A STUDY ON THE RECEIVABLES MANAGEMENT OF SAKTHI SUGARS LIMITED USING THE DSO MODEL

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submitted

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BONAFIDE CERTIFICATE

Certified that this project report titled "A study on the receivables management of Sakthi Sugars Limited using the DSO model" is the Bonafide work of Ms. S. Gayathri, who carried out the project under my supervision. Certified further, that to the best of my knowledge the work reported herein does not form part of any project report or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any other candidate.

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Submitted for the project viva-voce examination held on ______________________

Internal Examiner	External Examiner

DECLARATION

I, hereby declare that this project report entitled as "A STUDY ON THE RECEIVABLES MANAGEMENT OF SAKTHI SUGARS LIMITED USING THE DSO MODEL", has undertaken for academic purpose submitted to Anna University in partial fulfilment of requirement for the award of degree of Master of Business Administration. The project report is the record of the original work done by me under the guidance of Ms. S. Sangeetha, Asst. Professor (SRG) during the academic year 2013-2014. I, also declare hereby, that the information given in this report is correct to the best of my knowledge and behalf.

Date:

Place:

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EXECUTIVE SUMMARY

In the modern and competitive economic system, the sales of goods on credit are accepted to increase the sales volume as well as the customer retention. This in turn increases the profitability of the company. When these credit sales are not made payment within the credit period, it turns into receivables of the company. The receivables are the money owed by entities to the firm on the sale of products on credit. So, the need for the study on the receivables management of the company arises. This can be studied more precisely using a model to monitor the accounts receivables. The receivables management of the company is analyzed using the measure of liquidity of debtors, average collection period, collection mechanism, the ability of the customer's to pay, etc. Further, the analysis on sales forecast of the company is also predicted. These are determined and analyzed by the tools ratio analysis and a best suitable model to monitor the accounts receivables. Therefore, the credit sales and receivables are treated as marketing tools to aid the sale of goods.

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INTRODUCTION

1.1 ABOUT THE STUDY

1.1.1 RECEIVABLES MANAGEMENT

Accounts receivable are a legally enforceable claim for payment to a business by its customer/ clients for goods supplied and/or services rendered in execution of the customer's order. These are generally in the form of invoices raised by the business and delivered to the customer for payment within an agreed time frame. Accounts receivable are shown in the balance sheet as asset. It is one of a series of accounting transactions dealing with the billing of a customer for goods and services that the customer has ordered. These may be distinguished from notes receivable, which are debts created through formal legal instruments called promissory notes.

Accounts receivable represents money owed by entities to the firm on the sale of products or services on credit. In most business entities, accounts receivable is typically executed by generating an invoice and either mailing or electronically delivering it to the customer, who, in turn, must pay it within an established timeframe, called credit terms or payment terms. The accounts receivable department uses the sales ledger, because a sales ledger normally records:

- The sales a business has made.
- The amount of money received for goods or services.
- The amount of money owed at the end of each month varies (debtors).

The accounts receivable team is in charge of receiving funds on behalf of a company and applying it towards their current pending balances. Collections and cashiering teams are part of the accounts receivable department. While the collections department seeks the debtor, the cashiering team applies the monies received.

Receivables, also termed as trade credit or debtors are component of current assets. When a firm sells its product in credit, account receivables are created. Account receivables are the money receivable in some future date for the credit sale of goods and services at present. These days, most business transactions are in credit. Most companies, when they face competition, use credit sales as an important tool for sales promotion. As a sales promotion tool, credit sale enhances firm's sales revenue and ultimately pushes up the profitability. But after the credit sale has been made, the actual collection of cash may be delayed for months. As these late payments stretch out over time, they may cause substantial drop in a company's profit margin. Since the extension of credit involves both cost and benefits, the firm's manager must be able to measure them to determine the ultimate effect of credits sales. In this prospective, we define the receivable management as the aspect of a firm's current assets management, which is concerned with determining optimum credit policy associated to a firm, such that the benefit from extension of credit is greater than the cost of maintaining investment in accounts receivables.

1.1.2 SIGNIFICANCE OF RECEIVABLES MANAGEMENT

The basic purpose of firm's receivable management is to determine effective credit policy that increases the efficiency of firm's credit and collection department and contributes to the maximization of value of the firm. The specific purposes of receivable management are as follows:

- To evaluate the creditworthiness of customers before granting or extending the credit.
- To minimize the cost of investment in receivables.
- To minimize the possible bad debt losses.
- To formulate the credit terms in such a way that results into maximization of sales revenue and still maintaining minimum investment in receivables.
- To minimize the cost of running credit and collection department.
- To maintain a tradeoff between costs and benefits associated to credit policy.

1.1.3 FACTORS AFFECTING THE SIZE OF RECEIVABLES

The size of receivables is determined by a number of factors for receivables being a major component of current assets. The factors vary for different types of business. Some main and common factors determining the level of receivable are presented below.

Stability of Sales

Stability of sales refers to the elements of continuity and consistency in the sales. In other words the seasonal nature of sales violates the continuity of sales in between the year. So, the sale of such a business in a particular season would be large needing a large a size of receivables. Similarly, if a firm supplies goods on installment basis it will require a large investment in receivables.

Terms of Sale

A firm may affect its sales either on cash basis or on credit basis. As a matter of fact credit is the soul of a business. It also leads to higher profit level through expansion of sales. The higher the volume of sales made on credit, the higher will be the volume of receivables and vice-versa.

The Volume of Credit Sales

It plays the most important role in determination of the level of receivables. As the terms of trade remains more or less similar to most of the industries. So, a firm dealing with a high level of sales will have large volume of receivables.

Credit Policy

A firm practicing lenient or relatively liberal credit policy its size of receivables will be comparatively large than the firm with more rigid or signet credit policy. It is because of two prominent reasons:

- A lenient credit policy leads to greater defaults in payments by financially weak customers resulting in bigger volume of receivables.

- A lenient credit policy encourages the financially sound customers to delay payments again resulting in the increase in the size of receivables.

Cash Discount

Cash discount on one hand attracts the customers for payments before the lapse of credit period. As a tempting offer of lesser payments is proposed to the customer in this system, if a customer succeeds in paying within the stipulated period. On the other hand reduces the working capital requirements of the concern. Thus decrease in the receivables management.

Collection Policy

The policy, practice and procedure adopted by a business enterprise in granting credit, deciding as to the amount of credit and the procedure selected for the collection of the same also greatly influence the level of receivables of a concern. The more lenient or liberal to credit and collection policies the more receivables are required for the purpose of investment.

Collection Collected

If an enterprise is efficient enough in encasing the payment attached to the receivables within the stipulated period granted to the customer. Then, it will opt for keeping the level of receivables low. Whereas, the enterprise experiencing undue delay in payment collection generally maintains large receivables.

Bills Discounting and Endorsement

If the firm opts for discounting its bills, with the bank or endorses it with a third party, for meeting its obligations, in such circumstances, it would lower the level of receivables required in conducting business.

Quality of Customer

If a company deals specifically with financially sound and credit worthy customers then it would definitely receive all the payments in due time. As a result the firm can comfortably do with a lesser amount of receivables than in case where a company deals with customers having financially weaker position.

Miscellaneous

There are certain general factors such as price level variations, attitude of management type and nature of business, availability of funds and the lies that play considerably important role in determining the quantum of receivables.

1.2 ABOUT THE INDUSTRY

1.2.1 EVOLUTION OF SUGAR INDUSTRY

Sugar is made from sugarcane, and was discovered thousands of years ago in New Guinea. And then the route was traced to India and Southeast Asia. India was the first to begin with the production of sugar following the process of pressing sugarcane to extract juice and boil it to get crystals. The government of India in 1950-51 made serious industrial development plans and has set many targets for production and consumption of sugar. These plans by the government projected the license and installment capacity for the sugar industry in its Five Year Plans. India is well known as the original home of sugar and sugarcane.

Indian sugar industry, second largest agro-based processing industry after the cotton textiles industry in country, has a lion's share in accelerating industrialization process and bringing socio-economic changes in under developed rural areas. Sugar industry covers around 7.5% of total rural population and provides employment to 5 lakh rural people. About 4.5 crore farmers are engaged in sugarcane cultivation in India.

Sugar mills (cooperative, private, and public) have been instrumental in initiating a number of entrepreneurial activities in rural India. Indian sugar industry can be a global leader provided it comes out of the vicious cycle of shortage and surplus of sugarcane, lower sugarcane yield, and lower sugar recovery, ever increasing production costs and mounting losses. It needs quality management at all levels of activity to enhance productivity and production. Attention is required on cost minimization and undertaking by product processing activities.

In the year 1930 there was an advent of modern sugar processing industry in India which was started with grant of tariff protection to the sugar industry. In the year 1930-31 the number of sugar mills increased from 30 to 135 and in the year 1935-36 production was increased from 1.20 lakh tonnes to 9.34 lakh tonnes under the dynamic leadership of the private sector. In the year 1950-51 the era of planning for industrial development began and Government laid down targets of sugar production and consumption, licensed and installed capacity, sugarcane production during each of the Five Year Plan periods.

Manufacturing Process followed by the Sugar Industry:

- Extracting juice by pressing sugarcane
- Boiling the juice to obtain crystals
- Creating raw sugar by spinning crystals in extractors
- Taking raw sugar to a refinery for the process of filtering and washing to discard remaining non-sugar elements and hue
- Crystallizing and drying sugar
- Packaging the ready sugar

India is the largest sugar consumer and second largest producer of sugar in the world according to the USDA Foreign Agricultural Service. Indian Sugar Industry has total turnover of Rs. 500 billion per annum and contributes almost Rs. 22.5 billion to central and state exchequer as tax, cess, and excise duty every year according to the sources of Ministry of Food & Government of India.

Indian Sugar Industry generates power for its own requirement and even gets surplus power for export to the grid based on by-product bagasse. There is even production of ethanol, an ecology friendly and renewable energy for blending with petrol. Sugar Companies have been established in large sugarcane growing states like Uttar Pradesh, Maharashtra, Karnataka, Gujarat, Tamil Nadu, and Andhra Pradesh and are the six states contributing more than 85% of total sugar production in the India. And 57% of total production is together contributed by Uttar Pradesh and Maharashtra. Indian sugar industry has been growing horizontally with large number of small sized sugar plants set up throughout India as opposed to the consolidation of capacity in the rest of the important sugar producing countries and sellers of sugar, where there is greater concentration on larger capacity of sugar plants.

Sugar industry is a major supplier of molasses for alcohol and ethanol producing units. Bagasse is used for power generation as well as paper production. Ethanol can be used as fuel.

1.2.2 GROWTH

Indian sugar industry contributes 15% of global sugar production. But its share in global sugar consumption is around 13.4%. The import duty on sugar is 15%. The share of India in the total production of sugarcane in the world is 37%. But the production of sugarcane is only 15 tonnes per acre whereas in Java it is 56 tones and in Hawaii it is 52 tones i.e. almost four times than India. The production cost of sugar is also high due to inferior quality of Indian sugarcane. Since sugar mills are running to loss so they are unable to pay the cane grower growers timely. So the quality improvement in cane grower is the need of the time.

Today India has 453 sugar mills those constituting 252 mills from the Co-operative sector and 134 Mills from the private sector. In Tamil Nadu there are 46 Sugar Mills consisting of 16 Sugar Mills in Co-operative Sector, 3 Sugar Mills in Public Sector and 27 Sugar Mills in Private Sector.India is the largest consumer of sugar and consumes around 16 million tonnes of sugar per annum.

It has the total turnover of Rs. 500 billion per annumand contributes almost Rs. 22.5 billion to central and state exchequer as tax, cess, and excise duty every year according to the sources of Ministry of Food & Government of India.. In white crystal sugar, India has ranked No.1 position in 7 out of last 10 years.

In Tamil Nadu, Sugarcane is cultivated in around 3.50 lakh hectares which is 5% of the total cultivable area and Tamil Nadu state ranks 4th in sugar production at all India level which is 9% of the national production. During 2012-13 sugar season, the sugarcane crop is cultivated in 3.95 Lakh Hectares in the State and the total estimated sugarcane production is 422.20 Lakh LMT. The cane drawal rate expected for the 2012-13 sugar season will be 50-55%. For the 2013-14 sugar season, it is planned to increase the sugarcane production to 500 LMT and to increase the cane drawal rate to 60-65%.

1.2.3 GLOBAL SCENARIO

India and Brazil are two dominant players in the world sugar market and account for around 40% of the world sugar production. Any shift in sugar production from India or Brazil has severe impact on the world sugar prices. Global sugar output is expected to beat demand for the first time in four years thanks to favorable weather in the Brazil and India, the two biggest sugarcane growing nations. Global sugar production, raw value, for the 2011/12 marketing year is forecasted at 168 million metric tons (MMT), up 8 MMT over the previous year. Concerns that global supplies will trail demand after crop damage from a storm in Australia and drought in Russia cut output have been undermined by higher production in Brazil, China, India, and Thailand. Global exports are forecasted at 56 MMT, up 3 MMT over the previous year. Consumption is estimated at a record 162 MMT, up 2.7 MMT from a year earlier and ending stocks are forecast at 29 million tons, down over 400,000 tons.

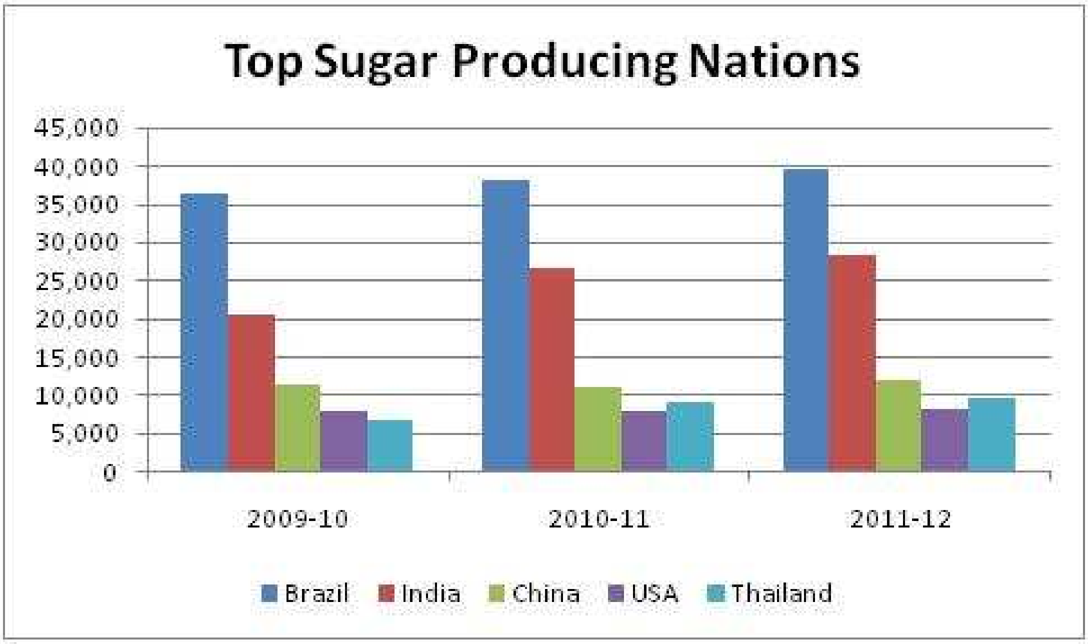

Figure 1.2.3.1 Figure showing Top Sugar Producing Nations

Source: www.indiabullssecuritiesmarket.com

1.2.4 DOMESTIC SCENARIO

Indian sugar production is on an upswing from 2010-11 season as domestic sugar stock position is expected to once again turn surplus in the current season with the sugar output likely to outstrip domestic consumption. India's output is likely to see a 30-35 percent growth to over 26 million MT, driven mainly by improved cane acreage; adequate rainfall and the consequent increase in sugar production. With demand of around 22 mt - making it the world's biggest consumer - India has already allowed exports of 2.60 million tonnes of sugar in the current financial year. Yet India is expected to see a larger surplus of 4 million tonne in 2011-12 from its expected sugar production of over 26.0 million tonne, versus 24.2 million tonne for the 2010-11 seasons.

