IJCBM International Journal of Commerce and Business Management
Volume 5 | Issue 1 | April, 2012 | 40-43
RESEARCH PAPER

Business performance of fruit processing in Tamil Nadu

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Received : 14.01.2012; Revised : 01.02.2012; Accepted : 25.02.2012

ABSTRACT

Food processing industry has enormous significance for India's economic development because of its vital linkages and synergies with industry and agriculture. This study focuses on the performance of fruit processing unit in Tamil Nadu. The data from management records, balance sheets, profit and loss account and trading account were obtained for a period of 9 years. The growth and business performance of the unit was accessed through financial / ratio analysis and compound annual growth rate. It could be observed that the firm registered an impressive performance with annual compound growth rates of 16.8, 15.7 and 27.00 per cent for raw mango procurement, pulp manufactured and sales of finished product (pulp) in that order. Firm was having comfortable liquidity to meet shot and long-term financial obligations. The gross profit margin had increased over the years, but net profit margin had remained constant and declined and had not increased as fast as gross profit margin, implying that the operating expenses relative to sales have been increasing over many years. Increasing expenses should be identified and controlled.

Key words **:** Fruit processing, Business performance

How to cite this paper **:** Ashoka, N., Choudhary, Kuldeep and Gracy,C.P. (2012). Business performance of fruit processing in Tamil Nadu. *Internat. J. Com. & Bus. Manage*, **5**(1): 40 - 43.

The food industry is the complex, global collective of diverse businesses that together supply much of the food energy consumed by the world population. The food processing industry is one of the largest industries in India. It is ranked fifth in terms of production, consumption, export and expected growth (Singh, 2006). Food processing industry is widely recognized as a 'sunrise industry' in India having huge potential for uplifting agricultural economy, creation of large scale processed food manufacturing and food chain facilities, and the resultant generation of employment and export earnings.

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Fruits and vegetable processing:

The processing industry consists of public, private and co-operative sectors. In mixed economy like India, from the performance point of view, many public and co-operative units have failed, while the private units have achieved some success. A detailed study of business performance of mango processing unit, would be of immense use to know whether the private sectors follow the sound management principles for their success. Keeping in view of these facts, an attempt was made to assess the management of mango processing unit in Tamil Nadu. In this regard, this study aims to evaluate the growth and business performance and to document the production and marketing constraints faced by the firm.

Since, mango is a perishable commodity, it has to be processed immediately after procurement. The processing activity cannot be neglected as it imparts value to the product and enhances its keeping quality.

METHODOLOGY

Tamil Nadu is one of the major states in mango production. The Paiyur Fruit Products Private Ltd. was purposively selected for the study which is located in Krishnagiri district of Tamil Nadu. Required data were collected during 2009-2010. Data pertaining to the cost and margin have been taken from the profit and loss accounts and the balance sheets. Relevant data pertaining to the procurement of raw mangoes, sales of finished product (pulp) and financial aspects of the unit for the study period were collected from the balance sheets and profit and loss account. Data related to problems faced by the firm were collected from well structured questionnaire by discussing with the managing director, manager and production and marketing manager of the firm. Growth rate analysis and ratio analysis was carried out to evaluate critically the business performance of the selected unit. Relevant information was drawn from the financial statements *viz.,* balance sheet and profit and loss account for the Paiyur Fruit Products Pvt. Ltd. The ratios were classified under four different heads namely liquidity, leverage, activity and profitability ratios.

ANALYSIS AND DISCUSSION

The annual compound growth rates of raw mango procured, pulp manufactured and sales of finished product (pulp) was estimated. The results of the analysis (Table 1) signifies that for the Paiyur Fruit Products Pvt. Ltd. as a whole, the growth rate in raw mango procured, pulp manufactured and sales of finished produce (mango pulp) were positive and statistically significant for all the three parameters.

It may be noted here that the capacity expansion of the unit had paved the way for growth in the raw mango procured, pulp manufactured and sales of finished product (pulp). The growth in sales was highly significant in financial terms. Thus, it may be concluded that the ever increasing demand from mango juice manufacturers and other industrial uses has increased and the sale of mango pulp in the Paiyur Fruit Products Pvt. Ltd. has expanded 27 per cent while the pulp manufacture in quantity terms has increased 15.7 per cent, and 16.8 per cent in the case of total raw mango procured.

