Introduction

Background of the problem.

Sugar has direct importance to human life and is of indirect importance in a number of ways.

Sugar is an important product for sale domestically and for export. Production is an occupation which raises income and provides employment to many people in many countries. Many countries depend on sugar exports as an economic fundamental, i.e. Cuba and the Philippines, etc.

Sugar is very important to the economy of Thailand, summarized as follows:-

1. The sugar industry is an agro-based industry. Approximately 500,000-600,000 families presently grow sugar cane and there are more than 3 million people who earn their living in this industry. During the production year 1997/98, 26.09 metric tons of sugar-cane was produced: more than 7,827 baht in production and more than 2 million Mt. of sugar produced, valued at more than 10,000 million baht a year.

2. The sugar industry can be relied on as an export, as production is surplus within the country. In 1997/98, Thailand exported more than 7,000 million baht worth of sugar, one of the most important exports.

3. Sugar has a part in developing the country, because sugar-cane can be grown in various regions. If there is a definite market for sugar, agriculturists are able to depend on planting sugar-cane as an occupation. The land that used to be left empty is used for growing sugar-cane to earn income.

A progressive sugar industry results in agriculturists having a good income, the opportunity to improve their standard of living and to promote the economic development of the country.

4. The domestic sugar industry saves millions in foreign currency each year. If there was no domestic sugar industry, Thailand would have to import more than 300,000 MT. of sugar a year, valued over 1,500 million baht: a heavy burden on a country short of foreign currency.

5. The sugar industry contributes to and has a part in promoting many other industries, such as the sweetened condensed milk industry, the carbonated and other
drinks industry and various food production industries, such as candies, sweetened biscuits, canned fruit and the pharmaceutical industry.

6. The sugar industry has a part in promoting the level of nutrition, part of the target to raise living standards of the people in the country.

7. The sugar industry is very important to the country, especially during an economic or social emergency when sugar cannot be imported i.e. during wartime, etc. The sugar industry encompasses many activities. In this study we mention only the management of circulating capital by sugar producers: in producing sugar, how the sugar mill manages to administer their circulating capital.

The word 'circulating capital' means circulating assets deducted by circulating debt. Management with circulating capital also means management with circulating assets and circulating debt.

A small-scale mill does not incur large expenses, but a big-scale mill involves great expense, which means it is necessary to have more circulating capital. Circulating capital is necessary to every business, because circulating capital is like a lubricator in implementing work and in earning income. Any general business will have circulating assets not fewer than half of the total assets and there will also be a lot of circulating debt. Compared with other sources of capital, investment in big amounts of circulating capital should receive a lot of interest. The sugar producers normally have problems managing their circulating capital so they can implement the business smoothly.

When a business expands, circulating capital must also increase. An expansion of business may begin with expanding production or constructing a new factory, leading to increased sales. While increasing production, the business will have to buy more raw material. Cash flow must be increased to pay and wages, factory expenses. Stock and sugar flow will have to increase too. These things increase circulating capital.

Normally when investing in circulating assets and when business has expanded, the business may also obtain capital from a short-term capital source. The important source of short-term capital for sugar producers is a bank overdraft helping the business invest in stock. This trading practice allows a sugar producer to overdraw from the bank using an asset such as a mortgage of land or a guarantee. Sometimes sugar may be mortgaged with the bank.
The problem of lack of liquidity is caused by the specific system of the sugar production process, because the sugar industry is different from other industries. The sugar mills also have to participate in producing raw material for feeding into the mill, especially where capital for planting sugar cane is concerned. That is, the mill will have its own planter employees. The mill advances part of the cash for growing sugar-cane, resulting in a lot of money being used. In 10 months’ time it is needed. Money invested in sugar-cane plantations is a long-term investment. Managing this huge circulating capital and not being able to circulate the money in that time is a current problem for many mills, as yet unable to find ways to remedy the problem.

Production of sugar-cane has increased over the past 2-3 years: in 1991-1992, 13,413,442 MT; in 1996-1997, 26,094,453 MT; and in 1997-1998, 18,941,209 MT. was produced. Each year the volume of low grade material used in the sugar industry costs more than 56 million baht. This is sugar cane valued at 300 baht/MT, the price agreed on by the agriculturist and the sugar mill. Total expenses of the factory and the amount of money used in the sugar industry are exorbitant. We must investigate the management of the circulating capital of a sugar mill.

