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A Study on Business Augmentation of Small Scale Plastic Industries in South India

Karthikeyan L. M.[1], Sathiyavani .K[2]

[1]Department of Aeronautical Engineering, Techno Global University, Shillong, Meghalaya – 793003, India

[2] Department of Electrical & Electronics Engineering, Jayam College of Engineering & Technology, Dharmapuri, Tamilnadu – 636813, India

Abstract: ***Plastic goods are manufacturing from plastics which can mould in various shapes. The plastic industrialists have moulded the plastic for end users. The developments of consortium and cluster arrangements are encouraging the establishment of small scale plastic industries in South India. But the small scale industrial proprietors are lagging in technology developments and awareness to gain the benefits from government schemes. Various schemes are available for sanction the loan and provide training from various banks and government authorities for plastic manufacturing. But perfect manufacturing should plan by the proprietor for excellent business growth. So that business augmentation of small scale plastic industries is the major issue in plastic products manufacturing field especially in India. This paper explains some techniques for business development obtained from the industrial study around 150 small scale plastic manufacturing unit in South India.***

Keywords: Tamilnadu, plastic manufacturing, marketing

1. Introduction

Thermo plastics and thermo setting plastics are polymerization products having ability to mold under heat & pressure. The major varieties of plastics used for extrusion, injection, blow and roto moulding processes are high density polyethylene (HDPE), low density polyethylene (LDPE), polypropylene (PP), polyvinyl chloride (PVC) and polystyrene (PS). Plastic recycling plants are used for waste plastics recycling process. The major supporting industries for plastic manufactures are machinery Suppliers, raw materials suppliers, chemical suppliers, mould and die makers. Most popular plastic items produced in south Indian region are automobile parts, kitchen wares, toys, gift items, plastic bottles and containers. Small plastic containers having high demand for packaging of edible and non-edible oils, medical products, honey and food products, powders and granules, gum, Ink, ice cream balls, paints, pigments, mineral water, chemical items, shampoo and other liquid products for domestic usage. This paper deals with the business augmentation of small scale plastic industries in South India.

2. SSI Plastic Units and Clusters in South India – A Review Report

The industrial report from Central Pollution Control Board (CPCB) [8] and Federation of Indian Chambers of Commerce and Industry (FICCI) [9] indicates that, in India 21 percentage of plastic consumed in South India when compared with the north, east and west India. Major plastic products for medical and engineering industries in southern India have manufactured by SSI plastic industrial units. Archana Gupta and Jitendra kumar Guptha [2] explained about plastic in the hospital and environment. The capital funding for initial setup for Small Scale Industrial (SSI) units does not exceed 5 crores Indian rupees (INR) [11]. Neeti Rustagi, S.K.Pradhan and Ritesh Singh [12] mentioned various regulations of small scale plastic industries in India. SWOT analysis [11] indicates that low cast in labors and high recycled plastic percentage are the strength of Indian SSI plastic units. Central Pollution Control Board (CPCB) [5] mentioned in their documents about various advanced methods for recycle the plastic wastes from different industries.

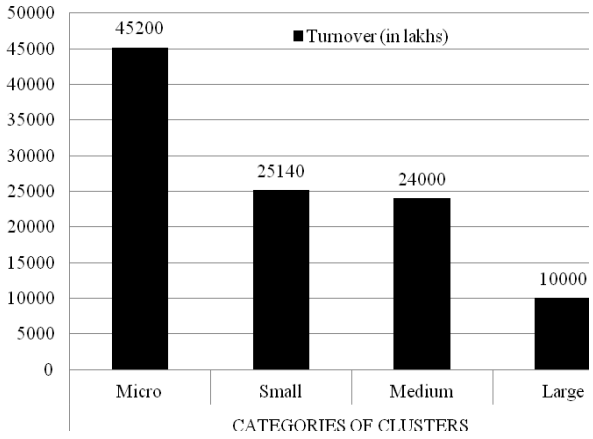


Figure 1: Turnover of plastic clusters during 2008

Amit Gawande [1] explains the data on consumption of plastic and generation of wastages. Indian Recycling plastic units are providing job opportunity for more than 3.5 million workers. The major disadvantage of Indian recycling units is improper quality maintenance [14].

