FARM TO MARKET STRATEGY: AN INDIGENOUS TECHNOLOGY DEPENDENT SUPPLY CHAIN IN FOOD PROCESSING SMES

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1. Introduction

The supply chain management generally plays an important role in the overall growth of manufacturing industries. To remain competitive in the market it is essential that the enterprises must focus their attention to die supply chain management and develop a useful strategy to keep it intact. It may be mentioned here that about 70% of the total revenues of an enterprise are spent on supply chain related activities from material purchases -to transformation of it into finished goods or services [1]

Due to rapid globalization the world economy is increasingly becoming competitive. To sustain in this world of cut throat business desirable competition increasing the prices of the goods or services may not be a desirable option. Businesses are now toying with other comparative options to add more value to their products like cutting down delivery time. Improving the quality of the products, quality of after sales services, enhancing employee skills and raising productivity. These competitive options cannot be harnessed in full gear without effectively managing the supply chain. That is why SCM is emerging as a critically important factor of a firm's competitive edge. SCM is also gaining due importance in small enterprises as well, especially in the small farm level enterprises. Because in a small economy and at farm level management, sustainability of the farm depend on smooth supply chain, [2]

The SCM encompasses all activities associated with the inflow of raw materials and transformation of it into goods. How of information is the essential element of the Supply Chain Management. In fact SCM is dominant, and key operating factor in the value chain of a manufacturing. Enterprise. This definition suggests that all links of the SCM must be strong enough and well integrated in order to obtain robust production. It is also apparent that the length of the chain must be shorter [3] so as to reduce the time and cost of operation.. The short length of the supply chain can also contribute to reduce the requirement of business capital. This definition of SCM is equally important for all types of manufacturing and service enterprises. It also holds good for small manufacturing businesses. Literatures suggest that supply chain has a strong and positive impact on growth of small agro based manufacturing SMEs [3]

From the perspective of Bangladesh economy the current contribution of Agriculture sector to GDP is about 22% [4]. The major pert village of agro-processing industrial units of this economy is small and medium (about 95%) [5] The employment scope for Bangladesh is still largely dependent on this sector. Indeed, the level of use of technology in agriculture. Product process mi; and marketing) in the farm level is also inguinal addition to that, the rate of information flow in respect of demand of primary and secondary agro products is also marginally low. The literatures suggest that there is an urgent need to reorient the traditional and conventional How of materials and information in this sector [6]. There is no doubt that to the goals anticipated in the policies and strategic plans for rural development and poverty reduction; it is necessary to change the existing (low-prod IK n\e) agro production flow system [7] on a priority basis.

Besides, given the global pressure towards market liberalization, transformation of the different sectors of agricultural production into modern, market oriented systems ought to generally

be considered as a necessity, not choice [8]. In order to participate directly for achieving higher benefits, it is essential that the farms move directly to the market with their products and services [1]. Since the end of the last century, some basic agro products were getting higher commercial both at home and at International markets. The value chain system of Fish, Milk, Fruits, Vegetable, chicken, eggs have change towards higher value added products. Even some agro products at present are available in different dimensions such as poultry feed mill, Fish processing and packaging, dairy processing and packaging, food processing like Jam and Jelly. By virtue of newly developed agro processing technology, many higher value added products have been developed and commercially produced. However, the direct access of these products into the market is not usual [9j. Due to that reason a supply chain has emerged between manufactures and end users which is quite long, and this long chain stalls the growth of the manufacturing SMEs.. Moreover such long chain has an inflationary pressure on the cost and retail price of product which is being paid by the ultimate end users. Most of the agro processing industries in Bangladesh do not operate in the yard of the fanners [10]. In this perspective, the question is why the farmers are not in the market and why they are not coming? The literatures suggest that there are huge number of barriers between the market and the farmers. Among the barriers, SCM is most common one. The aim of this to focus on the current supply chain capability and its impact on the growth the small manufacturing enterprise- [11].

2. Research Methodology

The study has used several methods of research which include element review, case studies, and investigation of current materials information flow of small food processing (manufacturing) enterprises. To carry out the study about 50 manufacturing SMEs, 10 retailer shops and 100 end users were interviewed. In addition to that, the structure and operative mechanism of Food Processing SMEs have also been studied in order to collect necessary information. Transportation systems of food ingredients of home and abroad have also been examined in order to identify the research variables. Food processing techniques, indigenous technology relating to processing and packaging have been checked. After collecting relevant data and information it was analyzed by using standard statistical package. Finally the results of the analysis are presented in table form and in 2-D and 3-D graph.

3. Data Analysis

This study focused on the agro based manufacturing SME specially on the routes of product flow, flow tuning from manufacturing to end users, value chain characteristics, interventions of intermediate Agents and distribution of benefits which are usually generated from this agro processing businesses. Most common and worthwhile data were used for doing analysis in order to draw the current scenario of supply chain relating to the product flow. To carry out the study 50 manufacturing SMEs, 10 retailer shops and 100 end users were interviewed,

3.1 Impact of SCM on time of materials flow

Characterization of flow time of the products was one of the main strategic targets of this study. 'The value chain of the product flow was critically drawn and individual members of the chain was identified and coded. The surveyed result is presented in Figure-1

Figure 1: The impact of long chain on the flow of material

It can be seen from Figure 2 that the range of materials flow time to reach it to end-users is 2-15 weeks. Because of the fact that the intermediate agents keep the materials in their stores for some weeks to find out suitable buyers for getting better business benefit. This long flow time is creating negative impact on the supply management. This supply pattern contributes to increase the cost of

products and this added cost is being paid by the end users. Moreover, this system is reducing profit of the producer and benefits of end users. It is also found a Symbiotic relationship exits between Supply chain and the materials flow time. Obviously, the major time of materials are spending in the store during its flow from origin to end use points.