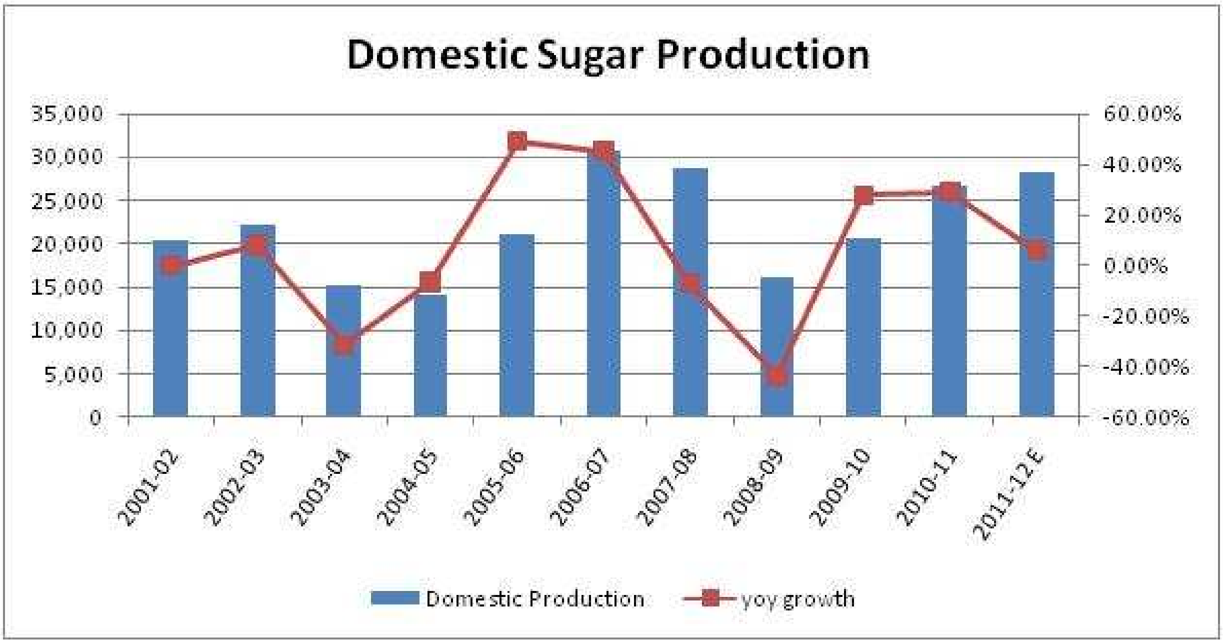

Figure 1.2.4.1 Figure showing Domestic Sugar Production

Source: India Bulls Securities Market

India’s sugar production is revised downward to over 26 million MT due to lower recovery rates in Uttar Pradesh. Nine sugar mills in India's second biggest cane producing state of Uttar Pradesh have shut down early due to crop shortage. Sugar output in Uttar Pradesh is lowered to 6.4 mt from 7 mt due to late rains, while in Maharashtra, the country’s biggest sugar producer; it is kept unchanged at 9.4 million tonnes. The ISO, in a quarterly update, projected a global surplus in October 2010 to September 2011 of just 196,000 tonnes, well down from the 1.29 million seen in the last update in November 2010. Global consumption in 2010-11 was revised up by 180,000 tonnes to 167.849 million tonnes.

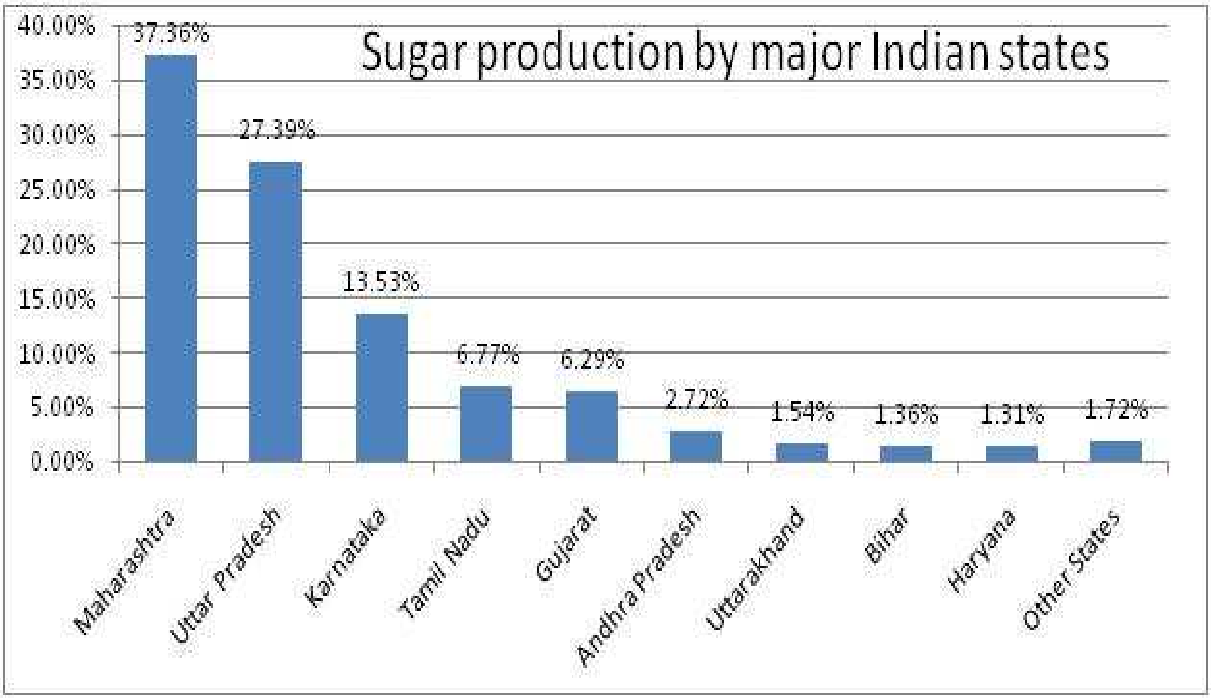

Figure 1.2.4.2 Figure showing Sugar Production by major Indian states
Source: India Bulls Securities Market

Furthermore, the government replaced the concept of Statutory Minimum Price (SMP) by the Fair and Remunerative Price (FRP) of sugarcane with effect from 2009-10 season and has even hiked the FRP of sugarcane by 4.2 percent at Rs 145 per quintal for the 2011-12 season, starting October. While the FRP for sugarcane in the 2011-12 sugar year, beginning next month, has been fixed at Rs 145 per quintal, the CACP's, a statutory body that advises the government on the pricing policy for major farm produce, in view of the rising production costs has recommended a 17.25 percent increase in the FRP for sugarcane to Rs 170 per quintal for the 2012-13 sugar year (October-September). In addition, the Government has allowed sugar factories to produce ethanol directly from sugarcane juice. These measures should help in reducing the cyclicality in sugar production in coming years. FRP is the minimum price that sugarcane farmers are legally guaranteed.

However, the sugar mills are free to offer any price above the FRP. FRP is linked to a basic recovery rate of 9.5 percent, subject to a premium of Rs 1.46 for every 0.1 percentage point increase in recovery above 9.5 percent. The FRP is fixed after taking into consideration the margins for sugarcane farmers on account of risk as well as profit on the cost of production of sugarcane, including the cost of transportation. It includes a margin of nearly 45 percent on account of profit and risk to the farmers on the all India adjusted average cost of production of sugarcane, including the cost of transportation to the mill gate.

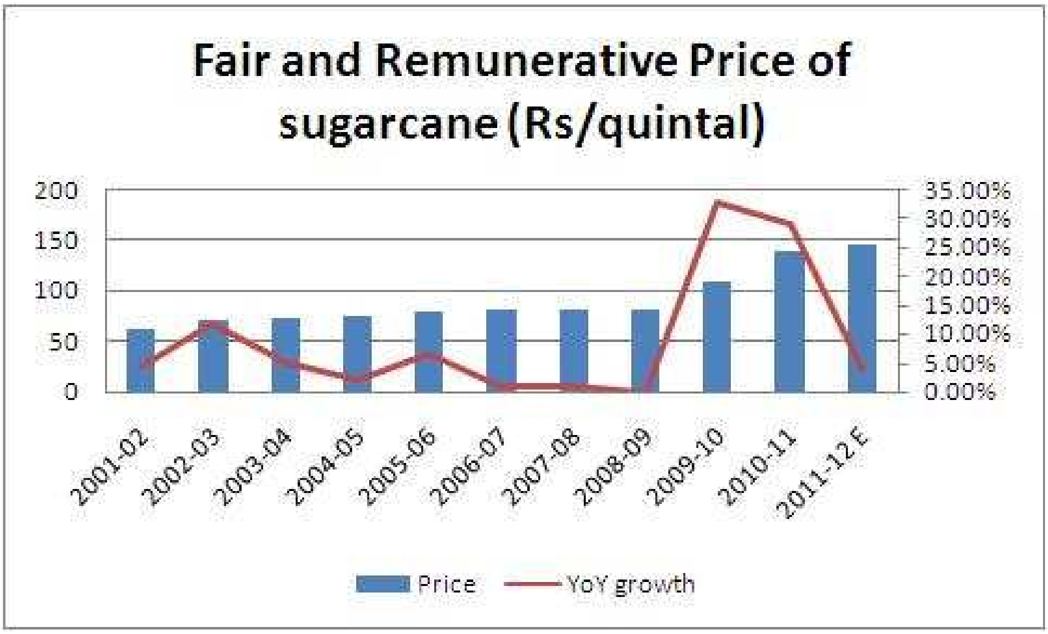

Figure 1.2.4.3 Figure showing Price of sugarcane

Source: India Bulls Securities Market

Moreover, National Federation of Cooperative Sugar Factories (NFCSF) is making all efforts to improve the productivity of sugarcane and sugar recovery. At present the yield of sugarcane per hectare varies quite substantially from region to region. There is enormous scope of increasing productivity of sugarcane per hectare. What is required is to make varietal changes looking at agro-climatic factors of each region. The ethanol program has also been re-launched.

However, it continues to face some problems and opposition. The five percent blending (with petrol) has restarted from October 2010, with a provisional price of Rs 27 per liter.

1.2.5 CONTRIBUTION TO GDP

Sugar is the second largest agro-based industry in India and contributes significantly to the socio-economic development of rural population. The sugar industry also plays a leading role in global sugar market being the world's second largest producer after Brazil, producing nearly 15 & 25 per cent of global sugar and sugarcane, respectively.

In addition, to traditional white sugar, about 6-8 MT alternative sweeteners (Solid, liquid & powdered Jaggery and Khandsari) are also produced in the decentralized sectors. The sugar industry is a key driver of rural development, supporting India's economic growth and contributing over 1% to national GDP. The industry is inherently supporting over 6 million cane farmers and their families, along with workers and entrepreneurs of almost 600 mills and its integrated industries, apart from a host of wholesalers and distributors spread across the country. About 7.5% rural Indian population depends upon sugarcane for their livelihood and therefore its significance in socio-economic life of masses cannot be ignored.

Source: IISR

1.2.6 SWOT ANALYSIS

<table>
<tr><th>Strengths</th><th>Weaknesses</th></tr>
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Indian sugar industry is the second largest producer of sugar in the world after Brazil.
The sector has a potential to make the country to be self reliant in this highly sensitive essential commodity of mass consumption.
The sugar industry paid well over Rs. 122.69 billion to the sugarcane growers in the financial year 2006.
Annual tax contribution to exchequer Rs. 17 billion annually.
Provides direct employment including ancillary activities to near about 0.5 million workers
It also supports the downstream industries by providing the raw material.
Sugarcane farming is more profitable then any other cash crop in India.
This sector have been the focal point of socioeconomic development of the rural India
Strong government policies as it comes under essential commodity of mass consumption

</td><td>

Most of the Co-operative sugar industries in India e. g. in Maharashtra find difficult to pay for the sugar cane supplied by the farmers.
Most of the sugar factories are more than 30 years old and still using the old technology low installed production capacity leads to the decrease in production and losses.
Lack of professionalism

</td></tr>
<tr><th>Opportunities</th><th>Threats</th></tr>
<tr><td>

High value of by-products for downstream industries.
Huge potential to increase the productivity of cane and sugar recovery rate.
Technology up gradation, new advanced technology available for the byproduct utilization.

</td><td>

Sugar sector is vulnerable to political interest.
Ground water availability for irrigation.
Quality of soil deteriorates due to overuse of fertilizer and pesticides to increase sugarcane yield.
Unhealthy competition between members of the society.

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</table>

Source: www.sinetinfo.com

1.2.7 BUDGET ESTIMATES

Interim Budget 2014-15

The agriculture sector focuses on an efficient growth. Food grain production in 2012-13 was 255.36 million tonnes and the estimate for the current year is 263 million tonnes. Estimates of production of sugarcane, cotton, pulses, oilseeds and quality seeds point to new records. Agriculture exports in 2012-13 stood at USD 41 billion *versus* imports of USD 20 billion. In 2013-14, agriculture exports are likely to cross USD 45 billion. Agricultural credit is likely to touch `735,000 crore, exceeding the target of `700,000 crore. Agricultural GDP growth increased to 3.1 percent in the five year period of UPA-I and further to 4.0 percent in the first four years of UPA-II. In the current year, agricultural GDP growth is estimated at 4.6 percent.

Tamil Nadu Budget 2014-15

The productivity of important crops like paddy, sugarcane, cotton, pulses and oilseeds is increasing. The Government will continue its efforts to improve on-farm productivity and farmers' income. Towards this objective, various sub-projects will be taken up under the National Agriculture Development Program (NADP), at a cost of Rs.323 crore during 2014-2015. The System of Rice Intensification (SRI) will be further implemented in 3 lakh acres during 2014-2015. The Sustainable Sugarcane Initiative (SSI) will be further extended to 12,500 acres in the coming financial year. We will actively encourage sugar mills in order to popularize SSI and Drip Irrigation amongst sugarcane farmers. As a result of the initiative of this Government, the area under transplanted Tur (Red gram) reached 97,813 acres and this will be further extended to 1.3 lakh acres in the coming financial year. Similarly, precision farming which was taken up in 9,905 acres during 2013-2014, will be further extended to 11,000 acres during 2014-2015. All these efforts will bring additional benefits to the farmers in terms of enhanced productivity.

1.2.8 MAJOR PLAYERS

India is one among the largest consumers of sugar and the country holds the pride of being the second largest producer of sugar in the whole world. This industry after cotton textile industry is the second largest agro-processing industry in India.

Above all the industry, offers employment opportunities to a number of semi skilled and skilled workers in the rural areas of the country thereby contributing towards their development. Since sugarcane is used as the input for the manufacture of sugar, sugar industry is getting large production from sugarcane growing states in India namely Andhra Pradesh, Tamil Nadu, Gujarat, Karnataka, Maharashtra and Uttar Pradesh. The list of top players in the sugar industry in India is given below.

- Bannari Amman Sugars Limited
- Dwarikesh Sugars
- Rajshree Sugars
- Rana Sugars
- Shree Renuka Sugars
- Upper Ganges Sugar & Industries
- Bajaj Hindustan Limited
- Sakthi Sugars Limited
- EID Parry
- Dalmia Sugar

Table 1.2.8.1

Table showing the details of sugar companies with Net Sales, Market Capitalization and Net Profit

Company Name	Net Sales (Rs. Cr)	Market Capitalization (Rs. Cr)	Net profit (Rs. Cr)
Bannari Amman Sugars Limited	1,339.74	835.10	142.49
Dwarikesh Suagrs	695.61	31.49	-11.31
Rajshree Sugars	837.26	48.77	10.29
Rana Sugars	703.68	33.78	5.41
Shree Renuka Sugars	6,395.43	1,416.48	51.84
Upper Ganges Sugar & Industries	501.99	27.74	12.65
Bajaj Hindustan Limited	4,262.63	820.35	-234.57
Sakthi Sugars Limited	1,170.41	55.54	-87.42
EID Parry	1,533.45	2,263.24	137.32
Dalmia Sugar	999.85	127.97	18.35

Source: www.moneycontrol.com

1.3 ABOUT THE ORGANIZATION

1.3.1 History

In 1921, Pollachi was a small village, way too modest compared to the bustling town it is today. But it was here, P.NachimuthuGounder laid the foundation for Sakthi Group. It was in this year P.NachimuthuGounder broke away from his traditional business of hiring bullock carts and pioneered into passenger transport service. From then on, there was no looking back.

The Anamallais Bus Transport (ABT) is the parent organization of the Sakthi Group in 1931 with 21 buses. It eventually grew into a network covering almost all of South India.

In 1946, P. Nachimuthu Gounder's only son N. Mahalingam joined the business. This young engineering graduate brought with him fresh thinking, new ideas and innovations, adding more momentum to the growth. He ventured into manufacturing, based on the service industries experience. After three decades Sakthi Sugars Limited was established in the year 1961, with commercial production of Sugar commencing in the year 1964 at its Sakthinagar Sugar plant.

1.3.2 Diversification of Sakthi Sugars

Expanding its industrial presence, Sakthi Sugars Limited diversified into manufacturing of Industrial Alcohol in the year 1972 at Sakthinagar, Tamil Nadu and at Dhenkanal, Orissa in the year 1996. These two distillery plants, undisputedly the largest in their respective states, have an aggregate capacity of 46 KLPD Industrial Alcohol.