Table 1 : Growth rates of quantities of raw mango procured, pulp manufactured and sales of pulp

Years	Quantity (MT's)	Total (Own and processing)	Sales (Rs. in lakhs)
2000-01	2701.4	2338	60.72
2001-02	2693.15	2188	205.26
2002-03	4248	2290	247.16
2003-04	4220	3050	349.83
2004-05	4884	4027	407.7
2005-06	6670	5688	544.5
2006-07	7668	4771	501.9
2007-08	8416	4992	547.1
2008-09	7843	6664	664.4
Compound annual growth rate (%)	16.8***	15.7***	27.00***

*** indicate significance of value at P=0.01

Financial performance of the unit:

Various financial ratios such as liquidity ratios, leverage ratios, activity ratios and profitability ratios were analyzed for a period of nine years from 2000-2001 to 2009-2010 are presented in Table 2.

Liquidity ratios:

Liquidity is an important concept in a business enterprise which is measured through current ratio, quick ratio and the net working capital ratio.

The current ratio indicates the proportion of the current liabilities and therefore the dependency of the business enterprise on short-term borrowing. The minimal acceptable level of the value of ratio was two but the firm with 6.75 was having comfortable liquidity and it has additional borrowing potential. But after 2005-06, the ratio was continuously on the decline. Hence, there exists a need for improving the liquidity position of the firm by reducing on the short-term borrowings.

It was noticed that the average value of quick ratio for a period of nine years was 3.04 for the firm, which implies that the firm had very good liquidity and was able to pay its creditors out of its quick assets. After 2005-06, the ratios were not satisfactory. Hence, the firm should increase the quick ratio status so as to improve the short-term liquidity position.

The average value of the net working capital ratio, however, measures the firm's potential reservoir of funds. And the average value for the period of nine years was 0.36. This indicates that over a period of time the ratio declined as compared to the earlier years. So, there is need to improve in net working capital ratio to sustain in the long-run.

The overall results of liquidity ratios projects that the Paiyur Fruit Products Pvt. Ltd is in comfortable position to meet its immediate financial obligations.

Leverage ratios:

The long-term financial position of the firm is judged through financial leverage or capital structure ratios. Long-term creditors, like debenture holders financial institutions etc. are more concerned with firm's long-term financial strength. These ratios indicate mix of funds provided by owners and lenders. As a general rule, there should be an appropriate mix of debt and owner's equity in financing the firm's assets.

It is clear from the debt-equity ratio that Paiyur Fruit Products Pvt. Ltd's had borrowed over 10 times its equity capital which was alarming. This relationship describes the

lenders' contribution for each rupee of the owners' contribution. But after 2005-06, the ratio has declined substantially; it indicates the firm dependence on outside financial resources, which was declining.

A value of capital employed to net worth is another way of expressing basic relationship between debt and equity *i.e.,* how much fund are being contributed together by lenders and owners for each rupee of the owners' contribution. The average value of the capital employed to net worth was 11.04. It indicated that funds investment in the unit was high.

It was noticed that average value of (operating profit to interest) interest coverage ratio for the period of nine years was low even though there was impressive trend after 2003-2004. A higher ratio is desirable, but too high a ratio indicates that the firm is very conservative in using debt, that is, not using credit to the best advantage of shareholders.

Activity ratios:

In order to study, the operational efficiency of the processing unit, activity ratios namely, inventory turnover, days of inventory holding, net assets turnover, total assets turnover, fixed assets turnover, current assets turnover and net current turnover ratios were computed.

The inventory turnover ratio was 11.27 for Paiyur Fruit Products Pvt. Ltd, which implies that the firm was turning its inventory of finished goods into sales 11.27 times in a year. In other words, it held average inventory of 40 days. Higher inventory turnover ratio is desirable for growth of any firm.

Net assets turnover ratio (sales to net assets) for a period of nine years was 2.62; it implies that the firm was producing Rs. 2.62 of sales for one rupee of capital employed in net assets. To analyze the relationship between sales to total assets, the ratio of sales to total assets was used. The total assets turnover of 2.01 times implied that firm generated a sales of Rs. 2.01 for one rupee investment in fixed and current assets together.

Fixed assets turnover ratio was studied to know the utilization of fixed assets to generate sales. The firm generated a return of Rs. 4.55 for every rupee of fixed assets held. This indicates that Paiyur Fruit Products Pvt. Ltd was more efficient in utilization of fixed assets to generate sales.

It was found that the average value of current assets turnover was 3.94, which indicated that the firm turns over its fixed assets was faster than current assets. Interpreting the reciprocal of these ratios, one may say that for generating a sale of one rupee, the firm needs, respectively Rs. 0.73 investment in fixed assets and Rs. 0.50 investments in current assets.