Increasing of raw material prices and competition of products from neighborhood countries are the major drawbacks for SSI plastic units. Tamilnadu plastic manufacturers association (TAPMA) and Chennai plastic manufacturers association (CHEPMAA) are the major associations of plastic manufacturers in South India [10]. Regional Testing Center, BIS, Chemical Testing & Analytical Lab and National Test House are the major testing laboratories for quality testing for the plastic products [4]. Micro, Small &

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Medium Enterprises Development Institute (MSME) is the technical consultancy for cluster units for Tamilnadu state in India. The turnover of the plastic cluster units from Chennai – the capital of Tamilnadu for the year of 2008 has estimated by MSME [8] as shown in Figure 1. In Chennai most of the micro plastic units are house hold units and they achieved around 100 crore turnover in production and export of plastic goods for last year. Central Institute for Plastic Engineering and Technology (CIPET) mentioned in their document [3] that the capital investments and addition of new machineries for Indian plastic industries has increased for the period of 2002 – 2010. Figure 2 and 3 shows the above details. As per demand No.27 in industries department policy note 2014 – 2015 [6], ministry of industries, Government of Tamil Nadu has announced a plastic industrial park project through Tamilnadu Industrial Development Corporation Limited (TIDCO) in Voyalur village of Thiruvallur district. TIDCO proposed to start nearly 70 Plastic manufacturing units with the investments of 2,100 crores Indian rupees with the employment opportunity for nearly 25,000 workers.

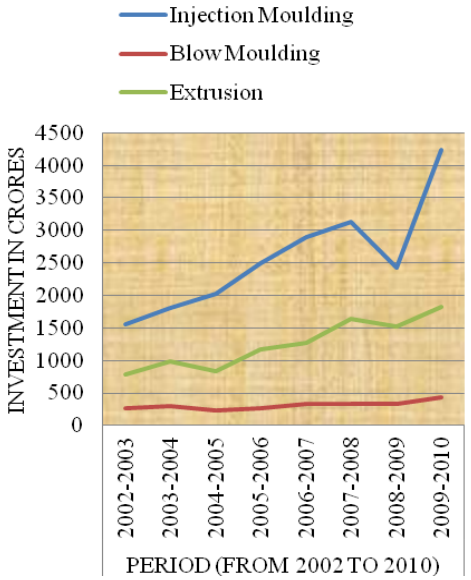


Figure 2: Capital investments in Indian Plastic industries during the year 2002 - 2010

3. Requirements of SSI plastic Units

3.1 Manufacturing Requirements

Initially the SSI plastic manufacturers have to concentrate in local area orders before focus the global and export orders. Bulk orders for single mould product will give safety for long-term production more than small orders of multiple mould orders. Production unit area must be separate and must ensure the safety and secure production. Always stock should be carried in the store room for conformed orders like tenders and seasonable products. Capital requirements for new SSI plastic units as shown in Figure 4. Before form a SSI plastic manufacturing unit, in safety point of view the proprietor must conform at least one bulk order for initial production. Because of the requirement of continuous financial investment in every month for production, marketing and development expenses of industry (as shown in Figure 5), the proprietor must aim to run the moulding machine 24 hrs continuously for production.

3.2 Machinery Requirements

Requirements of new machineries and moulds should arise instantly time by time as per the marketing demand. So that funding for new machineries and raw materials should available any time for control the demand of customers and raw material suppliers. Initially the setup of molding and recycling units are not required; the proprietor can contact the mould makers and recycle material producers up to earn the profit sufficiently. For a small scale plastic unit, the availability of following machinery items is essential.