Soya Products is another range of products manufactured by Sakthi Sugars Limited. It has an advanced Soya processing unit with refinery complex near Pollachi, Tamil Nadu. It handles a capacity of 90,000 Metric tonnes (MT) of soybeans per annum.

The company has also installed three Co-generation Power plants at its sugar factories in Tamil Nadu. The combined capacity of power production of these plants is 92 Mega Watt. After meeting the power requirements of the sugar plants the excess power generated is exported to the power grid.

The Sakthi Group is a 1.2 billion US$ Industrial Conglomerate and one of the fastest growing business in south India. The Sakthi Group has a strong market presence in a number of Industrial Domains with a host of group companies, institutions, trusts and foundations operating under its umbrella. These organizations have been playing a significant role in shaping the economic and social development of South India. Spreading its wings into a diverse number of Industrial, Economic and Social realms the Sakthi group has been succeeding in its efforts to ‘create and hone value’ through its products, services and initiatives.

1.3.3 Expansion of Sakthi Sugars

Sakthi Sugars is into the business of Sugar and industrial alcohol and Soya products. It is being spearheaded by Mr. M.Manickam Vice Chairman and Managing Director and he is also the son of Dr. N Mahalingam who is the Chairman of Sakthi Sugars. The company has 3 units with crushing capacities of 6000 TCD,4000 TCD and 2500 TCD respectively. SSL took over a 1250-tcd sugar unit on a 10-year management contract basis from the Badamba Co-operative Sugar Industries in 1991 with an option to extend the contract for a further period of 10 years. It has also established a modern sugar unit with a crushing capacity of 2500 TCD which commenced operations during 1994-95. Apart from the four sugar units, Sakthi Sugars has two distilleries and a foundry. The company entered into technical collaboration with George Fischer Foundry, Switzerland, to supply state-of-the-art manufacturing technology. Sakthi Soyas, a group company, was merged into SSL with effect from 1st, Apr.'93. The unit has an installed capacity of 1, 00,000 TPA to produce refined oil, de-oiled cake, full-fat soya meal, soya flour flakes and texturised vegetable protein. SSL has installed a new unit at Haripur for industrial alcohol with an installed capacity of 10000 KL pa. During 1997 the new disamatic foundry wing commenced its production with SG Iron Casting and Graded Iron Casting with a annual capacity of 2600 MT and 1000 MT p.a.

The capacities of both the products were increased 14400 MT and 9600 MT p.a respectively. As a restructuring measure the company has hived off its foundry division to wholly owned subsidiary via Sakthi Auto Components Ltd from April, 2000. The crushing capacity of Sakthi Nagar Unit was increased 6000 TPD in October, 1998. The company has taken up implementation of co-generation project at Sakthinagar Sugar Unit. The installed capacity of the proposed co-generation plant is 35 MW. The Co-generation project could not be started off as per schedule and the same is expected to be commissioned in October, 2003. An incidental 2 MW co-generation at Sivaganga Sugar unit has commenced its operations from April,2002. The process for setting up a beverage project with Hindustan Coca-Cola Beverages is complete and the plant is ready for operation. Necessary permission from the State Government is expected to commence commercial production. It has entered into JV with TNPL under which the bagasse produced by the company will be exchanged for steam required for operation of the mill and the boilers at Sakthinagar. The Sakthinagar Distillery Division has installed Ethanol plant with an annual capacity of 50000 ltrs per day and trial production commenced on June,2003 and supply of ethanol to oil companies is expected to commence shortly.

Sakthi Sugars Limited is rated fourth in number of employee's category among related companies. The total workforce of Confectioners industry is at this time estimated at about 30,895. Sakthi holds roughly 1,730 in number of employees claiming about 6% of stocks in Confectioners industry.

1.3.4 Board of Directors

Chairman	Dr. N Mahalingam
Executive Vice Chairman	Mr. M Manickam
Executive Director	Mr. V K Swaminathan
Managing Director	Mr. M Balasubramaniam
Director	Mr. P K Chandran Mr. S S Muthuvelappan
Joint Managing Director	Mr. M Srinivaasan
Director	Mr. N K Vijayan Mr. S Doreswamy Mr. C Rangamani
Company Secretary	Mr. S Baskar

1.3.5 Features

Sakthinagar Sugar Unit

- More than 35,000 acres of sugarcane available around the factory supported by river and canal irrigation. Pioneering efforts put in by the cane department has increased the yield per hectare to more than 125 MT.
- Crushing in the unit – More than 8 months every year.
- Unit has capacity to produce export quality sugar corresponding to less than 35 ICUMSA (International Commission for Uniform Method of Sugar Analysis, a measure to determine the quality and color of sugar, adopted by European markets) and has exported more than 12000 MT.
- Optimal recovery of sugar from sugarcane i.e. more than 10%.
- Secured National Efficiency Award for many years.
- Research and Development Wing of this unit responsibility for developing new sugar rich pest resistant varieties of sugarcane.
- Has mechanical harvesters imported from Austoft Industries of Australia.

- Exported about 13.5 lakh quintals of sugar for the period from October 2000 to October 2001 and bagged the National Award for exemplary export performance.

Sivaganga Sugar Unit

- More than 18,000 acres of sugarcane available within 40 Km of the factory supported by river, pond and well irrigation.
- Has all the 4 mills in Tandem as Auto Settings Mills, which facilitate maximum extraction even while crushing minimum quantities.
- Crushing in the unit – More than 6 months in a year.
- Crushing capacity has been increased from 2500 TCD to 4000 TCD in May 2000 which facilitates this unit to achieve a cane crush of about 8 lakh tonnes in a season.

Dhenkanal Sugar Unit

- Perennial rivers like Mahanadi and Brahmani run through Dhenkanal and Cuttack Districts.
- Orissa Government is in the process of implementing a major canal irrigation scheme from the river Mahanadi and on implementation, additional 2 lakh hectares of land in Dhenkanal district will be brought under cultivation.
- Sugarcane is fetched from more than 6000 acres in Dhenkanal and Cuttack area.
- No purchase tax on sugarcane.
- In view of Perennial rain from both the monsoons (Southwest and Northeast crushing period restricted to a maximum of 150 days in a year between December and April.

Modakurichi Sugar Unit

- A new Greenfield sugar plant with a crushing capacity of 3500 TCD along with 25 MW Cogeneration Plant were set up at Poondurai Semur Village, Modakurichi Taluk in Erode District which have been commissioned on 7th September 2007.

Sakthinagar Distillery Unit

- Largest Industrial Alcohol manufacturing Distillery in Tamil Nadu.
- Raw material viz. Molasses, captivity available from its sugar units.
- Distillation with exhaust steam of the steam of the sugar unit without any need to raise steam separately.
- Has continuous fermentation system facilitating maximum yield per unit of Molasses.
- Effluent Treatment Plant with technology from France Ensures recovery of Methane rich biogas used as alternate fuel in Boilers resulting in saving of more than 10,000 liters of Furnace Oil per day.
- Disposal of treated effluents ina most scientific manner – composting with press mud; HRTS and fertile-irrigation – all methods approved by NEERI and PCB.
- Has facility to produce Ethanol (Anhydrous Alcohol) for supply to oil companies, pursuant to government’s permission to mix Ethanol with petrol as fuel upto 10%.

Dhenkanal Distillery Unit

- Largest distillery in the State of Orissa.
- Has all the advantages and features as are available in the company’s Sakthinagar Distillery Unit.

Soya Unit

- Has solvent extraction and oil refining plants imported from M/s. Extraktionstechnik, West Germany, who are world renowned suppliers of such machinery.
- Has seed processing and edible flour making plant imported from M/s. Buhler Brothers, Switzerland, who are again the world class suppliers of such machinery.
- Has facility to produce edible grade soya flour and redefined edible grade crude sunflower oil.

- Concentrates on production and sale of value added products like Texturised Vegetable Protein (TVP) Chunks and refining of edible grade crude sunflower oil.
- The unit has sophisticated facilities for manufacturing of edible grade soya flour. Once it is a separate entity and has a separate identity, its features and capabilities can be put through website, which can attract the attention of intending overseas customers' instantly.
- With the announcement of FDA in United States that intake of Soya flour upto 25 grams per day will help to avoid cancer and heart diseases, there is an expectation that there will be huge demand for soya flour manufactured out of Non-Genetically Modified Soya Seeds which is available in plenty only in Asia.

1.3.6 Quarter results of Sakthi Sugars

1.3.6.1 Sakthi Sugars reports net loss of Rs 40.73 Crore in the June 2013 quarter

Net loss of Sakthi Sugars reported to Rs 40.73 crore in the quarter ended June 2013 as against net profit of Rs 1.37 crore during the previous quarter ended June 2012. Sales declined 28.78% to Rs 254.16 crore in the quarter ended June 2013 as against Rs. 356.87 Crore during the previous quarter ended June 2012.

Particulars	**Quarter Ended**		
	Jun. 2013	**Jun. 2012**	**Variations in %**
Sales Rs. In Crores	254.16	356.87	**-29**
OPM %	0.44	12.01	**-**
PBDT Rs. In Crores	-39.87	17.78	**PL**
PBT Rs. In Crores	-56.45	1.37	**PL**
NP Rs. In Crores	-40.73	1.37	**PL**

Table 1.3.6.1 Table showing 2013-14 Quarter I results

1.3.6.2 Sakthi Sugars reports net loss of Rs 47.98 crore in the September 2013 quarter

Net Loss of Sakthi Sugars reported to Rs 47.98 crore in the quarter ended September 2013 as against net loss of Rs 23.50 crore during the previous quarter ended September 2012. Sales declined 46.77% to Rs 118.94 crore in September 2013 as against Rs 223.44 crore during the previous quarter ended September 2012.

Particulars	**Quarter Ended**		
	Sep. 2013	**Sep. 2012**	**Variations in %.**
Sales Rs. In Crores	118.94	223.44	**-47**
OPM %	-7.79	6.06	**-**
PBDT Rs. In Crores	-49.00	-15.22	**-222**
PBTRs. In Crores	-65.68	-31.76	**-107**
NPRs. In Crores	-47.98	-23.50	**-104**

Table 1.3.6.2 Table showing 2013-14 Quarter II results

1.3.6.3 Sakthi Sugars reports net loss of Rs 56.56 crore in the December 2013 quarter

Sales decline 41.08% to Rs 109.32 crore

Net Loss of Sakthi Sugars reported to Rs 56.56 crore in the quarter ended December 2013 as against net loss of Rs 40.18 crore during the previous quarter ended December 2012. Sales declined 41.08% to Rs 109.32 crore in December 2013 as against Rs 185.54 crore during the previous quarter ended December 2012.

Particulars	**Quarter Ended**		
	Dec. 2013	**Dec. 2012**	**Variations in %**
Sales	109.32	185.54	**-41**
OPM %	-13.00	-0.78	**-**
PBDT	-59.41	-38.11	**-56**
PBT	-76.10	-54.64	**-39**
NP	-56.56	-40.18	**-41**

Table 1.3.6.3 Table showing 2013-14 Quarter III results

1.3.7 Shareholding Pattern

Holder's Name	No of Shares	% Share Holding
Promoters	12697237	34.5%
General Public	18760842	50.97%
Other Companies	2824920	7.67%
Foreign NRI	1031828	2.8%
Central Govt	919099	2.5%
Others	524703	1.43%
Financial Institutions	40600	0.11%
Banks Mutual Funds	6960	0.02%
Foreign Institutions	1050	0%
Foreign Industries	100	0%

Table 1.3.7.1 Table showing the Shareholding Pattern

1.3.8 Products & Services

Sakthi Sugars Limited is one of the pioneer and largest company in Sugar Manufacturing. It produces High Quality white sugar, raw sugar, refined sugar, industrial alcohol, ethanol, power, soya products and bio-earth. Renowned for its quantum and quality of products Sakthi Sugars is also a niche market player in sugar, alcohol and soya business.

Sugar

Sakthi Sugars produces High Quality plantation white sugar and refined sugar using superior technology and its time tested process. The sugar produced is at par with International Standards with very low NSR (Non Soluble Residue) value of less than 20 ppm. Refined quality white sugar with 35 to 45 ICUMSA is exported to many countries.

Grade	ICUMSA	Microns
S-30	100	600
S-30	45	600
M-30	100	1000

Table 1.3.8.1 Table showing Sugar Grades

Power

The power plant promotes significant usage of renewable energy sources using bagasse, a fibrous sugarcane residue as its primary source of power production and coal as its secondary which is used for supplementing the deficit of bagasse. Further the process of power production also fosters energy recycling. The steam extracted from Turbo Generators is diverted towards sugar processing and distillation of alcohol.

Since these power plants contribute to the generation of electricity and also provide necessary steam energy for industrial application they are termed as Co-Generation Power Plants. The aggregate power generation capacity of all three cogeneration power plants is put together 92 MW. After meeting the power requirements of the sugar plant excess power is exported to the power grid.

Sakthi Nagar Unit.	32 MW.
Sivaganga Unit.	35 MW.
Modakurichi Unit.	25 MW.

Table 1.3.8.2 Table showing the power generation in each unit

Industrial alcohol

Industrial Alcohol is manufactured from Molasses, viz. super fine quality of Rectified Spirit, Extra Neutral Alcohol / Neutral Spirit and Ethanol are produced by the Distillery Units of Sakthi Sugars Limited deploying advanced multi pressure distillation and multi optional fermentation plants.

The Anhydrous Alcohol (Ethanol) plant which was commissioned in the year 2003 within the Sakthinagar Unit has an installed production capacity of 50,000 Ltrs per day. It may be noted that because ethanol is blended with petrol, crude oil import is minimized. Hence domestic production of Ethanol can significantly contribute towards saving the foreign reserves of the country.

The Products:

- Rectified Spirit
- Extra Neutral Alcohol / Neutral Spirit
- Ethanol

Soya products

A division of Sakthi Sugars Ltd., Sakthi Soyas owns one of the best Soya Processing plants in Asia. The plant has the capacity to process 300 Tonnes of Soya Per Day (TPD). It combines the world's best technology from Switzerland and Germany and innovative flash desolventising system to manufacture high-protein soya flour.

Sugar By-Products

Molasses

Molasses is the by-product separated from 'C' grade sugar during the centrifuging of sugar crystals. The yield of molasses per ton of cane is in the range of 4 to 4.5%. The entire quantum of molasses produced is being used for captive consumption in our distilleries.

Bagasse

Bagasse is the fibrous residue from the sugar cane after extracting cane juice. We produce Steam and Power by using bagasse as fuel for the high pressure boilers in the Cogeneration power plants.

Press Mud

Press mud, the solid waste produced while processing sugar cane is rich in potassium, sodium, phosphorous and organic matters. Press mud is also a base material for producing bio-earth which is done by composting with spentwash, a liquid-waste generated out of distillery operation.

Bio-Earth

Composting is a biological oxidation process by which a mixed microbial population in warm, moist, aerobic environment decomposes organic material. During the process, degradable organic substrate undergoes chemical and physical transformation to give a stable humified product. The product is of value in agriculture both as an organic fertilizer and as soil improver.

Nutrients	**Bio Earth**
Nitrogen – N	2.0 - 2.5 %
Phosphorus – P	1.8 - 2.2 %
Potassium - K	3.0- 4.0 %

Table 1.3.8.3 Table showing the percentage of Nutrients

1.3.9 CSR Activities

The Company has an innate desire and zeal to contribute towards the welfare and social up liftment of the community. The Company has been implementing various social welfare programs in the areas of education, including school for children having disability to speak or hear, since long time through various Trusts run by Sakthi Group.

Charity mission

The Mahalingam – Mariammal Manivizha Charitable Trust was constituted in the year 1983 at the Kasturba Gandhi National Memorial Buildings, Coimbatore.

Under the aegis of this trust and with the guidance of Arutchelver, Dr.N.Mahalingam a number of charitable institutions are been run and looked after by Dr.M.Manickam, Vice Chairman & Managing Director, Sakthi Sugars Limited and Mrs.GowriManickam. True to the Gandhian Ideals the Institutions situated inside the Kasturba National Memorial Trust are reaching out to more people every day, extending their help to destitute women, children and the socially neglected and down-trodden individuals.

The following establishments are being run by the Trust:

Kasturba Gandhi Oral School for the Hearing Impaired, Varadarajapuram, Coimbatore

The Kasturba Oral School for the Hearing Impaired was started on the Gandhi Jayanthi day 2nd of October 1996. Dr.M.Manickam, Vice Chairman and Managing Director, Sakthi Sugars Limited and Mrs.GowriManickam together have taken up this initiative for children for whom the school has given a new ray of hope in life. The unique feature of this school is that teaching is done by Oral Method wherein much importance is given to speech and lip-reading.