Objective of research study

The objective of this study is:

1. to study the structure of the Thai sugar industry, including the characteristics of activities associated with the Thai sugar industry;
2. to study income and expenses in operating the Thai sugar industry and analyze capital sources;
3. to study the requirements of circulating capital in various periods in operating the Thai sugar industry;
4. to study and analyze financial problems experienced by sugar producers; and
5. to obtain suggestions and provide guidelines which will stabilize the Thai sugar industry: beneficial to both sugar-cane planters and sugar mills.
Scope of research study

The problem of management of circulating capital by sugar producers will refer to sugar mills which produce only white and raw sugar, from 1994-1998, using data from 25%-33.33% of the total number of sugar mills. This will be analyzed by using proportions with other facts relevant to the Thai sugar industry. We use data from the various sources available to outsiders: i.e. the Trade Registration Department, the Ministry of Commerce and other relevant Government units including some private working units.

Method of study.

a) Steps in implementing analysis and compiling data.

This thesis has been prepared by the following method of research:

1. to study research relevant to the Thai sugar industry to learn about the structure of the sugar industry, its background and the relationship between sugar-cane planters, sugar producers and exporters, etc;

2. to summarize data obtained from studying documents. These rarely mention circulating capital of sugar producers in this category of industry. The majority usually only comment on the problem of the buying price of sugar cane by sugar mills;

3. to study various circumstances and environments of problems to be analyzed, i.e. who gives support in the financial problems of sugar mills, where is the big source of capital etc, then write a draft on the subject to be researched as well as specifying the scope of research;

4. After that, this paper considers data as to where it is and whether or not it is sufficient to answer the problem being researched. Since data from various documents is insufficient, it is necessary to compile data from other sources as listed below.
b) **Data source and method for searching for data.**

This thesis depends on data from various sources. These are:

1. the Trade Registration Department, Ministry of Commerce for copying financial budgets. It was intended to copy the last 5 years’ data, but there were many problems. Certain mills did not submit any financial budgets and certain mills submitted some but not all. I requested records of the last 5 years, from 1994-1998, and copied only from the mills which submitted the full 5 years. It was then brought for analyzing on the proportion associated with the liquidity of the mills. Since the data obtained from the Trade Registration Department was not obtained through the statistical method, after analysis, we had to make inquiries of the relevant people to reconfirm the result of the analysis;

2. the Sugar-cane and Sugar Office, Ministry of Industry, to research books relevant to the sugar industry;

3. the Bank of Thailand to inquire about regulations relevant to buying promissory notes from commercial banks;

4. companies selling Thai sugar products, which were requested to submit a questionnaire and to ask for advice on problems to be researched;

5. various sugar mills which were asked to submit a questionnaire; and

6. various books from the Ministry of Industry and other places of study and research about the sugar industry.

In inquiring about those associated with sugar producers to find additional data, the researcher prepared a questionnaire relevant to the result of analysis on the budget, including various problems which ought to occur, i.e. the management of cash and stock. Inquiries have not been made about creditors because there was hardly any sale on credit. This questionnaire was a tool to help the researcher gain additional knowledge about the management of circulating capital of sugar producers. It has not been used in statistical analysis.
c) **Data analysis.**

I will use proportion as a tool for analysis and, after that, interpret the meaning of data obtained from this analysis. I will inquire again to compare with what has been analyzed, then find ways to remedy the problem and compile various suggestions, which will give good results to both the sugar mills and sugar-cane agriculturists.

**Benefit expected to be derived from the study.**

The benefit expected to be derived from the study is:

1. to allow those who want to invest in the sugar industry learn about various statistics associated with sugar producers, such as, how much capital is to be used, what and how much is the income and what are the problems and constraints;
2. to be used as a guideline for allocating money from financial institutions, especially from commercial banks and the Bank of Thailand, to suit the requirements of the sugar industry, both the amount of money and the correct period; and
3. to use as a guideline to remedy financial problems, both for the sugar mills and sugar-cane agriculturists.

**Theory: Financial analysis of sugar factory industry.**

In any business, financial aspects must be considered. We have to see whether such business is financially capable of operating according to such a work plan and project and to learn whether such a business is financially capable. To do so, we will have to analyze the financial stays of such a business.