- Blow, injection or extrusion moulding machines for product manufacturing
- Air compressor for blow moulding process
- Scrap Grainder for grinding the scraps
- Cooling Motor for machine temperature control

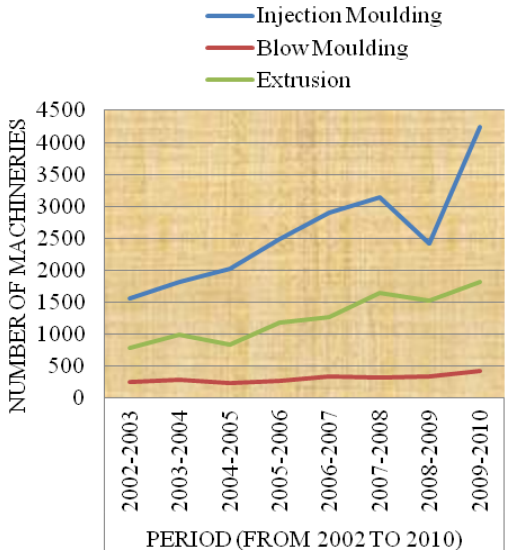


Figure 3: Addition of new machineries in Indian plastic industries during the year 2002 – 2010

- Colour mixer to mix the colour powder with plastic materials
- Printing or labeling machines to print the customer or product details in the plastic goods
- Moulds to obtain the products as per customer requirements
- Recycling machines to recycle the plastic products

3.3 Power Supply Requirements

The plastic manufacturing units needs continuous power supply for regular production. The power cut will affect the production because the plastic moulding machines needs to melt the plastic granules continuously by using heaters. If the power cut access, the machine operator again to heat the machine to melt the plastic granules to continue the production. This cause the power and economical losses.

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3.4 Man Power Requirements

The safety principles for plastic moulding machines has published by the New Zealand labour department [7] has indicated that clamping unit and other manual operating machine parts are dangerous more than electrical components in safety point of view. Central Institute of Plastic Engineering and Technology (CIPET) and Indian Institute of Packaging (IIP) are the institutions providing safety training service for the plastic industrialist and labors [8]. If the manufacturer is getting order more than his capacity or relevant to his product, he can complete that product work without the help of his manufacturing unit is known as job work. Here the production work may shift to other manufacturer and production can do by submitting the materials and tools to that manufacturer. In this process, the customer cannot contact the manufacturer directly. Mould making, bottle cap manufacturing, electrical and automobile component manufacturing, plastic scrap grinding, plastic colouring, printing and labeling are the precise job works related to the plastic industries.

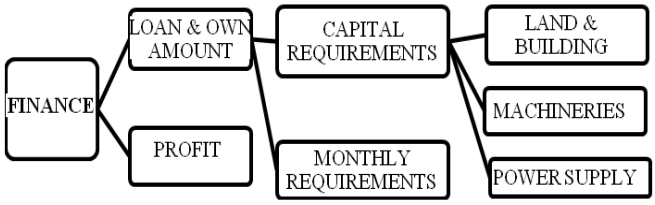


Figure 4: Capital requirements for new SSI plastic units

3.5 Marketing Requirements

Before start the plastic business, the proprietors must get the opinion from the experts in the same field. They have to know the present status of local market and the joint demand of plastic good with other products like agriculture goods, liquid and powder items etc. So that he can get more idea about the business augmentation. After that he has to get a report from their consumers about the product demand and availability in the market. As per S.Raghunath and D.Ashok [13], 30000 crores INR has loosed because of the poor packaging and handling of agriculture goods. At least 20% in this wastage can be reducing by the proper plastic packaging products. The new plastic product manufacturers can focus the agriculture products packaging related to its demand. But he must obtain the suitable marketing techniques to visible their products in markets.