Dr.M.Manickam has provided the "Behind the Ear Model" – hearing aids for 27 students of the school. The school also provides hearing aids to selected set of students every year.

Kasturba Gandhi Memorial De-addiction and Rehabilitation and Research Centre, Coimbatore

The De-addiction Centre was started in the year 1994. Nearly 80% of the patients who underwent the De-addiction program have given up their drinking habit and turned a new leaf in their lives. Presently the center has 25 beds and a full- fledged medical team of, Medical Officer, Psychologists, nurses and other supporting staff operating under an Honorary Medical Director.

The medical team attached to the centre is also visiting Industrial Establishments, Colleges and rural areas for creating awareness about drug abuse.

Kasturba Gandhi Memorial Siddha Hospital and Research Institute, Varadarajapuram, Coimbatore.

For those who seek nature cure, better recuperation and a surrounding that will help them heal quickly the Kasturba Gandhi Memorial Siddha Hospital and Research Institute was started in the year 1991. The Hospital has been built with adequate facilities and is located in a serene environment amidst abundance of nature wealth. It also has another center in the foothills of Siruvani. A great variety of medicinal herbs have been planted around the hospital and Siddha doctors visit the hospital daily to treat the patients.

At present 3 doctors are working and about 150 varieties of medicines are being prepared here under the Siddha Medicinal System using herbs, foliages and other natural ingredients. The hospital attracts people seeking alternate ways of medicine and also those who seek cure for treating various common ailments. There is fairly good response for the treatment given in the hospital. The hospital runs extension canter's in and around Coimbatore and an herbal plantation at Siruvani for growing rare genre of medicinal plants and herbs.

Mahatma Gandhi Museum

The Museum was inaugurated on the 14th of November, 1993. The museum has a thematic visual biography of Gandhiji portrayed enchantingly using historic photographs and paintings, thought-provoking quotations and vintage replicas of the articles used by Gandhiji.

The hall located at the centre of the Museum is used for conducting important meetings and prayers. Days of National importance like Republic Day, Independence Day, Gandhi Jayanthi and other National events are being celebrated here in a grand manner with the participation of Gandhian Scholars and Eminent Personalities.

The Museum also hosts an exclusive library with more than 700 books on Gandhiji and his teachings. These handpicked collections of books provide facts on history, inspiring real life stories and knowledge that are ever useful to general visitors, researchers and scholars.

Sakthi Thiranalayam (Sakthi Skills Development Centre)

With the motto of "Disabled is differentially Abled', Mrs.GowriManickam, wife of Dr.M.Manickam took up the cause of the 'differently-abled' by starting Sakthi Thiranalayam in the year 1987.

The centre which was started with training now provides both employment and training for blind women. It engages them in tasks they can take up and help themselves. Here they make Agar Bathis, Phenyl, Envelopes and Wire Knitting to chairs. Seemingly simple, the tasks give them the much needed assurance in life that they too are capable of earning their livelihood. The center currently employs 15 differently-abled individuals.

Hospitals and Health Centers

Scientific inventions in the branch of medicine have brought in much advancement in diagnosing and treating diseases. But ultra-modern laboratories and sophisticated hospitals have also made Healthcare a costly affair for people with lesser income and impossible for people way below the poverty line.

Making healthcare affordable and reachable even to those who can't afford the minimum expenditure for Healthcare is the objective of Sakthi Foundation. With this resolve the Foundation has been sponsoring Voluntary Health Services and has been running the following hospitals to provide Quality Healthcare and Medical facilities to the employees of Sakthi Sugars Limited, for their families and to the local rural population.

V.M. Kailasam Hospital

VMK is a multi-specialty hospital with 150 beds. It was established in the year 1982. Till date more than 150000 patients have underwent treatment at the hospital. Besides General Healthcare the hospital has clinics for Genecology, paediatric, Dental, Orthopaedics and Ophthalmology departments. The hospital is well equipped with modern amenities and specialists to offer the best of treatment under each specialty. Free eye Camps and Health check-up camps are part of the hospitals welfare initiatives which are conducted periodically for the benefit of poor patients.

Sakthi Foundation

The foundation was instituted to cater the educational needs of the children of Sakthi Sugars employees, sugarcane growers and local population.

Institutions

Nachimuthu Industrial Association (NIA) and Sakthi foundation runs the following Institutions:

Sakthi Higher Secondary School – Sivaganga

The school was started in the year 1970 and was upgraded into a Higher Secondary School in the 1986. The school has a total strength of 1100 students hailing mainly from the adjacent rural areas. The school has faculty strength of 45 Teaching & Non- Teaching Staff. The school consistently stands at 1st Place / 2nd Place in the Gobi Educational District in the public examinations every year.

Established in the year 1992 as a Nursery and Primary School inside the premises of Sivaganga Sugar factory it has gradually grown into a High school in the year 2005. The school has 20 Teaching staff and nearly 550 students, mostly children from the families of employees of the company as well as from the surrounding rural areas are been provided with good education. The school has been consistently achieving 100 % results in the SSLC examination every year since 2005.

Sakthi Polytechnic College:

The Sakthi Polytechnic College was established in the year 1982 to promote technical education to rural youth. This polytechnic is a reputed Government aided college approved by AICTE.

It offers several 3 year Diploma programs with an annual intake of 390 students. It has 95 Teaching & Non-Teaching Staff and nearly 1275 students hailing from rural areas are studying in the polytechnic college.

The Institution celebrated its Silver Jubilee in the academic year 2005-06. The Institute also conducted value added programs under Community Polytechnic Scheme and Canada-India Institutional Co-operation Project in which more than 8000 rural folk got benefited under various schemes

Social Development Activities - Sakthi Pura:

PURA (Providing Urban amenities in Rural Areas) is a notable program initiated by His Excellency, the former President of India Dr.A.P.J.Abdul Kalam.

The perspective of the program is enhancement of living standards in villages. This is achieved by facilitating access to all the basic facilities like Roads, Water, Lighting, School, Communication, Healthcare and Employment Opportunities in rural areas. In turn it will check the migration from rural areas to urban with urban like facilities and improved income generation available within rural folds.

1.3.10 MILESTONES AND ACHIEVEMENTS

The important milestones reached by various divisions and plants of the company and the accolades they have earned are listed below.

Name of the unit	Year Established	Capacity	Remarks
Sakthinagar Sugar Unit	1964	9000 TCD	Expanded from 7500 TCD – 2007
Sakthinagar Distillery	1972	36000 KLPA	Expanded from 27500 KLPA - Oct. 2007
Sivaganga Sugar Unit	1989	4000 TCD	Expanded from 2500 TCD – May 2000
Soya Unit	1990	90000 TPA	Commissioned on 15th June 1990
Dhenkanal Sugar Unit	1994	2500 TCD	Expanded from 1500 TCD – 2007
Dhenkanal Distillery	1996	10000 KLPA	Commissioned on 20th January 1996
Cogeneration Plant at Sakthinagar	2003	32 MW	Commissioned on November 2003
Modakurichi Sugar Unit	2007	4000 TCD	Commissioned on 7th Sept.2007
Cogeneration Plant at Modakurichi	2007	25 MW	Commissioned on 7th Sept.2007
Cogeneration Plant at Sivaganga	2008	35 MW	Commissioned on 1st February 2008
Ethanol (Anhydrous Alcohol) Plant	2003	15000 KLPA	Commissioned on 8th June 2003

Table 1.3.10.1 Table showing the rewards and achievements of Sakthi Sugars Limited

Source: www.sakthisugars.com

1.3.11 REWARDS AND RECOGNITION

Year of award	Name of the award	Award by Institution / Authority
1983-1984	S. V. Parthasarathy Memorial Award for Outstanding Performance in Sugar Industry	SISSTA
1987-88	Commendation Certificate – All India Level - For achieving Higher Standards of Technical Efficiency	
1987-88	National Efficiency Award -For High Technical Efficiency in the field of Lower Total Losses	Director of Sugar, Ministry of Food, New Delhi
1987-88	SISMA Award for Achieving Higher Percentage of Reduced Mill Extraction.	SISMA
1988-89	National Efficiency Award - For achieving Higher Standards of Technical Efficiency, Highest Mill Efficiency and Lowest Sugar Losses	National
1989-90	National Efficiency Award - For Achieving Lowest Total Sugar Losses and Highest Technical Efficiency	National
1992-93	Special Award - For manufacture of Superior Quality Export Sugar	Special Award
2000-2001	Sugar Export Award - For exporting highest quantity of sugar among all the factories in India	National Federation of Co-op. Sugar Factories Ltd., New Delhi
2000-2001	S. V. Parthasarathy Memorial Award - For Best Cane Development	SISSTA
2007-2008	Best Sugar Factory Award for Highest Cane Crushing	SISSTA
2009-2010	First prize for Best Co-generation Award for Tamilnadu Region	SISSTA

Table 1.3.11.1 Table showing the rewards and recognitions of Sakthi Sugars Limited

Source: www.sakthisugars.com

1.4 STATEMENT OF THE PROBLEM

Organizations establish receivables management policy in order to ensure optimal investment in receivables so as to achieve sound financial position and profitable operations. The need for the analysis of receivables management would report the results of financial position and profitability. And for the same, a framework is needed to monitor the receivables management which would control the bad debts and decrease in the profit of the company.

1.5 SCOPE OF THE STUDY

The sale of goods on credit is an essential part of any modern and competitive economic system. Credit sale and therefore receivables are treated as marketing tools to aid the sale of goods. The study aims:

- To measure the liquidity of debtors of the firm.
- To measure the average number of days between the credit sales and the collection of receivables from the customers.
- To analyse the collection mechanism of the company.
- To measure the cost of carrying the receivables of the company.
- To analyze the customer's ability to pay the credit to the company.
- To provide a model to monitor the accounts receivables of the company.
- To analyse the sales forecast of the company using a trend analysis.
- To find the relationship between credit sales and average collection period.

CHAPTER 2

REVIEW OF LITERATURE

N. Venkata Ramana et al (2013)[1] attempted to make a study on the impact of receivables management on working capital and profitability among 4 cement companies taking the secondary data from 2001 to 2010. The study was done by analyzing the ratios calculated from the secondary data source of the companies. The interpretation reveals that the receivables management shows a significant impact on working capital management and profitability. The receivable management across the cement industry is more efficient.

Vishal G. Shah (2012)[2] represents an empirical study which examines the receivables management in Real estate sector in India with a secondary data of 10 years for five real estate companies. The study reveals that the level of investments in receivables as a percentage of sales stood at 55.46% which is more than half of the total sales in aggregate showing the higher level of credit sales in Indian real estate sector.

Michael D. Carpenter and Jack E. Miller (1979)[3] develops and illustrates a framework of accounts receivable analysis based on weighted DSO. This analysis is independent of the sales averaging period and the pattern of sales. The framework developed in this study is free from the adverse effects of sales fluctuations and changes in collection experience. This kind of analysis will alert the authorized person to any determine the changes on receivables management.

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[1]N. Venkata Ramana, K. Ramakrishnaiah and P. Chengalrayulu (2013) “Impact of receivables management on working capital and profitability:A study on select cement companies in India”, International Journal of Marketing Financial Services & Management Research, Vol.2 No.3 PP.163-171.
[2] Vishal G. Shah (2012) “An empirical study of receivables management in real estate sector of India”, International Journal of Marketing and Technology, Vol.2 Issue.8 pp. 431-445.
[3] Michael D. Carpenter and Jack E. Miller (1979) “A reliable framework for monitoring accounts receivable”, Financial Management/Winter PP. 37-40.

Zvi Lieber and Yair E. Orgler (1975)[4] incorporated the major components of credit and collection policies in this proposed model which considers the investment in accounts receivables, losses from bad debts and the impact of credit terms on sales. They focused on maximizing the present value of net earnings from accounts receivable by using four special cases.

Bernell K. Stone (1976)[5] develops and illustrates the forecast and control procedures based on the time distribution of cash flows that arise from credit sales. The payment proportions are measured from the past data's. The payment proportions and balance fractions are two set of ratios which are independent of the pattern of credit sales. The company's performance focus on either realized payment pattern or sales dependent measures.

Wilbur G.Lewellen and Robert W. Johnson (1972)[6] defined concept of collection experience which is the rate of account conversion into cash that determines the customer payment patterns. The receivables are monitored by DSO and aging of receivables methodology. The past datas are obtained for the forecasting purposes as a parameter of the model. The main focus is to organize and control the collection experience that provides input information useful to the decision process.

Haskel Benishay[7] constructed an analytical framework for the interpretation and evaluation of the determinants of accounts receivable. The mean collection period is evaluated and empirical measures for its direct and indirect representation are provided. This framework is used for decision-making and granting credit policies. In order to provide a more realistic illustration, a simple stochastic example of receivables process was developed.

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[4] Zvi Lieber and Yair E. Orgler (1975) "An integrated model for accounts receivable management", Management Science Vol.22 No.2 PP. 212-219.
[5] Bernell K. Stone (1976) "The payments-pattern approach to the forecasting and control of accounts receivable", Financial Management/Autumn PP. 65-82.
[6] Wilbur G. Lewellen and Robert W. Johnson (1972), "Better way to monitor accounts receivable", Harvard Business Review May-June edition PP. 101-109
[7] Haskel Benishay "Managerial controls of accounts receivable: A deterministic approach", Research Reports PP.114-132.

CHAPTER 3

RESEARCH METHODOLOGY

Research methodology is the process of collecting information and data for the purpose of making decisions. The methodology may include publication research, interviews, surveys and other research techniques, and could include both present and historical information.

3.1 Type of Research

The type of research used for the study is Quantitative research. Quantitative research aims to measure the quantity or amount and compares it with past records and tries to project for future period. In social sciences, quantitative research refers to the systematic empirical investigation of quantitative properties and phenomena and their relationships. The process of measurement is central to quantitative research because it provides fundamental connection between empirical observation and mathematical expression of quantitative relationships. Statistics is the most commonly used branch of mathematics in quantitative research.

3.2 Objectives of the study

It is a well known concept that management of trade credit is commonly known as Management of Receivables. Receivables is one of the three primary components of working capital, the other two being inventory and cash. Receivables occupy second important place after inventories and thereby constitute a substantial portion of current assets in several firms. The capital invested in receivables is almost of the same as that of the investment made in cash and inventories. The objectives of the study include Primary objective and Secondary objective.

Primary Objective

To study on the receivables management of Sakthi Sugars Limited using the DSO model.

Secondary objective

- To measure the liquidity of debtors of the firm.
- To measure the average number of days between the credit sales and the collection of receivables from the customers.
- To analyse the collection mechanism of the company.
- To measure the cost of carrying the receivables of the company.
- To analyze the customer's ability to pay the credit to the company.
- To provide a model to monitor the accounts receivables of the company.
- To analyse the sales forecast of the company using a trend analysis.
- To find the relationship between credit sales and average collection period.

3.3 Data and sources of data

The data used in this study is secondary data. Secondary data's are any published or unpublished work that is one step removed from the original source, usually describing, summarizing, analyzing, evaluating, derived from, or based on primary source materials. Secondary data is any information collected by someone else other than its user. It is data that has already been collected and is readily available for use. Secondary data saves on time as compared to primary data which has to be collected and analyzed before use. The sources of secondary data include internet, company's report, balance sheet, etc. For the analysis of receivables management, the data's of last seven years are taken i.e. from 2007-2008 till 2012-2013.

3.4 Time period covered

The time duration of the research and study is for 7 years, i.e. from 2006-07 to 2012-13.

3.5 Statistical tools used

For the study secondary data alone have been compiled from the financial statements provided by the organization. Financial tools like ratios have been used to analyze the data. The ratios used for the analysis of accounts receivables are:

3.5.1 Receivables Turnover Ratio.

It measures the liquidity of debtors of a firm and measures the number of times of receivables are rotated in a year in terms of sales. It is important to maintain a reasonable quantitative relationship between receivables and sales. An abnormally low ratio can be the result of over ambitious collection efforts or a credit policy that is too tight. These conditions can result in lost sales. An excessively high receivables level can be the result of a credit policy that is too liberal or inadequate collection efforts. These situations can result in increased bad debt and higher costs.

$$Receivables\ Turnover\ Ratio = \frac{Credit\ Sales}{Average\ Receivables\ Balance}$$

3.5.2 Average Collection Period

The average collection period is the average number of days between the date that a credit sale is made and the date that the money is received from the customer. The average collection period is also referred to as the days' sales in accounts receivable. If the average collection period is on an increasing effect when compared to the past years of company data, the account receivables aren't as liquid. If the ratio is decreasing, then the customers are not only paying their credit accounts on time.

$$Average\ Collection\ Period = \frac{365\ Days\ in\ the\ Year}{Receivables\ Turnover\ Ratio}$$

3.5.3 Receivables to Sales Ratio

This ratio indicates the amount of receivables held by the company as a percentage of sales during a given period of time. The efficiency of receivable of management is inversely related to this ratio. Lower ratio reflects the firm's ability in doing larger business with lesser debtors. Increase the sales and decreases in debtors indicate the company's effective collection mechanism.

