MANAGEMENT STRATEGY DURING ECONOMIC CRISIS FOR PAINT INDUSTRY

by

Ms. Duangporn Kijlertbunjong

A Final Report of the Three-Credit Course
CE 6998 Project

Submitted in Partial Fulfillment
of the Requirements for the Degree of
Master of Science
in Computer and Engineering Management
Assumption University

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ABSTRACT

This project aims at searching the information on Management Strategies to be utilized during the economic crisis and its implemented results on 3 sample companies in the same industry.

Management strategies, as significant tools, were applied to all sections of the organization during the economic crisis that affected the whole organization, including organization structure, divisions and/or department structure, working procedure, personnel and all costs involved in operational process of each company.

In order to deal with business activity, in both normal and uncertain situations, effective management strategy is required, in order to handle problems that occur within the organization. Occasionally, management strategy is also applicable to handle external factors that give impact to any level of the organization.

Information gained from 3 sample companies will show you what strategies they have implemented during the crisis, which part of their organization needs to be changed first and why. Moreover this project will create the guideline, future reference and suggestion of the way to handle the crisis for entrepreneurs in either this or the other industries.

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I. INTRODUCTION

1.1 Background

Due to the economic crisis, many businesses have to close down but some managed to survive. What is the solution to the problems for the leader of those businesses?

Management Strategy is one of the most important factors of all businesses in running their businesses. Before the clear sign of economic downturn and the crisis, many businesses tried to stand by itself over its uncertain business status. Even some strong financial based organizations; they did not prepare themselves to confront with the worst time of economic situation.

Paint industry is one of those. When talking about the color paint industry, we will not clearly see the importance of it towards the community. But if you think about it carefully, you might see some different points from the overall economic section. Last few years, the real estate business was down to the bottom and other related businesses had been affected as well. Paint industry is one of the direct related business types that should be affected during the downturn of the economy. The five to ten-year-forecast was foreseen for the real estate business and all other related businesses.

Paint industry has taken several years to get recovered. It was not the complete recovery but all of the business leaders tried to make use of many strategies to keep their business survive throughout the period of the crisis. Management Strategy, applied to the whole organization, concerning Cost Leadership is the first factor they have to take to their consideration because all business types suffer from the inflation, fluctuated exchange rate, interest rate, and etc. They had to allow some changes to occur within their organization.

Some companies had to change their management policies, strategies or even the people involved in order to sustain their business. Once an organization has management strategy changes, some other factors of the organization also have to change to be compatible with the main bloodline of the organization. Most of them had cut some operational and administrative costs by decreasing salary of their employees to save some money or some had to layoff numbers of their employees for the surviving of the company. These are some samples of the changing management factors in general.

Larger organizations had their own ways of handling the crisis. Some might try to get assistance from some stronger business status organizations within Thailand but some might obtain supports from abroad.

From doing this project, we would see the way to solve the economic problem of three sample companies, which are top leading and well-known companies in the industrial painting market of Thailand. The way they have changed and adapted their management strategies to be able to survive during the crisis will be shared.

The purpose of this project is to study the management strategies being used by all sample companies during the economic crisis. The strategic management style would be formulated and created as a "problem-solving model". The generic strategic management model would emphasize mainly on major criteria, which are Organization restructuring, Cost reduction management, Financial management, Sales & Marketing management and Production management. The criteria have been investigated from the sample companies would be used for creation of guideline and future reference for the entrepreneurs either in this or other industries.

1.2 Objectives

(1) To analyze management strategy used before, during, and after the economic crisis.

(2) To study management strategy used to restructure their organizations during the crisis.

(3) To give example of the 3 companies who have utilized effective management strategies.

(4) To determine the impact on changing management style/strategy towards all sections within the organization.

(5) To formulate and create a problem-solving model as guideline and future reference for other organization.

1.3 Scope

(1) Management Strategy:

(a) Company background

(b) Management strategies

(c) Sources of fund and Financial strategies

(d) Other related strategies

1.4 Deliverables

(1) Provide the sufficient information related to Management strategy before, during and after the economic crisis.

(2) Acknowledge the advantages of management strategies utilization

(3) A project report

II. LITERATURE REVIEW

2.1 Overview

The ongoing region-wide Asian crisis, which began for Thailand in July 1997, has created uncertainty and difficulties for Thailand's economy. Prospects for recovery depend, in part, on recovery of the Japanese economy and a strong export demand for Thai manufactured goods. Thailand has focused on restructuring its financial sector and stimulating domestic demand.

Before the crisis, manufacturing led the growth of the Thai economy. Relatively abundant and inexpensive labor and natural resources, fiscal conservatism, open foreign investment policies, and encouragement of the private sector underlay the economic success in the years up to 1997. The economy is essentially a free-enterprise system. Certain services, such as power generation, transportation, and communications, are state-owned and operated, but the government is considering privatizing them in the wake of the financial crisis.

The Royal Thai Government welcomes foreign investment, and investors who are willing to meet certain requirements regarding local content or ownership can apply for special investment privileges through the Board of Investment.