Circulating capital is the only subject of this thesis, which is regarded as analysis on short-term finance. There are 2 steps. i.e.:

**Step # 1**

(A) to analyze the relationship of circulating assets and short-term debt; and
(B) to analyze how quickly the balance of goods in stock can be turned into cash. It is to consider whether cash turnover cycles or whether circulation (or turnover) of cash into goods and goods into cash, will increase the funds of such a business or not.
Step # 2

(A) to analyze production or debt and capital to learn the total assets which such a business has, when will this occur and from which parts of creditor’s capital and how many parts of capital belong to the owner of a business

Important ratios used for analyzing short-term capital are:

1. **Current ratio**

   This ratio is used for measuring capability in paying short-term debt or efficiency of business, which can be calculated as follows:

   \[
   \text{Current Ratio} = \frac{\text{Current Assets}}{\text{Short-term Debt}}
   \]

2. **Acid Test Ratio or Quick Ratio**

   This ratio is used for examining the Current Ratio according to whether or not the outcome obtained is satisfactory. This ratio does not calculate goods in stock, because goods in stock has a low efficiency. The Acid Test Ratio is used to compare whether assets in cash or cash equivalent will be sufficient to cover short-term debt or not.

   \[
   \text{Acid Test Ratio} = \frac{\text{Cash + Debtor + Temporary Capital}}{\text{Short-term Debt}}
   \]

3. **Cash Turnover Ratio**

   This ratio is to compare cash and cash equivalent (short-term assets), plus total sales for the whole year to consider how cash and cash equivalents were spent in selling goods, or the said amount of cash was obtained from how many sales. If the circulation of cash is at a high level, the owner of business has too high efficiency using cash, which results in risk that there will be a shortage of cash in hand.
Cash Turnover Ratio = \frac{\text{Cost of sale}}{\text{Cash + Asset which can easily change hands}}.

4. Circulation of goods in stock (day) is the period when the business has to keep some goods in stock before selling it. If the business keeps the goods for a few days before selling, the goods have a high efficiency: there are few goods in stock. If goods have to be stocked for a long period, it means that such goods are out of date or that there are excessive goods left in stock. The period under analysis indicates that goods are kept in stock for too many days.

\text{Period when such business has to keep the goods in stock before it is sold out} = \frac{\text{Goods in stock} \times 360}{\text{Cost of sale}}

Apart from analyzing this ratio, we ought to consider the proportion of items which comprise Current Asset and Short-term Debt.

There is a ratio which shows that the business is paying debt, as shown in the structure of capital for use in implementing work. There are two main sources: debt and the portion which belongs to the owner. When the business obtains capital by debt, there are good and bad points. The good point is that it enables the business to have low capital to carry out work, but the bad point is that if such business has too much debt, it will be risky. Such a business ought to consider its capability to pay long-term debt. The ratio used is:

5. Debt to Total Assets or Debt Ratio.

This ratio is to compare the capital of business obtained from the owner and capital obtained from a loan or other debts and to show the risk of using a borrowing policy.

\text{Total Debt to Total Assets} = \frac{\text{Short - Term Debt + Long - Term Debt}}{\text{Total Assets}}
6. **Short-term Debt to Total Assets.**

   This ratio is to compare the capital amount of the business obtained from the owner of the business and Long Term Debt, plus capital obtained from Short Term Loans:

   \[
   \text{Short Term Debt to Total Assets} = \frac{\text{Short Term Debt}}{\text{Total Assets}}
   \]

   The Ratio to be considered is the Profitability Ratio, which in the final analysis of the total implementation of work, comprises the following ratios:

7. **Gross Profit Margin.**

   This ratio indicates the efficiency of operating a business, relevant to production policy and policy in specifying the price of goods.

   \[
   \text{Gross Profit Margin} = \frac{\text{Gross Profit}}{\text{Price of Sale}}
   \]

8. **Net Profit Margin or remuneration obtained from sale.**

   This ratio shows the business capability to find profit, after deducting expenses. From ratio # 7 and 8, it indicates how business is progressing.

9. **Return on Investment.**

   This ratio shows efficiency in the use of capital to invest in assets and how much remuneration it receives. If this ratio is high, it means that capital has been used efficiently.

   \[
   \text{Remuneration ratio from Assets} = \frac{\text{Net profit after deducting tax}}{\text{Total Assets}}
   \]
10. **Assets Turnover.**

This ratio shows whether such business has used the total assets for implementing work in an efficient manner or not.

\[
\text{Assets Turnover} = \frac{\text{Net sale}}{\text{Total Assets}}
\]
Fund Management of Selected Sugar Industrial Units in Thailand

Scheme of Chapterisation

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