3.2 Impact of Supply Chain on the Product Price

Efforts have been given to identify the product flow routes from manufacturing firms to end users. The value chain of the product flow especially information of product flow, intervention of intermediate Agents and the impact on the cost of the product was carefully studied. The impact of current product flow is drawn in the Figure 2.

Figure 2: Impact of long chain on product cost

It can be seen from figure 2 that there is a significant gap of price …….. the end users and manufacturing plant. The identified reason of this …… …….. is that the .product is not directly getting access into the …….. . Moreover it is found that the supply chain concept in the agro process …….. not fully in operation; despite the fact that a long supply chain exist between the manufacturing units to end users. It shows that in the current product flow system, there are huge numbers of intermediate agents who are involved to control the flow of product. These practices are adding significant amount of cost. It is found that the ranges of agent in between the manufacturing units to end users is about 4-7 (the average number is about 5). In every step, some obvious cost is added with the product to cover the loading-unloading of the products, rent of die stores, administrative cost and cost of fund and finally profit of the agents. Tin- impact of the added cost can be viewed from Figure 2. The translation of this curve is that the producers getting small amount of benefit from their work but the end user's .ire also paying much higher amount to buy the products from the market Indeed, the intermediate agents are enjoying the major benefits contributing little or none in terms of value addition., It can also be read from the price index of the products that due to the existence of long delivery chain, the cost of the product has significantly increased.

3.3 Major Findings of the Study

It is evident from figure 2 that at the farm level the price of the products is marginally low and it Ls sold at the retail market level at a price which is usually more than 5 times.. The surpluses generated through this process from the products which are growth at the farm level are appropriated by the agents and middlemen who operate between the value chains., The time distribution curve of the materials flow (Figure 2) shows that the intermediate Agents are contributing a lot to increase time required for the supply of the materials (lead time) to market. It is evident from Figure 1 that the farmers are getting the minimum benefits (lowest amount of the price of the products) and the end users are paying the highest prices as stakeholder. It can be seen from the result that the agents and the intermediaries are reaping major benefits from the business process by applying minimum efforts and by engaging minimum resources. This phenomenon is drawn in Figure 3 which shows that the benefits of agents and expenditure of end user are growing together.

Figure 3: The benefit expenditure ration of Agents and end-users

There is a wide ranging gap that exists over machining price of products of agro based SMEs between manufacturing plant and market. The difference of the products directly coming to the market Indeed, about 4-7 numbers of agents are controlling this business by slaying between end users and manufactures. Ultimately the major benefits are diverted towards the intermediary agents. It is happening because of the fact that supply chain management is not properly functioning or even functioning in an erratic way..

The consequences of the present materials flow system are:

1. At Farm level producers are not getting their due benefits.
2. Growth of the manufacturing SMEs is remaining stagnant and insignificant.
3. Employment opportunities are being reduced and are shifting towards non- farming sectors.
4. Food security in the country is being reduced and dependency on the foreign supply is increasing.
5. Money and resources are getting concentrated within the rich business people.
6. Income inequality is rising.
7. This unemployment and uneven money flow system is creating economic imbalance and the major population of the country are losing their moral and social values due to abject poverty.

4. **Conclusion**

The result of this research shows that the benefits which are generated from the agro based manufacturing SMEs are not equally distributed among the stakeholders due to distortion in the supply chain and presence of too many intermediaries in the supply chain process. The distribution of the benefits under this system presented by figure 4.

Figure 4: The distribution of benefits of Farm and Agents: Sources; Survey

Figure 4 show that, with increase of the number of agents, the total benefit of agents is also increasing. It is obvious these benefits are flowing from the end users of the products into the account of Agents. Based on this characteristic it can also be said, the long length of supply line of goods increases the price and buyer are paying more. It can be seen from figure 4 that two curves intersect at Ep point (the graph of Agent benefits and end users benefits) which can be acknowledged equilibrium point of benefits of these two shareholders. The research suggests that firm to market strategy with the integration of financing institution, retailers and beneficiaries could reduce the number of agents and can also reduces the burner to growth of the agro based manufacturing; SMI'[13]. In addition to that the price of the product could be reduced to the significant level. This study is strongly suggesting the need to adopt farm to market policy in order to gain the following benefits.

i. For creating self employment opportunity in the villages which could create a positive impart on the moral economy.
ii. It could play a vital role in the traditional agro manufacturing systems in forming the traditional agro manufacturing systems into market oriented ventures.
iii. The objective of this approach is to transform agro product from
iv. village rich commercial areas i.e. low cost man-hours and production will be transferred to higher income area (in urban area).
v. It will reduce the gap of income between urban to village,
vi. Food security will increase,
vii. Moral and social values of the farmers will be increased.