Higher receivables to sales ratio (DSO) ratio can indicate a customer base with credit problems and a company that is deficient in its collections activity. A low ratio may indicate the firm's credit policy is too rigorous. An increase in DSO can result in cash flow problems and may result in a decision to increase the creditor company's bad debt reserve.

$$Receivables\ to\ Sales\ Ratio = \frac{Average\ Receivables\ Balance}{Credit\ Sales} * 100$$

3.5.4 Receivables to Current Assets Ratio

This ratio reveal the size of receivables in current assets, higher the ratio, higher the cost of carrying the receivables. Therefore every firm needs to carry least percentage of receivables without affecting the sales volume. A higher percentage of ratio indicates higher is the cost of carrying the receivables. It is desired that a firm needs to carry the least percentage receivables as possible without affecting the sales volume.

$$Receivables\ to\ Current\ Assests\ Ratio = \frac{Receivables}{Current\ Assets} * 100$$

3.5.5 Receivables to Total Assets Ratio

The accounts receivable by total assets ratio can be monitored over time to evaluate marketing strategies or to assess customers' ability to pay. Receivables as a percentage of current assets would reveal the size of receivables in current assets and the opportunity cost associated with it.

Higher the percentage and higher is the cost of carrying the receivables. It is therefore desired that a firm needs to carry the least percentage of receivables as possible without affecting the sales volume. The receivables to total assets ratio is used to assess the customer's ability to pay the credit. Higher the ratio indicates high receivables, where the ability to pay the credit is a hindrance. Lower ratio indicates less receivable which can be paid by the customers'.

$$Receivables\ to\ Total\ Assets\ Ratio = \frac{Receivables}{Total\ Assets} * 100$$

3.5.6 Current Ratio

The current ratio is a liquidity ratio that measures a company's ability to pay short-term obligations. The ratio is mainly used to give an idea of the company's ability to pay back its short-term liabilities (debt and payables) with its short-term assets (cash, inventory, receivables). The higher the current ratio, the more capable the company is of paying its obligations. A ratio under 1 suggests that the company would be unable to pay off its obligations if they came due at that point. While this shows the company is not in good financial health, it does not necessarily mean that it will go bankrupt - as there are many ways to access financing - but it is definitely not a good sign. Generally, the current ratio is good at the ratio 2:1. The current ratio can give a sense of the efficiency of a company's operating cycle or its ability to turn its product into cash. Companies that have trouble getting paid on their receivables or have long inventory turnover can run into liquidity problems because they are unable to alleviate their obligations.

$$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities}$$

3.5.7 Quick Ratio

The quick ratio is an indicator of a company's short-term liquidity. The quick ratio measures a company's ability to meet its short-term obligations with its most liquid assets. For this reason, the ratio excludes inventories from current assets. The quick ratio measures the amount of liquid assets available for each of current liabilities.

The higher quick ratio indicates the better the company's liquidity position. It is also known as the “acid-test ratio" or "quick assets ratio." The quick ratio is generally in 1.5:1 ratio.

$$Quick\ Ratio = \frac{Cash + Marketible\ Securities + Accounts\ Receivables}{Current\ Liabilities}$$

3.5.8 Cash Ratio

Cash ratio (also called cash asset ratio) is the ratio of a company's cash and cash equivalent assets to its total liabilities. Cash ratio is a refinement of quick ratio and indicates the extent to which readily available funds can pay off current liabilities. Potential creditors use this ratio as a measure of a company's liquidity and how easily it can service debt and cover short-term liabilities. Cash ratio is the most stringent and conservative of the three liquidity ratios (current, quick and cash ratio). It only looks at the company's most liquid short-term assets – cash and cash equivalents – which can be most easily used to pay off current obligations.

$$Cash\ Ratio = \frac{Cash\ and\ Cash\ Equivalents}{Current\ Liabilities}$$

3.5.9 Aging Schedule method

The aging schedule method is an accounting table that shows the relationship between a company’s bills and invoices and its due dates. It is often created by accounting software and aging schedules can be produced for both accounts payable and accounts receivable to help a company see whether it is current on its payments to others and whether its customers are paying it on time.

An aging schedule often categorizes accounts as current (under 30 days), 1-30 days past due, 30-60 days past due, 60-90 days past due, and more than 90 days past due. Companies can use aging schedules to see which bills it is overdue on paying and which customers it needs to send payment reminders to or, if they are too far behind, send to collections.

A company wants as many of its accounts to be as current as possible. A company may be in trouble if it has a significant number of past-due accounts. Aging schedules can help companies predict their cash flow by classifying pending liabilities by due date from earliest to latest and by classifying anticipated income by the number of days since invoices were sent out. Besides their internal uses, aging schedules may also be used by creditors in evaluating whether to lend company money.

In addition, auditors may use aging schedules in evaluating the value of a firm's receivables. If the same customers repeatedly show up as past due in an accounts receivable aging schedule, the company may need to re-evaluate whether to continue doing business with them. An accounts receivable aging schedule can also be used to estimate the dollar amount or percentage of receivables that are probably uncollectible.

3.5.10 Weighted DSO Model

The weighted DSO is independent of both the sales averaging period and the pattern of sales. This framework provides a more complete and meaningful summary of a company's collection experience than do current measures. The conventional measure of DSO is calculated by dividing the accounts receivable balance by the average daily sales. This procedure poses no problem if the monthly sales volume remains constant. Sales volume fluctuates, however, resulting in the average daily sales being determined by the sales-averaging period selected. The DSO depends on the particular period selected. As conventionally measured, it is likewise dependent on the accounts receivable balance, which is determined not only by the sales volume of the months within the period but also by the collection experience and the position of each of these months within this period.

A month of increased or decreased sales volume will affect the receivables balance more if it occurs near the end of the period of measurement. However, the conventional measure of DSO gives no weight to the sales of the more recent months of the period than to the sales of earlier months.

An author named Freitas on the other hand, proposes a modification of conventional DSO analysis to eliminate the misleading effects of the selection of the sales averaging period and sales fluctuations. However, because this procedure makes it impossible to identify and adequately compensate for offsetting shifts in collection experience, the receivables manager may still receive inaccurate and misleading information. Freitas recognizes that this does not allow his weighted average collection period to be an adequate tool for analysis of bad debt risk.

The framework that Freitas has proposed is an improvement of conventional DSO analysis in that it seeks to provide the receivables manager with a quantitative measure of the effect of collection experience on the receivables balance. More precisely, the analysis measures the amount by which actual receivables exceed or are less than a hypothetical receivables balance based on actual sales and a standard collection experience, referred to by Freitas as "target receivables."

The Freitas analysis involves the following procedure. First, the receivables manager establishes a period of analysis and a standard composition of the end-of-period receivables balance. This standard composition is the percentage of the original sales of each month of the period which would still be outstanding under standard collection experience as of the end of the period. Next, the manager calculates the ratio of each of these standard percentages to the total of the standard percentages of all months of the period. These ratios are the weights which the manager then multiplies by the average daily sales of each respective month, totalling to obtain the weighted average daily sales. The end-of-period receivables balance is then divided by this weighted average daily sales figure to determine the weighted average collection period. Having determined the weighted average DSO for the period, the manager now calculates the difference in the actual receivables balance from the hypothetical "target" balance based on actual sales under standard collection experience.

This requires converting the standard collection experience into a standard DSO. To do this, the standard collection percentages are summed and multiplied by 30. To find the amount by which the actual receivables balance is over or under "target receivables," the manager would subtract the standard DSO from the weighted average DSO and multiply this figure by the weighted average daily sales.

The framework proposed by Freitas appears to offer the manager a reliable measure of receivables performance. However, if there are offsetting shifts in collection experience (both improvement and deterioration from corresponding months in the previous period) at the end of a period in which monthly sales are other than constant, the weighted average collection period cannot be relied upon.

While the mechanics of the procedure will always provide an accurate measure of the amount by which actual receivables are over or under target receivables, the weighted average collection period may provide an inaccurate and misleading measure of the true collection period.

The formula for the calculation of weighted DSO model is shown below.

Average daily sales for the month time the change in DSO. For e.g.: the change for July is (Rs. 102.60 lakh/31)*(4) = Rs. (13) lakh.

Change in the average daily sales from the corresponding month in the previous quarter times the DSO for the corresponding month in the previous quarter. For e.g.: the change for July is [(Rs. 102.6 lakh/31)-(Rs. 44.08 lakh/30)]*9 = Rs. 16 lakh.

The DSO for the month subtraction the applicable standard DSO of 9, 6 or 11 days.

Actual DSO above/below () standard times the average daily sale for the month. For e.g.: the amount for July is (Rs.102.60 lakh/31)*-4 = Rs. (13) lakh.

3.5.11 Trend Analysis

Trend Analysis is the practice of collecting information and attempting to spot a pattern, or trend, in the information. Although trend analysis is often used to predict future events, it could be used to estimate uncertain events in the past, such as how many ancient kings probably ruled between two dates, based on data such as the average years which other known kings reigned. An aspect of technical analysis that tries to predict the future movement of a stock based on past data. Trend analysis is based on the idea that what has happened in the past gives traders an idea of what will happen in the future.

Least Square Method

The least squares method is specified by an equation with certain parameters to observed data. This method is extensively used in regression analysis and estimation. A straight line is sought to be fitted through a number of points to minimize the sum of the squares of the distances from the points to this line of best fit.

Hence it is called as least squares. In contrast to a linear problem, a non-linear least squares problem has no closed solution and is generally solved by iteration. The sales forecast is determined by the least square method using the straight line equation:

$$y = bx + a$$

Where: $$\mathbf{a} = \frac{\sum \mathbf{y}}{\mathbf{n}}$$

$$\mathbf{b} = \frac{\sum \mathbf{xy}}{\sum \mathbf{x}^2}$$

b = the slope of the line

a = y-intercept, i.e. the value of y where the line intersects with the x-axis

3.5.12 Correlation

Correlation refers to any statistical relationship between two random variables or two sets of data. Correlations indicate a predictive relationship that can be exploited in practice. The correlation is used to predict the relation between the variables and the percentage of relationship is also calculated. The formula used for the calculation of correlation is

$$\mathbf{r} = \frac{\mathbf{n}\sum\mathbf{xy} - (\sum\mathbf{x})(\sum\mathbf{y})}{\sqrt{\mathbf{n}(\sum\mathbf{x}^2) - (\sum\mathbf{x})^2}\sqrt{\mathbf{n}(\sum\mathbf{y}^2) - (\sum\mathbf{y})^2}}$$

Where, x is the credit sales for the period 2006-07 to 2012-13

Y is the average collection period for the time period 2006-07 to 2012-13

3.8 Limitations of the study

The limitations of the study of accounts receivables management include:

- The study mainly depends on the secondary data only.
- The balance of 2007-08 includes duration of 18 months due to the change in the financial year period.
- The analysis of 2010-11 includes duration of 15 months due to the changes in the financial year period.

CHAPTER 4

ANALYSIS & INTERPRETATION

RATIO ANALYSIS

Receivables Turnover Ratio

$$Receivables\ Turnover\ Ratio = \frac{Credit\ Sales}{Average\ Receivables\ Balance}$$

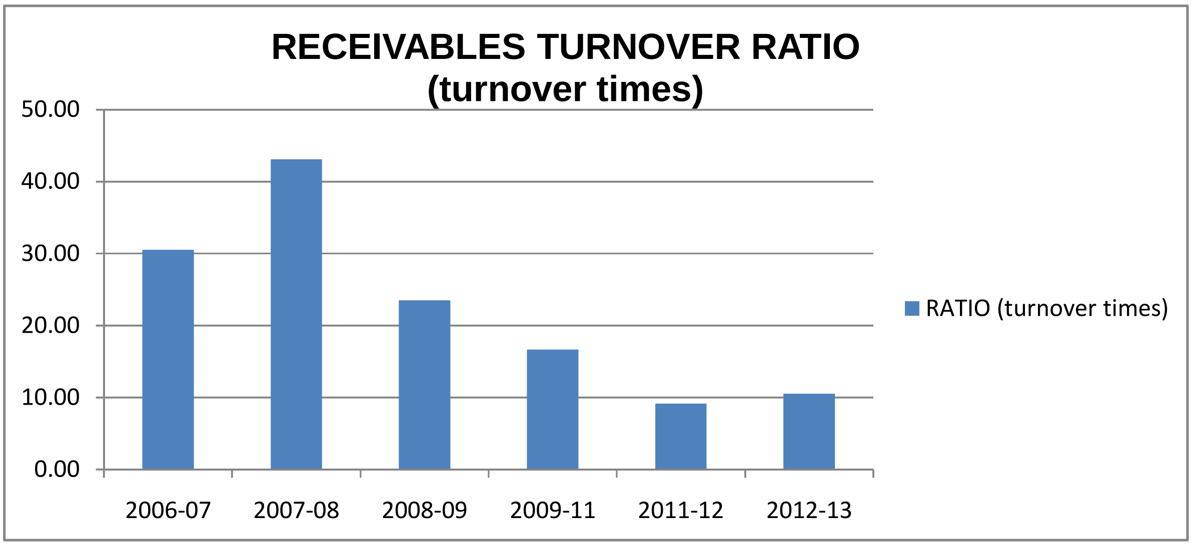
Table 4.1

Table showing the Receivables Turnover Ratio of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.

YEAR	CREDIT SALES (Rs. in lakhs)	RECEIVABLES (Rs. in lakhs)	RATIO (turnover times)
2006-07	76651.73	2509.41	30.55
2007-08	118884.98	2758.07	43.10
2008-09	140435.07	5974.07	23.51
2009-11	216394.71	12979.03	16.67
2011-12	219543	23977	9.16
2012-13	117041	11074	10.57

Figure 4.1

Figure showing the Receivables Turnover Ratio of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.



Interpretation:

The receivables turnover ratio was high in the year 2007-08 with the turnover times 43.10. During this scenario, the company would have faced an adequate collection efforts or a tight credit policy which would tend to affect the sales. There was a gradual decrease in the receivables turnover from the year 2008-09, having the lowest ratio of 9.16 turnover times in the year 2011-12. This would have resulted in inadequate collection efforts or to bad debts.

Average Collection Period

$$Average\ Collection\ Period = \frac{365\ Days\ in\ the\ Year}{Receivables\ Turnover\ Ratio}$$

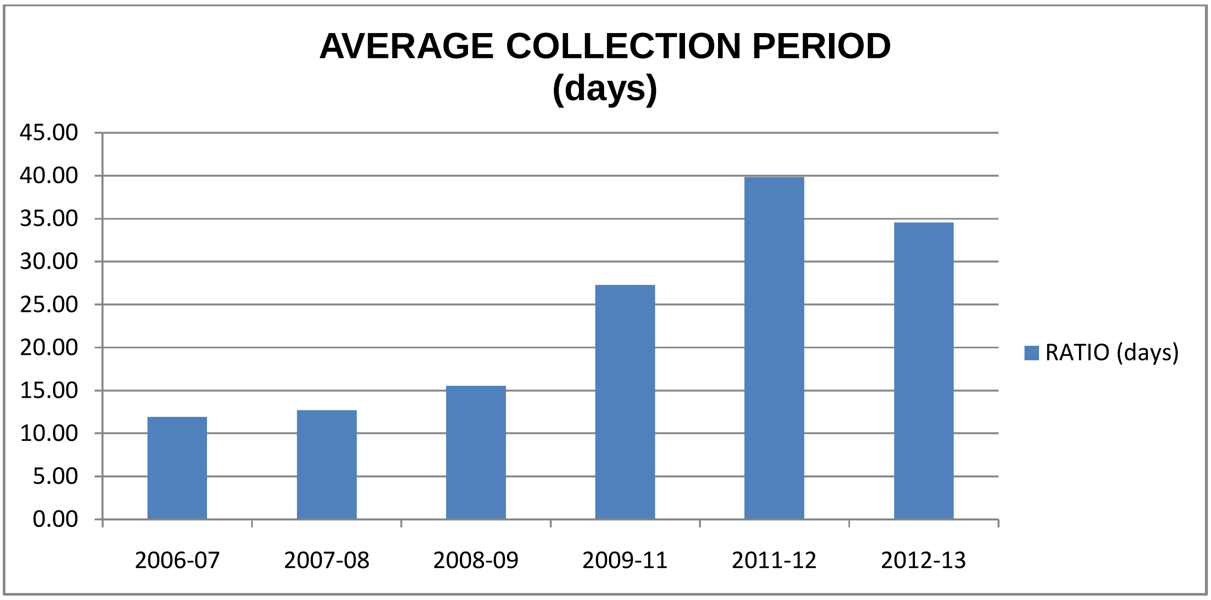
Table 4.2

Table showing the Average Collection Period of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.

