reduce and the quality of product will be increased, the foreign players have to create more awareness program about the need of an organized supply chain management. These could help them to introduce a new efficient marketing channel with limited intermediaries.
- The cold storage and storage facility to be build by the foreign retailers must have a separate allotted place only for farmers and no traders or even retailers should be allowed to store their products. This could promote farmers to use the storage facility.
- The farmers must be assured of minimum support price even in the perishable products like fruits and vegetables. The modern retailers must fix distribution centre and collection centre in major villages were farmers get free technical assistance and their products being collected from farm gate.

7 Conclusion:

From the study it is found that the modern retailers should invest on developing back end infrastructure like cold storage, transportation, processing to improve the value in the chain. More over study revealed that farmers could get more pricing as the different layer of intermediaries could be eliminated. It is also found that modern retailers could generate lot of job opportunity and nearly 10 million new jobs would be created in near future. But still there are lot of threats in the sector as the present system is highly unorganized with less professional people and with low flexibility to change. If the foreign retailer could break these threats from trade union and intermediaries then, the state have ample opportunity to develop. Chennai being a metropolitan city with more than 10 lakh population, there is ample opportunity to develop an organized chain with a transparent system. The city would also witness quality product. This would impact in developing farmer's income throughout the state by eradicating layers of intermediaries and building efficient food supply chain and improving value added produce to the customers.

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