3.6 Export Marketing

In the beginning plastic manufacturers have to concentrate to substitute their goods in local market. But the developed manufacturers can focus the International market for their products through export. Plastic Product Export Promotion Council [8] is the supporting council for encouraging the export of plastic products. Santanu Mandal [14] explained the wide variety of exported plastic products in his paper. With the awareness, experience and knowledge, SSI plastic proprietors can earn more profit through plastic exports business.

4. Marketing Methods for Plastic Goods

The SSI plastic manufacturers should create the official structure for continuous monitoring for industrial growth. Marketing must be handled by separate person –not by machine operators. Various types of production orders can handle by plastic manufacturers are given below.

- Own orders can obtain by plastics manufacturers in local market
- Contract orders can obtain from other plastic manufacturers
- Job works can get from the other plastic manufacturers.

'Approach method' is a most suitable way for plastic manufacturers to relate the consumers with the following work flows.

- Generate customer relation with proper official setup
- Customer address collection for contact them
- Voluntarily giving introduction or information to the consumers about the product to develop the customer relation

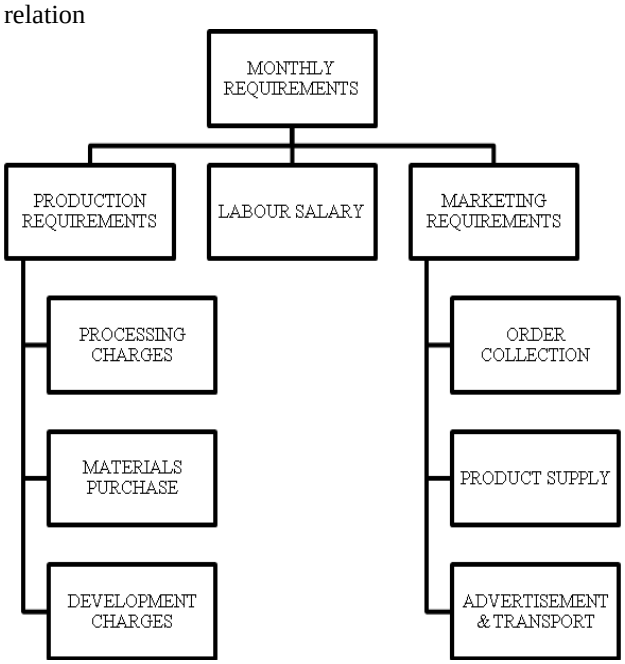


Figure 5: Monthly requirements for SSI plastic units

The developed manufacturers can focus the 'invitation method' by following ways.

- Different attractive advertisement methods with modern technologies
- Release the products catalog with specific quality
- Create a good name & satisfy the customer requirements with good consumer relationship methods
- Monthly collect the marketing status and feedbacks

In this stage manufacturers need not to search the customers, but they have to observe them for create good business relationship. Mostly in South India, consumers may prefer the price more than quality of products. Low cast products with eligible quality may have high demand in local plastic market.

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5. Business Augmentation of SSI Plastic Units

For the development of small scale plastic industries, the most essential considerations are proper planning, implementation and execution of works with suitable official structure. The SSI plastic industries need to satisfy the following requirements for their long term growth.

- Manufacturing requirements
- Marketing requirements

Proprietor, Office Manager, Production Manager, Marketing Manager, Machine Operators, Marketing Operators and labors are the important personnel for SSI plastic manufacturing units. The proper official set up is more important for the below decisive factors.

- To Regulate the production and marketing works
- To face the transportation difficulties
- To develop the customer Relations
- To face the competitions

Plastic products have less weight comparing to the other manufacturing products. But they may cover more space when packing with bags or containers. It indicates the importance of selecting the careful handling transportation methods to reduce the expenses for plastic goods.

High plasticizing capacity of the manufacturing units must achieve high speed production. By changing the moulds, the operator can produce containers in various size & shape. Because of this specialization, the manufacturer can satisfy their customers by delivering good quality containers within short time period.