YEAR	NO.OF DAYS	TURNOVER RATIO (Rs. In Lakhs)	RATIO (days)
2006-07	365	30.55	12
2007-08	547	43.10	13
2008-09	365	23.51	16
2009-11	455	16.67	27
2011-12	365	9.16	40
2012-13	365	10.57	35

Figure 4.2

Figure showing the Average Collection Period of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.



Interpretation:

From the 7 year analysis of average collection period, the lowest collection period is 12 days in the year 2006-07 which determines the lag in the payment of credit by the customers. In the following years, the average collection period shows an increasing effect as high as 40 days that indicates the low liquidity of the credit policies. This may affect the sales of the company.

Receivables to Sales Ratio

$$Receivables\ to\ Sales\ Ratio = \frac{Average\ Receivables\ Balance}{Credit\ Sales} * 100$$

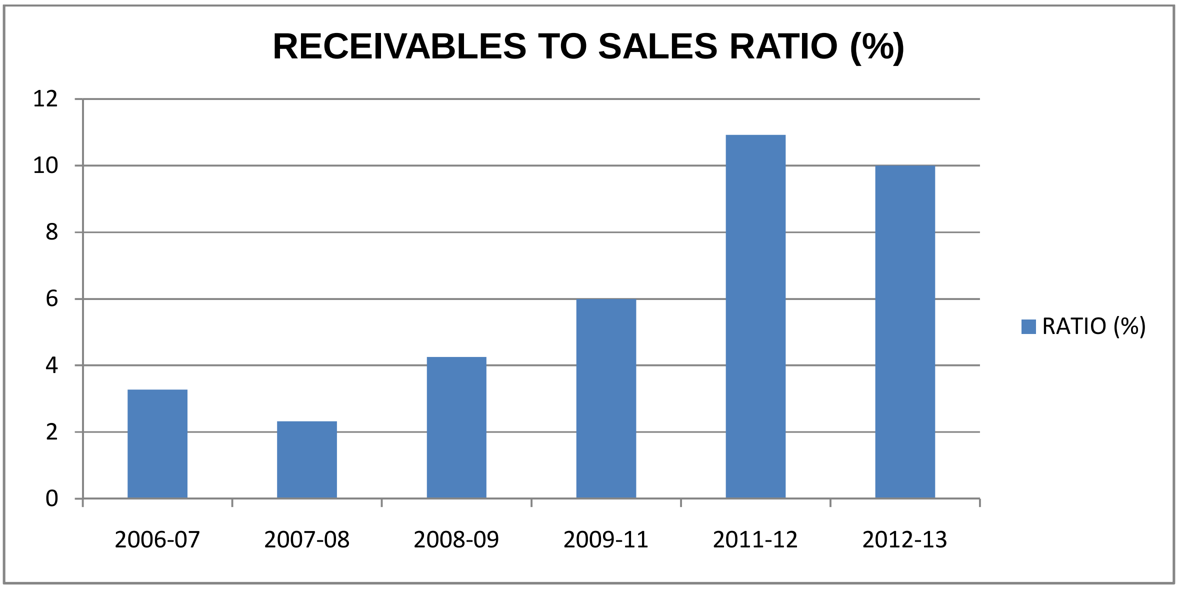
Table 4.3

Table showing the Receivables to Sales Ratio of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.

YEAR	RECEIVABLES (Rs. In lakhs)	SALES (Rs.in lakhs)	RATIO (%)
2006-07	2509.41	76651.73	3.27
2007-08	2758.07	118884.98	2.32
2008-09	5974.07	140435.07	4.25
2009-11	12979.03	216394.71	6.00
2011-12	23977	219543	10.92
2012-13	11074	110741	10.00

Figure 4.3

Figure showing the Receivables to Sales Ratio of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.



Interpretation:

A high DSO ratio indicates a deficient collection activity which is found in the year 2011-12 at 10.92%. The year 2012-13 also had a high DSO ratio when compared to the analysis of previous years. In the year 2007-08, the DSO ratio poses a low ratio effect which determines a rigorous credit policy in the firm.

Receivables to Current Assets Ratio

$$Receivables\ to\ Current\ Assests\ Ratio = \frac{Receivables}{Current\ Assets} * 100$$

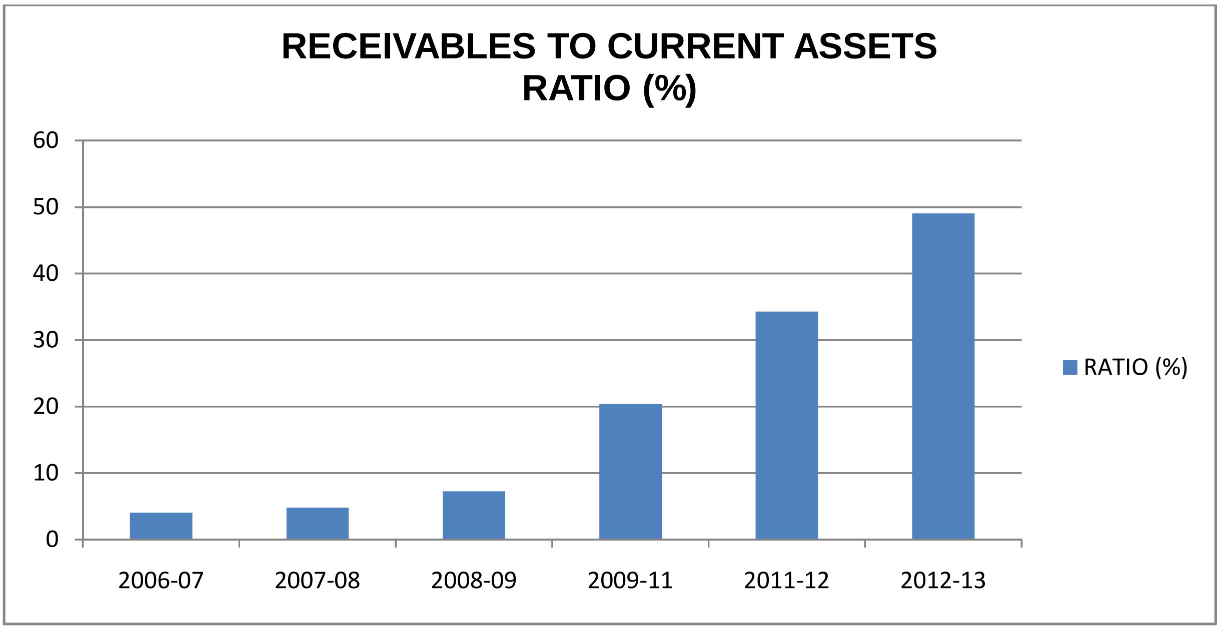
Table 4.4

Table showing the Receivables to Current Assets Ratio of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.

YEAR	RECEIVABLES (Rs.in lakhs)	CURRENT ASSETS (Rs.in lakhs)	RATIO (%)
2006-07	2509.41	62233.94	4.03
2007-08	2758.07	57407.71	4.80
2008-09	5974.07	82406.77	7.25
2009-11	12979.03	63539.96	20.43
2011-12	23977	69909	34.30
2012-13	11074	22585	49.03

Figure 4.4

Figure showing the Receivables to Current Assets Ratio of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.



Interpretation:

The receivables to current assets ratio indicate the cost of carrying the receivables. The cost of carrying the receivables should be low which does not affect the sales volume. In the year 2006-07, the ratio is 4.03% which is the lowest ratio when compared to the ratios in the following financial year. The Financial year 2011-12 and 2012-13 carry high ratio such as 34.30% and 49.03% respectively which also has high cost of carrying the receivables. The DSO ratio has an increasing effect from 2006-07 to 2012-13.

Receivables to Total Assets Ratio

$$Receivables\ to\ Total\ Assets\ Ratio = \frac{Receivables}{Total\ Assets} * 100$$

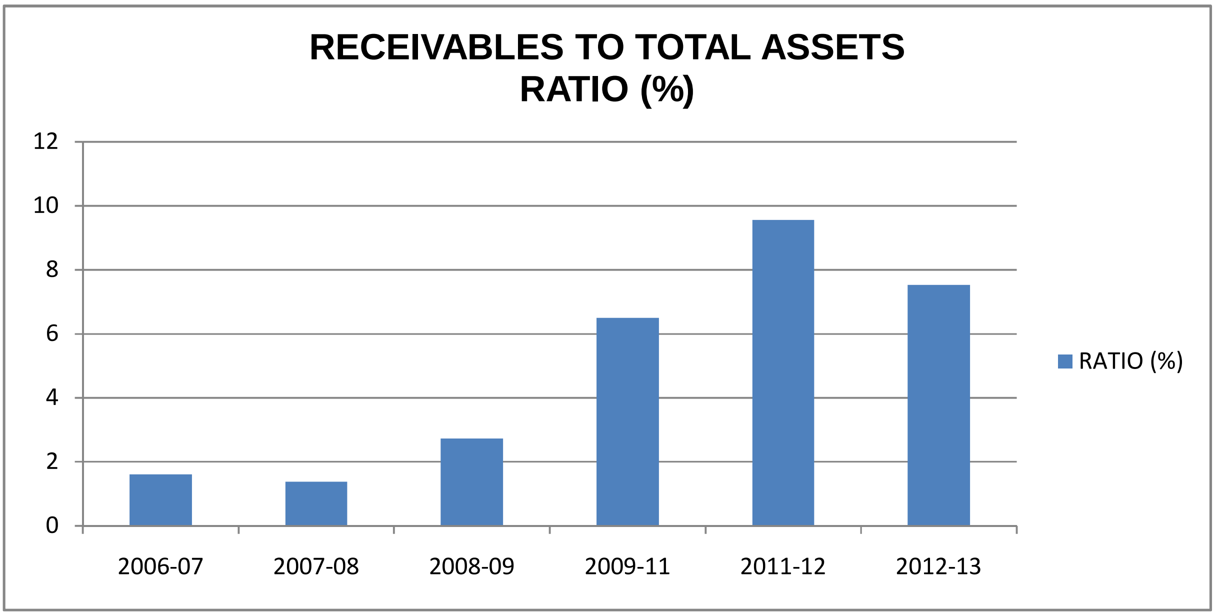
Table 4.5

Table showing the Receivables to Total Assets Ratio of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.

YEAR	RECEIVABLES (Rs. in lakhs)	TOTAL ASSETS (Rs. in lakhs)	RATIO (%)
2006-07	2509.41	155962.19	1.61
2007-08	2758.07	198874.50	1.39
2008-09	5974.07	218620.65	2.73
2009-11	12979.03	199611.20	6.50
2011-12	23977.00	250974.00	9.55
2012-13	11074.00	147090.00	7.53

Figure 4.5

Figure showing the Receivables to Total Assets Ratio of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.



Interpretation:

From the analysis of receivables to total assets ratio, the ratio of the year 2011-12 is high i.e. 9.55% when compared to the other financial years. This indicates that the receivables are high which focuses on the ability of the customer's to pay. The analysis of the ratio in the recent financial years, 2009-11 & 2012-13, poses on the higher end where the receivables are high.

Current Ratio

$$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities}$$

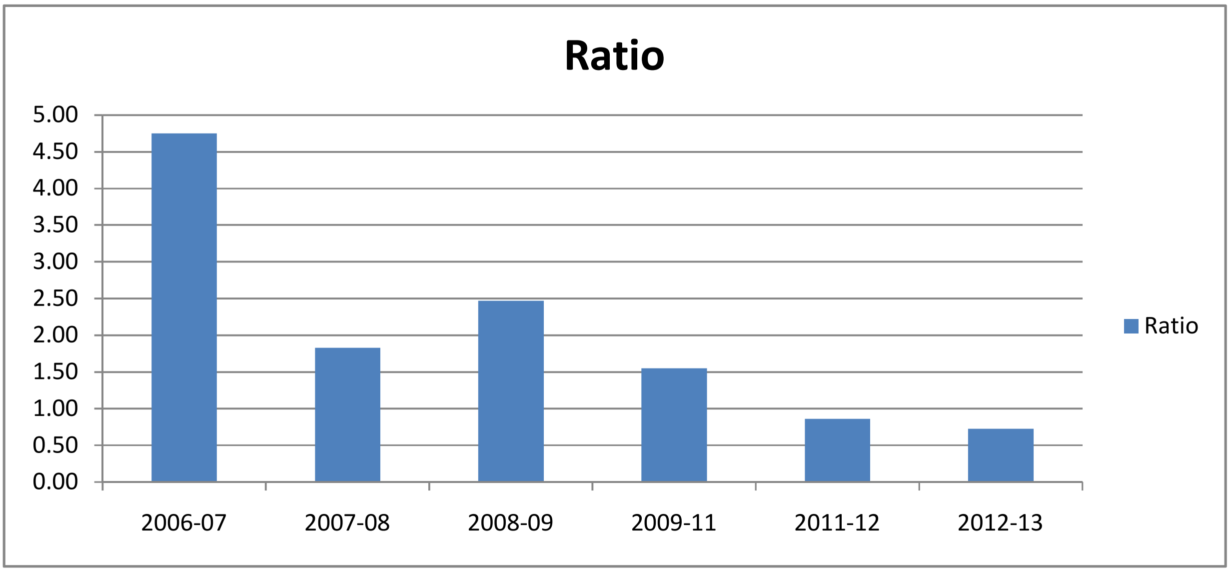
Table 4.6

Table showing the Current Ratio of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.

Year	Current Assets Rs. In lakhs	Current Liabilities Rs. In lakhs	Ratio
2006-07	62233.94	13098.49	4.75
2007-08	57407.71	31374.76	1.83
2008-09	82406.77	33343.94	2.47
2009-11	65539.96	42340.22	1.55
2011-12	39415.34	45749.4	0.86
2012-13	28782.67	39740.44	0.72

Figure 4.6

Figure showing the Current Ratio of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.



Interpretation:

The current ratio for the year 2006-07 is 4.75 times which is the highest in the seven years analysis. The lowest is 0.72 times in the year 2012-13 and 0.86 in the year 2011-12. The current ratio had a decreasing effect in the following years thereafter. Generally the current ratio should be 2:1 but it is low in the case of year 2011-12 and 2012-13.

Quick Ratio

$$Quick\ Ratio = \frac{Cash + Marketible\ Securities + Accounts\ Receivables}{Current\ Liabilities}$$

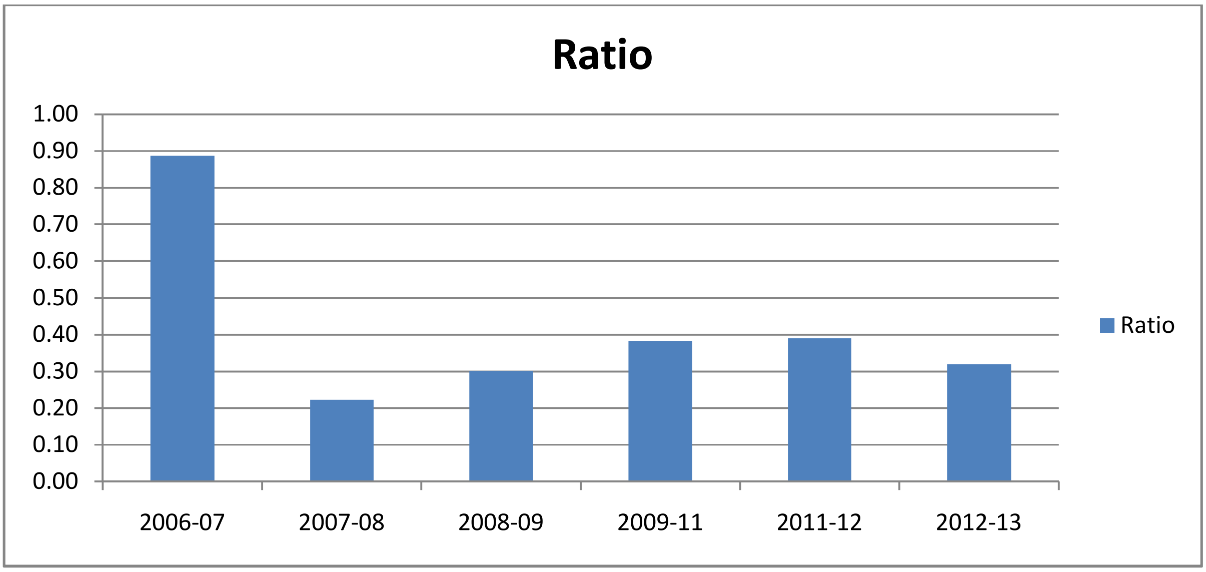
Table 4.7

Table showing the Quick Ratio of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.