The average value of net current assets turnover ratio was 9.21 over the study period. The reciprocal of the ratio was 0.10. Thus, it indicated that for one rupee of sales, the firm needed Rs. 0.10 of net current assets. This gap will be met from bank borrowings and long-term sources of funds.

Table 2: Financial performance of the firm

Ratios	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	Average
Liquidity ratios										
Current ratio	8.52	3.91	33.51	5.86	3.29	1.25	1.51	1.71	1.17	6.75
Quick ratio	4.99	1.25	14.35	2.34	1.38	0.23	0.91	1.21	0.67	3.04
Net working capital ratio	0.38	0.56	0.55	0.59	0.30	0.24	0.07	0.38	0.15	0.36
Leverage ratios										
Debt-equity ratio	3.66	28.84	42.46	8.20	3.03	1.96	0.22	1.20	0.82	10.04
Capital employed to net worth ratio	4.66	29.84	43.46	9.20	4.03	2.96	1.22	2.20	1.82	11.04
Interest coverage	0.55	0.38	1.16	1.79	1.86	2.16	2.16	2.11	2.41	1.62
Activity ratios										
Inventory turnover	28.87	6.56	4.46	8.97	11.28	9.57	9.60	11.37	10.77	11.27
Days of inventory holding	12.47	54.86	80.70	40.15	31.91	37.60	37.50	31.67	33.44	40.03
Net assets turnover	0.85	1.31	1.71	2.40	2.50	4.34	1.48	4.05	4.92	2.62
Total assets turnover	0.80	1.30	1.67	2.00	2.27	4.00	0.90	2.62	2.56	2.01
Fixed assets turnover	1.37	2.99	3.81	5.82	3.55	5.73	5.34	6.57	5.81	4.55
Current assets turnover	1.98	1.73	3.02	3.39	5.87	3.59	6.90	4.36	4.58	3.94
Net current assets turnover	2.24	2.33	3.11	4.09	8.44	17.85	2.05	10.55	32.19	9.21
Profitability ratios										
Gross profit margin	0.08	0.04	0.11	0.11	0.09	0.06	0.07	0.06	0.06	0.08
Net profit margin	0.00	-0.10	0.01	0.03	0.03	0.01	0.02	0.02	0.02	0.0041

Profitability ratios:

In the study, the profitability ratios were analyzed for measuring the efficiency of the firm in utilizing their resources for generating profits. The profitability of the units in this case was analyzed through gross profit margin, net profit margin, operating expense ratio and cost of goods sold ratio.

Gross profit to sales ratio (gross profit ratio) on an average was 0.08 (8 per cent). A high gross profit margin ratio is a sign of good management. But here gross profit margin ratio has never grown more than 11 per cent (2002-03 to 2003-04) and remained constant from 2005-06 to 2008-09. It indicated that the firm has scope for further improvement in their gross profit margin. The reasons attributed for low gross profit margin was higher cost of goods sold due to increase in price of raw materials (mango and packing material) and fluctuations in price of the finished products (mango pulp).

It was found that the average value of net profit margin for nine years (2000-01 to 2008-09) was 0.0041 (0.4 per cent), which indicated that there were difficulty for the firm to withstand adverse conditions and firm could fail to achieve satisfactory returns on shareholders' fund. It would be difficult for a firm to withstand adverse conditions with a low net margin. Similarly, a firm with high net profit margin could be enjoying one or more of the following favourable conditions, such as rise in selling price, falling cost of production or increasing demand for the product.

The firm incurred loss during 2001-2002, the reasons attributed were unfavorable trade practices like the sales price of mango pulp per carton of mango pulp drastically decreased during the year to Rs. 245 per carton from Rs. 545. The cost of production of the pulp per cartoon came to Rs. 488 before considering interest and depreciation charges. On the other side, the buyer of the pulp has not taken timely delivery of pulp and did not pay the pulp cost in time. Due to the above, the company incurred interest cost on capital of Rs. 18.56 lakhs and an additional cost of around Rs. 8 lakhs due to delay in sales of product and realization from debtors.

The gross profit margin had increased over the years, but net profit margin had remained constant and declined and had not increased as fast as gross profit margin, this implies that the operating expenses relative to sales had been increasing over many years. Increasing expenses should be identified and controlled. Joshi *et al.* (1999) made the comparative study on economics of scale of processing Alphonso mango into pulp. Similarly Malleswari (1996) worked on the mango processing in Andhra Pradesh. Nagaraj (1989) conducted study on the performance of co-operative sector in agro-processing in Punjab.

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