6. Conclusion

In South India, most of the domestic plastic products are facing heavy demands during festival seasons. This paper has indicates various methods for business augmentation of small scale industries (SSI) producing plastic goods. In Tamilnadu state of South India, most of the plastic products are join commodities consume by some significant type of industries like automobile and packaging industries. So large numbers of plastic manufacturers are depends with the consumer industries. The general merchants are the direct supplier for plastic products to end users. They have shops in major cities and towns to sell the plastic products with other consumable items. The plastic manufacturers also can get bulk orders from various tender announcements of consumer industries and organizations for huge requirements. In South India, most of the plastic manufacturing proprietors are lag in administration and management skills like manufacturing, marketing and industrial development activities. But it has most essential for industrial establishments of small scale plastic units. So this study has most important for business establishment of SSI plastic units.

References

[1] Amit Gawande, G. Zamare, V.C. Renge, Saurabh Tayde, G. Bharsakale, “An Overview on Waste Plastic Utilization in Asphalting of Roads”, Journal of Engineering Research and Studies, III (2), pp. 01-05, 2012
[2] Archana Gupta, Jitendra kumar Guptha, “Disposable Plastics - A Boon or a Curse?”, International Journal of Scientific and Research Publications, II, (1), pp. 1-6, 2012
[3] Central Institute of Plastic Engineering and Technology (CIPET), “Growth of Plastic Industry in the Country”, 2014
[4] Central Pollution Control Board India, “Assessment of Plastic Waste and its Management at Airports and Railway Stations in Delhi”, 2009
[5] Central Pollution Control Board India, “Material on Plastic Waste Management”, 2012
[6] Demand No.27, “Industries Department, Policy Note 2014 – 2015”, Minister For Industries, Government of Tamil Nadu, 2014
[7] Department of Labour , New Zealand, “Blow Moulding Machines – Safety Principles”, 1976
[8] Diagnostic Study Report Plastic Cluster – Chennai, MSME – Development Institute, Government of India, 2007
[9] FICCI, “Potential of Plastic Industry in Northern India with Special Focus on Plasticulture and Food Processing – 2014”, A Report on Plastic Industry, 2014
[10] ministry of industries, Government of Tamil Nadu, http://cms.tn.gov.in/sites/default/files/documents/industries_pn_e_2014_15.pdf assessed on 06.12.2014
[11] Leverage Plastic, “Indian Plastic Industry –Vision 2012”, A Report by CRISIL, 2012
[12] Neeti Rustagi, S.K.Pradhan and Ritesh Singh, “Public health impact of plastics: An overview”, Indian Journal of Occupational and Environmental Medicine, XV (3), pp. 100–103, 2011
[13] Raghunath, S., Ashok, D., Mathur, Puneet Prakash and Joseph, Thomas, “Indian Agricultural Produce Distribution System — Towards an Integrated Agri Produce Flow”, Indian Institute of Management, Bangalore, 2005
[14] Santanu Mandal, “Porter’s Five Forces Analysis of the Indian Plastic Industry”, International Journal of Multidisciplinary Research, I (7), pp. 294-316, 2011

Author Profile

Karthikeyan.L.M received the B.E. degree in Aeronautical Engineering from Park College of Engineering and Technology, Coimbatore in 2003 and M.E. degree in Avionics from Hindustan Institute of Technology and Science, Chennai in 2012. He is having one year industrial and six years teaching experiences in Aviation Field. He has published six technical papers in various International Journals and working as a reviewer for various International Academies, Societies, Journals and Conferences.

Sathiyavani.K received the B.E. degree in Electrical and Electronics Engineering from Government College of Engineering, Bargur in 2004 and M.E. degree in Power Systems Engineering from Sona College of Technology, Selam in 2007. She is having one year industrial and six years teaching experiences in Electrical and Electronics Engineering Field. Now she is working in Jayam College of Engineering and Technology, Dharmapuri as an Assistant Professor.

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