Year	Quick Assets	Current Liabilities	Ratio
2006-07	11622.76	13098.49	0.89
2007-08	6981.5	31374.76	0.22
2008-09	10038.42	33343.94	0.30
2009-11	16208.35	42340.22	0.38
2011-12	17877.8	45749.4	0.39
2012-13	12690.44	39740.44	0.32

Figure 4.7

Figure showing the Quick Ratio of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.



Interpretation:

The quick ratio is 0.89 in the year 2006-07 which is the highest in the seven years of analysis. In the quick ratio, the asset and liability should be equal having a ratio of 1.5:1 which is good for the position of the firm. From the year 2007-08 till 2012-13, the ratio is been fluctuated from a range of 0.22 to 0.39.

Cash Ratio

$$Cash\ Ratio = \frac{Cash\ and\ Cash\ Equivalents}{Current\ Liabilities}$$

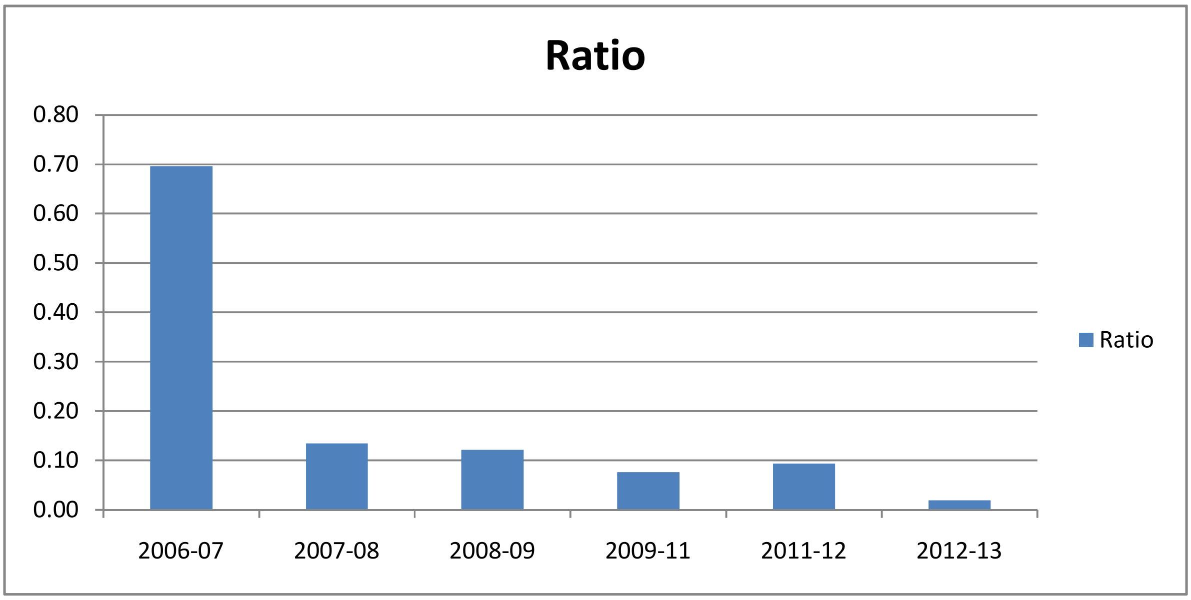
Table 4.8

Table showing the Cash Ratio of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.

Year	Cash and Cash Equivalents Rs. In lakhs	Total Current Liabilities Rs. In lakhs	Ratio
2006-07	9113.35	13098.49	0.70
2007-08	4223.43	31374.76	0.13
2008-09	4064.35	33343.94	0.12
2009-11	3229.32	42340.22	0.08
2011-12	7579.29	80429.56	0.09
2012-13	1616.78	81690.49	0.02

Figure 4.8

Figure showing the Cash Ratio of Sakthi Sugars Limited for the study period 2006-07 to 2012-13.



Interpretation:

From the analysis of cash ratio, the financial year 2006-07 had a high ratio i.e. 0.70 and a low value of 0.02 in the year 2012-13. The cash ratio is on a decreasing effect from the year 2006-07 to 2012-13. The decreasing effect indicates that the cash equivalents are not in level with the current liabilities. The normal value of cash ratio is below 1.00.

Aging Schedule Method

Table 4.9

Table showing Aging Schedule Method of Receivables outstanding on 2006-07 of Sakthi Sugars Limited

Age Class	Rs. In lakhs	Percentage
Up to 6 months	6875.21	84.91
6 months to 1 year	1046.85	12.93
More than a year	175.05	2.16
Total receivables	**8097.11**	**100**

From the aging schedule method of accounts receivables, 84.91% of the total receivables are collected from the customer's within 6 months of the credit sales. Generally, the credit period of this firm is 30 days. The company's credit customers over 90 days past-due on their accounts are seen as uncollectible and predicted to be a bad debt. 12.93% of the receivables are collected after 6 months and the remaining outstanding amount was collected after a year.

Table 4.10

Table showing Aging Schedule Method of Receivables outstanding on 2007-08 of Sakthi Sugars Limited

Age Class	Rs. In lakhs	Percentage
Up to 6 months	1545.67	56.04
6 months to 1 year	956	34.66
More than a year	256.4	9.30
Total receivables	**2758.07**	**100**

From the aging schedule method of accounts receivables, 56.04% of the total receivables are collected from the customer's within 6 months of the credit sales.

The company's credit customers over 90 days past-due on their accounts are seen as uncollectible and predicted to be a bad debt. Nearly 34.66% of the receivables are collected after 6 months and the remaining 9.3% was collected after a year. The percentage of receivables collected within 6 months is relatively low when compared to the previous year.

Table 4.11

Table showing Aging Schedule Method of Receivables outstanding on 2008-09 of Sakthi Sugars Limited

Age Class	**Rs. In lakhs**	**Percentage**
Up to 6 months	3564.24	59.66
6 months to 1 year	2004.85	33.56
More than a year	404.98	6.78
Total receivables	**5974.07**	**100**

From the aging schedule method of accounts receivables for the year2008-09, nearly 59.66% of the total receivables are collected from the customer's within 6 months of the credit sales. 33.56% of the receivables are collected after 6 months and the remaining 6.78% was collected after a year. The receivables were collected over a long period which increased the percentage of bad debts.

Table 4.12

Table showing Aging Schedule Method of Receivables outstanding on 2009-11 of Sakthi Sugars Limited

Age Class	Rs. In lakhs	Percentage
Up to 6 months	8452	65.12
6 months to 1 year	2985.83	23.01
More than a year	1541.2	11.87
Total receivables	**12979.03**	**100**

65.12% of the total receivables are collected from the customer's within 6 months of the credit sales. The company's credit customers over 90 days past-due on their accounts are seen as uncollectible and predicted to be a bad debt. Nearly 23.01% of the receivables are collected after 6 months and the remaining 11.87% was collected after a year. The percentage of receivables collected within 6 months has increased when compared to the previous year. But the collection of bad debts would have been increased as 11.87% are collected past a year of the credit sales.

Table 4.13

Table showing Aging Schedule Method of Receivables outstanding on 2011-12 of Sakthi Sugars Limited

Age Class	Rs. In lakhs	Percentage
Up to 6 months	7564.35	73.45
6 months to 1 year	1654.02	16.06
More than a year	1080.14	10.49
Total receivables	**10298.51**	**100**

From the aging schedule method of accounts receivables, 73.45% of the total receivables are collected from the customer's within 6 months of the credit sales.

Nearly 16.06% of the receivables are collected after 6 months and the remaining 10.49% was collected after a year. When compared to the aging schedule of the previous years, the collection of receivables was quite efficient in 2011-12.

Table 4.14

Table showing Aging Schedule Method of Receivables outstanding on 2012-13 of Sakthi Sugars Limited

Age Class	**Rs. In lakhs**	**Percentage**
Up to 6 months	7426.06	67.06
6 months to 1 year	2054.84	18.56
More than a year	1592.76	14.38
Total receivables	**11073.66**	**100**

From the aging schedule method of accounts receivables, 67.06% of the total receivables are collected from the customer's within 6 months of the credit sales. The company's credit customers over 90 days past-due on their accounts are seen as uncollectible and predicted to be a bad debt. Nearly 18.56% of the receivables are collected after 6 months and the remaining 14.38% was collected after a year. The percentage of receivables collected after a year was high when compared to the previous years. This indicates the increased level of bad debts for the company.

Weighted DSO Analysis

Table 4.15

Table showing the weighted DSO model

		Receivables Outstanding at the end of the period			Comparison to Previous Period			Comparison to standard	
Month	Sales (Rs. in lakhs)	Amount (Rs. in lakhs)	Percent of Sales	Weighted DSO (days)	Change in DSO (days)	Change in receivables due to change in collection experience (Rs.in lakhs)	Change in receivabl es due to change in sales pattern (Rs. in lakhs)	Actual DSO Above / Below () standar d (days)	Actual Receivabl es Above/ Below () standard (Rs. in lakhs)
Apr-12	44.08	13.33	30%	9	0	0	0	0	0
May12	79.51	15.16	19%	6	0	0	0	0	0
Jun-12	42.25	14.97	35%	11	0	0	0	0	0
		43.46		**26**	**0**	**0**	**0**	**0**	**0**
Jul-12	102.6	16.30	16%	5	-4	-13	16	-4	-13
Aug12	98.92	29.28	30%	9	3	10	5	3	10
Sep-12	42.90	19.76	46%	14	3	4	0	3	4
		65.34		**28**	**2**	**1**	**21**	**2**	**1**
Oct-12	62.02	13.07	21%	7	2	4	-12	-2	-4
Nov12	19.29	5.59	29%	9	0	0	-24	3	2
Dec12	42.41	10.65	25%	7	-7	-10	0	-4	-5
		29.30		**23**	**-5**	**-6**	**-36**	**-3**	**-8**
Jan-13	22.93	5.66	25%	8	1	1	-12	-1	-1
Feb-13	42.04	11.12	26%	7	-2	-3	6	1	2
Mar13	33.62	0	0%	0	-7	-8	-2	-11	-12
		16.78		**15**	**-8**	**-10**	**-8**	**-11**	**-11**

Interpretation:

A standard collection experience was established showing 30% of the sales of the beginning month of the quarter, 19% of the sales of the following month, and 35% of the sales of the final month of the quarter still outstanding as of the end of that quarter. The weighted DSO for each of the above months is 9 days (.3 X 30 days), 6 days (.19 X 31 days), and 11 days (.35 X 30 days), respectively, and the total weighted DSO is 26 days (9 + 6 + 11). As can be seen from the exhibit, standard collection experience was achieved at the first quarter's end. However, the weighted DSO as of the end of the second quarter has deteriorated to 28 days. Compared to the standard of 26 days, this collection period is 2 days longer than standard and the previous quarter's experience. The increase can be traced to the improvement in the collection period in July of 4 days, the deterioration in the collection period in August of 3 days and the deterioration in the collection period in September of 3 days. The actual amount above standard accounts receivable and the change from the previous balance due to the improvement in July and the deterioration in August and September can be seen to be 0. The net change in the accounts receivable from the previous quarter of Rs. 21 is therefore the result of the changed sales pattern. For the third quarter, the weighted DSO has improved from 28 days to 23 days. The accounts receivable balance has decreased from Rs.65.34 lakhs to Rs. 29.30 lakhs. This Rs. 36.04 lakh decrease in the receivables balance can be traced to an Rs.36 lakh decrease due to the changed sales pattern and a Rs. 6 lakh decrease due to the collection period. The actual accounts receivable balance is now Rs.8 lakh less than standard because a month of low volume sales displaced a month of high volume sales as the month of improved collections. The comparison to standard may indicate increased investment in receivables due to shifts in the sales pattern, even when no change or improvement in collection experience has occurred from the previous quarter. Therefore, the analysis of change from the previous end-of-quarter balance and the comparison to standard is independent analyses, and the information provided by both must be evaluated as such. At the end of the fourth quarter, the weighted DSO has changed from 23 days to 15 days compared to the previous quarter's end.

Collection experience for the latter two months of the quarter and the sales volumes for the first and last months of the quarter have, however, changed from the previous quarter. The net effect on the receivables balance of the change in collections for the fourth quarter is Rs. (10) lakh. The total Rs. (8) lakh decrease in receivables is the net effect of changes in the sales pattern. The weighted DSO remains at 11 days below standard while receivables are Rs. 11 lakh below standard. This analysis allows the receivables manager to identify the trend in collection experience and the sales pattern, and to evaluate the current state of collections and receivables investment. The decision maker is made aware of how much of the increased or decreased receivables investment is caused by changes in collections and how much may result from a changed sales pattern. This information may signal the need to provide for additional financing of receivables or to alter those credit-related factors that affect the volume of sales.

TREND ANALYSIS

LEAST SQUARE METHOD

Table 4.16

Table showing the calculation of least square method

YEAR	Y – Credit Sales (Rs. In lakhs)	X	X^2	XY
2007-08	118884.98	-2	4	-237770
2008-09	140435.07	-1	1	-140435
2009-11	216394.71	0	0	0
2011-12	219543	1	1	219543
2012-13	117041	2	4	234082

Formula:

$$a = \frac{\sum y}{n}$$

$$= \frac{8{,}12{,}298.76}{5}$$

= Rs. 162459.80 lakhs

$$b = \frac{\sum xy}{\sum x^2}$$

$$= \frac{75{,}420}{10}$$

= Rs. 7,542.00 lakhs

Table 4.17

Table showing the calculation of sales forecasting

Year	Y = a+bX	Sales Forecasting (Rs. In lakhs)
2013-14	162459.8+7542(3)	510005.2
2014-15	162459.8+7542(4)	680007
2015-16	162459.8+7542(5)	850008.7
2016-17	162459.8+7542(6)	1020010
2017-18	162459.8+7542(7)	1190012

Interpretation:

The least square method is used to forecast the sales in the future years. The sales forecast for next 5 years are calculated. The sales are forecasted to be in an increasing effect every year from 2013-14 till 2017-18.

Table 4.18

Table showing the calculation of correlation between the sales and collection period

Year	Credit Sales Rs. In lakhs	Average Collection Period (days)	$\sum X^2$	$\sum Y^2$	$\sum XY$
2006-07	76651.73	12	5875487712	144	919820.8
2007-08	118884.98	13	14133638470	169	1545505
2008-09	140435.07	16	19722008886	256	2246961
2009-11	216394.71	27	46826670516	729	5842657
2011-12	219543	40	48199128849	1600	8781720
2012-13	117041	35	13698595681	1225	4096435
Total	888950.49	143	148456000000	4123	23433099

$$\mathbf{r} = \frac{\mathbf{n}\sum \mathbf{xy} - (\sum \mathbf{x})(\sum \mathbf{y})}{\sqrt{\mathbf{n}(\sum \mathbf{x}^2) - (\sum \mathbf{x})^2}\sqrt{\mathbf{n}(\sum \mathbf{y}^2) - (\sum \mathbf{y})^2}}$$

$$\mathrm{r} = 0.8065$$

Interpretation:

The relativity between the credit sales and the average collection period is calculated using correlation. The correlation is 80.65% when calculated for the data of time period 2006-07 to 2012-13. This indicates the relationship of credit sales and average collection period is strong positive.

CHAPTER 5

Findings, Suggestions and Conclusion

5.1 Findings

The findings are focused on analyzing the debtors and the receivables outstanding of the company using the seven year data of the company. The ratios which relates to the objectives of the study are selected for the interpretation. From the ratio analysis the interpretation were made.

- The receivables turnover ratio was high in the year 2007-08 with the turnover times 43.10 and the lowest ratio of 9.16 turnover times in the year 2011-12.
- The average collection period shows an increasing effect as high as 40 days that indicates the low liquidity of the credit policies.
- A high DSO ratio indicates a deficient collection activity which is found in the year 2011-12 at 10.92%.
- In the year 2006-07, the ratio is 4.03% which is the lowest ratio when compared to the ratios in the following financial year.
- From the analysis of receivables to total assets ratio, the ratio of the year 2011-12 is high i.e. 9.55% when compared to the other financial years.
- The weighted DSO analysis allows the receivables manager to identify the trend in collection experience and the sales pattern and to evaluate the current state of collections and receivables investment.
- The decision maker is made aware of how much of the increased or decreased receivables investment is caused by changes in collections and how much may result from a changed sales pattern.
- The least square method of trend analysis forecasts the sales of next 5 years which are in an increasing effect.
- The relationship between the credit sales and average collection period is predicted using the correlation which resulted as strong positive relation i.e. 80.65%.

5.2 Suggestions

- The company is suggested to maintain a moderate receivable turnover ratio which has a balance in the collection efforts and a good credit policy.
- The company maintains an average collection period of about 58 days in five years but still the company should try to improve its collection period as it is increasing in the recent years.
- The collection activity of the company should be made efficient from the DSO ratio analysis.
- The cost of carrying the receivables is advised to be reduced by the company.
- The company is suggested to decrease the liabilities and increase the assets by altering the credit policy.
- The increase or decrease in receivables would affect the sales pattern and collection experience, so the company's credit policy should be altered according to the situation for the benefit of the company.
- The relationship between the credit sales and the collection period is strong positive where the company is suggested to have a positive influence.
- It is suggested to have a linear credit policy which would retain the existing customers and also invite new customer relations with the company.
- The company is suggested to increase the discount rate for the customers which would be a strategy to collect their receivables without decrease in their credit sales.

5.3 Conclusion

The receivables management is the key area of the working capital management. The main purpose of the project is to analyze the receivables management. This leads to the analysis of the credit policies of the company which would help to decide on the alterations of the policies. The study concludes saying that the performance of the overall receivables management has improved when compared to the previous year.

But the fluctuations are more when the analyses are comparative. The present scenario of the receivables should be monitored to avoid the inverse effects to the company. The study would help the company to identify the issues and take necessary actions to monitor the receivables management from the findings and suggestions.

5.4 Scope for further study

The study on receivables can be further improvised by collecting the primary data using questionnaires from the customers to understand their ability of repaying and the advantages and disadvantages in the credit policy. Also, a combination of models for monitoring the accounts receivables can be interpreted for better understanding of the company's receivables.

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APPENDIX

Balance sheet of 2006-2007

BALANCE SHEET AS AT 30.06.2007

(Rs. in lakhs)

	Schedule No.	As at 30.06.2007	As at 30.06.2006
I. SOURCES OF FUNDS :			
(1) SHAREHOLDERS' FUNDS :			
(a) Share Capital	1	3,137.31	4,337.31
(b) Share Application Money		1,566.00	1,566.00
(c) Reserves and Surplus	2	35,636.22	34,606.36
		40,339.53	40,509.67
(2) LOAN FUNDS :			
(a) Secured loans	3	75,044.22	51,656.66
(b) Unsecured loans	4	16,128.44	9,161.24
(c) Foreign Currency Convertible Bonds		24,450.00	27,522.00
		115,622.66	88,339.90
TOTAL of 1 to 2		155,962.19	128,849.57
II. APPLICATION OF FUNDS :			
(1) FIXED ASSETS:			
Gross Block		62,695.20	58,499.68
Less : Depreciation		10,242.73	7,892.61
		52,452.47	50,607.07
Add : Capital Work in Progress		28,680.84	2,137.73
Net Block	5	81,133.31	52,744.80
INTANGIBLE ASSETS	5 A	6,193.48	6,963.08
(2) INVESTMENTS	6	17,016.26	6,018.85
(3) (i) CURRENT ASSETS, LOANS AND ADVANCES:			
(a) Inventories	7	8,097.11	4,621.03
(b) Sundry Debtors	8	2,509.41	6,497.49
(c) Cash and Bank balances	9	9,113.35	27,475.15
(d) Other Current Assets	10	6,167.70	8,853.74
(e) Loans and Advances	11	36,346.37	24,767.89
		62,233.94	72,215.30
Less :			
(ii) CURRENT LIABILITIES AND PROVISIONS	12	13,098.49	10,677.28
Net Current Assets (i) - (ii)		49,135.45	61,538.02
(4) MISCELLANEOUS EXPENDITURE (to the extent not written off or adjusted)	13	1,303.16	404.29
(5) DEFERRED TAX ASSET		1,180.53	1,180.53
TOTAL of 1 to 5		155,962.19	128,849.57

Schedules 1 to 13 and Notes in Schedule 23 and 24 form part of this Balance Sheet.

Vide our report annexed
For P N RAGHAVENDRA RAO & Co
Chartered Accountants
P R VITTEL
Partner
M. No. 018111

N MAHALINGAM
Chairman

M MANICKAM
Vice Chairman & Managing Director

Coimbatore
27th September 2007

S BASKAR
Vice President - Finance & Company Secretary

Balance Sheet of 2007-2008

BALANCE SHEET AS AT 31.12.2008

(Rs. in lakhs)

	Schedule No.	As at 31.12.2008	As at 30.06.2007
I. SOURCES OF FUNDS :			
(1) SHAREHOLDERS' FUNDS :			
(a) Share Capital	1	3,137.31	3,137.31
(b) Share Application Money		1,566.00	1,566.00
(c) Reserves and Surplus	2	60,948.13	35,636.22
		65,651.44	40,339.53
(2) LOAN FUNDS :			
(a) Secured loans	3	92,768.17	74,850.95
(b) Unsecured loans	4	10,784.28	16,076.15
(c) Foreign Currency Convertible Bonds		29,070.00	24,450.00
		132,622.45	115,377.10
(3) DEFERRED TAX LIABILITY		600.61	–
(Refer Note 'F' in Schedule 23)			
TOTAL of 1 to 3		198,874.50	155,716.63
II. APPLICATION OF FUNDS :			
(1) FIXED ASSETS:			
Gross Block		100,922.91	62,695.20
Less : Depreciation		16,128.45	10,242.73
		84,794.46	52,452.47
Add : Capital Work in Progress		10,816.42	28,680.84
Add: Increase in Value on account of Revaluation		38,696.60	–
(Refer Note 'G' in Schedule 23)			
Net Block	5	134,307.48	81,133.31
INTANGIBLE ASSETS	5 A	20,594.56	6,193.48
(2) INVESTMENTS	6	16,736.68	17,016.27
(3) DEFERRED TAX ASSET		–	1,180.53
(4) (i) CURRENT ASSETS, LOANS AND ADVANCES:			
(a) Inventories	7	4,352.44	8,097.11
(b) Sundry Debtors	8	2,758.07	2,509.41
(c) Cash and Bank balances	9	4,223.43	9,113.35
(d) Other Current Assets	10	6,617.70	6,167.70
(e) Loans and Advances	11	39,456.07	36,346.37
		57,407.71	62,233.94
Less :			
(ii) CURRENT LIABILITIES AND PROVISIONS	12	31,374.76	13,344.06
Net Current Assets (i) - (ii)		26,032.95	48,889.88
(5) MISCELLANEOUS EXPENDITURE	13	1,202.83	1,303.16
(to the extent not written off or adjusted)			
TOTAL of 1 to 5		198,874.50	155,716.63

Schedules 1 to 13 and Notes in Schedule 23 and 24 form part of this Balance Sheet.

Vide our report annexed
For P N RAGHAVENDRA RAO & Co
Chartered Accountants

P R VITTEL	N MAHALINGAM	M MANICKAM
Partner	Chairman	Vice Chairman & Managing Director
M. No. 018111		
Coimbatore	M BALASUBRAMANIAM	S BASKAR

Balance Sheet of 2008-2009

BALANCE SHEET AS AT 31.12.2009

(Rs. in lakhs)

	Schedule No.	As at 31.12.2009	As at 31.12.2008
I. SOURCES OF FUNDS :			
(1) SHAREHOLDERS' FUNDS :			
(a) Share Capital	1	3,483.36	3,137.31
(b) Share Application Money		1,566.00	1,566.00
(c) Reserves and Surplus	2	75,548.27	60,948.13
		80,597.63	65,651.44
(2) LOAN FUNDS :			
(a) Secured loans	3	108,719.32	92,768.17
(b) Unsecured loans	4	5,826.89	10,784.28
(c) Foreign Currency Convertible Bonds		20,819.28	29,070.00
		135,365.49	132,622.45
(3) DEFERRED TAX LIABILITY		2,657.53	600.61
(Refer Note 'F' in Schedule 23)			
TOTAL of 1 to 3		218,620.65	198,874.50
II. APPLICATION OF FUNDS :			
(1) FIXED ASSETS:			
Gross Block		127,068.20	100,922.91
Less : Depreciation		7,066.27	16,128.45
		120,001.93	84,794.46
Add : Capital Work in Progress		11,662.63	10,816.42
Add : Increase in value on account of Revaluation		--	38,696.60
Net Block	5	131,664.56	134,307.48
INTANGIBLE ASSETS	5 A	20,192.43	20,594.56
(2) INVESTMENTS	6	16,733.68	16,736.68
(3) (i) CURRENT ASSETS, LOANS AND ADVANCES:			
(a) Inventories	7	18,790.40	4,352.44
(b) Sundry Debtors	8	5,974.07	2,758.07
(c) Cash and Bank balances	9	4,064.35	4,223.43
(d) Other Current Assets	10	15,694.53	6,617.70
(e) Loans and Advances	11	37,883.42	39,456.07
		82,406.77	57,407.71
Less :			
(ii) CURRENT LIABILITIES AND PROVISIONS	12	33,343.94	31,374.76
Net Current Assets (i) - (ii)		49,062.83	26,032.95
(4) MISCELLANEOUS EXPENDITURE	13	967.15	1,202.83
(to the extent not written off or adjusted)			
TOTAL of 1 to 4		218,620.65	198,874.50

Schedules 1 to 13 and Notes in Schedule 23 and 24 form part of this Balance Sheet.

Vide our report annexed
For P N RAGHAVENDRA RAO & Co
Chartered Accountants

Balance Sheet of 2009-2011

BALANCE SHEET AS AT 31.03.2011

(Rs. in lakhs)

	Schedule No.	As at 31.03.2011	As at 31.12.2009
I. SOURCES OF FUNDS			
(1) SHAREHOLDERS' FUNDS			
(a) Share Capital	1	3,680.73	3,483.36
(b) Reserves and Surplus	2	66,380.99	75,548.27
		70,061.72	79,031.63
(2) LOAN FUNDS			
(a) Secured loans	3	111,141.73	108,719.32
(b) Unsecured loans	4	5,191.35	5,826.89
(c) Foreign Currency Convertible Bonds		13,216.40	20,819.28
		129,549.48	135,365.49
(3) DEFERRED TAX LIABILITY		--	2,657.53
TOTAL of 1 to 3		199,611.20	217,054.65
II. APPLICATION OF FUNDS			
(1) FIXED ASSETS			
Gross Block		128,935.31	127,068.20
Less : Depreciation		13,821.61	7,066.27
		115,113.70	120,001.93
Add : Capital Work in Progress		13,237.89	11,662.63
Net Block	5	128,351.59	131,664.56
INTANGIBLE ASSETS	5A	24,678.52	20,192.43
(2) INVESTMENTS	6	16,483.68	16,733.68
(3) DEFERRED TAX ASSET (Refer Note 'E' in Schedule 23)		150.95	--
(4) (i) CURRENT ASSETS, LOANS AND ADVANCES			
(a) Inventories	7	14,124.82	18,790.40
(b) Sundry Debtors	8	12,979.03	5,974.07
(c) Cash and Bank balances	9	3,229.32	4,064.35
(d) Other Current Assets	10	4,509.68	3,249.84
(e) Loans and Advances	11	28,697.11	37,883.42
		63,539.96	69,962.08
Less :			
(ii) CURRENT LIABILITIES AND PROVISIONS	12	42,340.22	34,909.94
Net Current Assets (i) - (ii)		21,199.74	35,052.14
(5) MISCELLANEOUS EXPENDITURE (to the extent not written off or adjusted)	13	8,746.72	13,411.84
TOTAL of 1 to 5		199,611.20	217,054.65

Schedules 1 to 13 and Notes in Schedule 23 and 24 form part of this Balance Sheet.

Vide our report annexed
For P N RAGHAVENDRA RAO & Co
Chartered Accountants
Firm Registration No. [illegible]

Balance Sheet of 2011-2012

BALANCE SHEET AS AT 31.03.2012

(Rs. in lakhs)

	Note No.	As at 31.03.2012	As at 31.03.2011
I. EQUITY AND LIABILITIES			
(1) SHAREHOLDERS' FUNDS			
(a) Share Capital	1	3,680.73	3,680.73
(b) Reserves and Surplus	2	55,926.61	66,380.99
		59,607.34	70,061.72
(2) NON-CURRENT LIABILITIES			
(a) Long term borrowings	3	88,236.24	79,625.80
(b) Other Long term liabilities	4	67.36	75.33
(c) Long term provisions	5	1,720.14	1,424.95
		90,023.74	81,126.08
(3) CURRENT LIABILITIES			
(a) Short term borrowings	6	15,429.87	8,106.65
(b) Trade payables		19,250.29	20,411.33
(c) Other current liabilities	7	42,514.84	58,143.16
(d) Short term provisions	8	3,234.56	4,102.48
		80,429.56	90,763.62
TOTAL (1 to 3)		230,060.64	241,951.42
II. ASSETS			
(1) NON-CURRENT ASSETS			
(a) Fixed Assets			
(i) Tangible assets	9	110,755.83	115,113.70
(ii) Intangible assets	10	21,312.98	24,678.52
(iii) Capital work-in-progress		13,298.03	13,237.89
		145,366.84	153,030.11
(b) Non-current investments	11	16,304.70	16,483.68
(c) Deferred tax assets (net)		729.77	150.95
(d) Long term loans and advances	12	18,888.87	19,537.58
(e) Other non-current assets	13	9,355.12	11,338.32
		190,645.30	200,540.64
(2) CURRENT ASSETS			
(a) Inventories	14	11,898.90	14,124.82
(b) Trade receivables	15	10,298.51	12,737.27
(c) Cash and cash equivalents	16	7,579.29	3,229.32
(d) Short term loans and advances	17	6,466.92	7,655.51
(e) Other current assets	18	3,171.72	3,663.86
		39,415.34	41,410.78
TOTAL (1 and 2)		230,060.64	241,951.42

The Notes form part of these financial statements.

Vide our report annexed
For P.N. RAGHAVENDRA RAO & Co
Chartered Accountants
(ICAI Regn. No. : FRN003328S)

Balance Sheet of 2012-2013

BALANCE SHEET AS AT 31.03.2013

(Rs. in lakhs)

	Note No.	As at 31.03.2013	As at 31.03.2012
I. EQUITY AND LIABILITIES			
(1) SHAREHOLDERS' FUNDS			
(a) Share Capital	1	3,680.73	3,680.73
(b) Reserves and Surplus	2	45,104.44	55,926.61
		48,785.17	59,607.34
(2) NON-CURRENT LIABILITIES			
(a) Long term borrowings	3	84,202.77	88,236.24
(b) Other Long term liabilities	4	2,123.28	67.36
(c) Long term provisions	5	1,999.49	1,720.14
		88,325.54	90,023.74
(3) CURRENT LIABILITIES			
(a) Short term borrowings	6	14,101.77	15,429.87
(b) Trade payables		27,848.28	19,789.05
(c) Other current liabilities	7	38,854.65	42,557.08
(d) Short term provisions	8	885.79	2,653.56
		81,690.49	80,429.56
TOTAL (1 to 3)		218,801.20	230,060.64
II. ASSETS			
(1) NON-CURRENT ASSETS			
(a) Fixed Assets			
(i) Tangible assets	9	106,820.83	110,755.83
(ii) Intangible assets	10	17,947.44	21,312.98
(iii) Capital work-in-progress		14,874.96	13,298.03
		139,643.23	145,366.84
(b) Non-current investments	11	16,311.38	16,304.70
(c) Deferred tax assets (net)		3,735.14	729.77
(d) Long term loans and advances	12	22,124.96	18,835.05
(e) Other non-current assets	13	8,203.82	9,355.12
		190,018.53	190,591.48
(2) CURRENT ASSETS			
(a) Inventories	14	9,894.36	11,898.90
(b) Trade receivables	15	11,073.86	10,298.51
(c) Cash and cash equivalents	16	1,616.78	7,579.29
(d) Short term loans and advances	17	5,901.67	6,520.74
(e) Other current assets	18	296.20	3,171.72
		28,782.67	39,469.16
TOTAL (1 and 2)		218,801.20	230,060.64

The Notes form part of these financial statements.

Vide our report annexed
For P N RAGHAVENDRA RAO & Co
Chartered Accountants
(ICAI Regn. No. : FRN003328S)
P R VITTEL
Partner
M. No. 018111

M MANICKAM
Vice Chairman & Managing Director

M BALASUBRAMANIAM
Joint Managing Director - Finance