More than 60% of Thailand's labor force is employed in agriculture. Until the onset of the economic crisis in 1997, the manufacturing sector was outstripping agriculture in relative importance. But throughout 1997 and 1998 agriculture has been the only high-performing sector in the economy. Rice is the country's most important crop. Thailand is a major exporter in the world rice market. Other agricultural commodities produced in significant amounts include fish and fishery products, tapioca, rubber, corn, and sugar.

Exports of processed foods such as canned tuna, pineapples, and frozen shrimp have risen dramatically.

Thailand's increasingly diversified manufacturing sector made the largest contribution during the nation's economic boom. Industries registering rapid increases in production included computers and electronics, garments and footwear, furniture, wood products, canned food, toys, plastic products, gems, and jewelry. These industries are expected to be the leading Thai exports once economic recovery is under way.

The United States is Thailand's largest export market and second-largest supplier after Japan. While Thailand's traditional major markets have been North America, Japan, and Europe, the recent creation of an ASEAN Free Trade Area (AFTA) has enabled Thailand to expand trade with its neighbors, however, while volumes have increased, the dollar value of this trade has actually fallen during 1997-1998.

Machinery and parts, electronic integrated circuits, chemicals, crude oil and fuels, and iron and steel are among Thailand's principal imports. As much of this import volume fed the manufacturing and export cycle, import levels have decreased dramatically during 1997-1998, as liquidity has dried up almost completely.

Tourism contributes significantly to the Thai economy, and the industry has benefited from the Thai baht's depreciation and Thailand's stability.

Bangkok and its environs are the most prosperous part of Thailand, and the infertile northeast is the poorest. An overriding concern of successive Thai Governments, and a particularly strong focus of the current government, has been to reduce these regional income differentials, which have been exacerbated by rapid economic growth in and around Bangkok and the financial crisis. The government tried to stimulate provincial economic growth with programs such as the Eastern Seaboard project and developing an alternate deep-sea port on Thailand's southern peninsula. It is also conducting discussions with Malaysia to focus on economic development along the Thai-Malaysian border.

Nation's recovery from the current economic downturn has been slow and depends on restructuring the financial sector, attracting foreign investment, and increasing exports of manufactured goods. Problems of infrastructure, evident before the crisis, will constrain future growth. Telecommunications, roadways, electricity generation, and ports showed increasing strain and bottlenecks during the period of sustained economic growth. Thailand's growing shortage of engineers and skilled technical personnel threatens its future technological creativity and productivity.

2.2 Economic Crisis in Thailand

The integration of financial markets around the world over the past decade has posed new challenges for policymakers. The speed with which money can be switched in and out of currencies and countries has increased with the efficiency of global communication, considerably shortening the time policymakers have to respond to emerging crises.

Unhappily, financial markets are notoriously poor at spotting a crisis coming. Markets had little doubt of approaching crises in Thailand in 1997. Currency traders did not increase their expectations of devaluation in the months just before the currency collapsed in Thailand.

Many financial analysts tried to take a look at the forces contributing to financial crises in an attempt to develop early warning systems to signal when trouble may be brewing in currency market. From the study of the same economic and financial variables, the strength is that they process the information in a systematic way that maximizes their ability to predict currency and balance of payment crises, based on the historical experience of a large number of countries. Often an early warning system can translate this information into a composite measure of vulnerability. Being based on a well-defined methodology, it is less likely to be clouded by preconceptions about the expected economic performance of particular countries. An early warning system can also be useful tool to rank the relative vulnerability of a group of countries, which is more difficult to assess on a country-by-country basis.

A look at the major international crises of the past two decades illustrates an evolution in the pattern of crises.

The Asian crisis of 1997-99 put financial markets at the forefront of attention. Before the crisis erupted, traditional sources of fundamental imbalances were largely absent. The fiscal position was quite robust for all countries, and inflation had been moderate of low for a number of years. With the exception of Thailand, real exchange rates had not displayed any significant appreciation in the years leading to the crisis, and although a slowdown in export growth had been recorded in some of the economies of the region since 1996, it had come after several years of very strong expansion. The loan portfolios of financial institutions, by contrast, had deteriorated significantly, and the corporate sector was excessively indebted and financially fragile, the results of years of poor lending and investment decisions.

Weakness in the financial and corporate sectors seemed to be the only common thread among the affected countries of Asia. But the crisis made the spread from one country to another, as investors abruptly withdrew their money and shifted their assets out of a whole region, appear to have played an important role in the Asian "contagion".

To work out a common economic model for all these types of crises is obviously difficult. But a number of common symptoms can be defined, for example, international reserves may become dangerously low, or the level of external debt commitments become too high relative to the economy as a whole. Or movement in asset prices may follow a common pattern in anticipation of currency crises. External balance of payment of a country and its domestic macroeconomic situation is the fundamental data that should be monitored.

In particular, signs of stress in the banking sector should receive more attention and should be considered along with more traditional fundamentals such as those related to the external position of the economy; including the level of the real exchange rate or the current account balance and those describing the domestic macroeconomic situation.

Indicators of market sentiment may also have a role in an early warning system, indicators that can be extracted from asset prices or from developments in other countries that may trigger the risk of contagion. Market sentiment is a powerful force but is difficult to measure, and related indicators may also be relatively uninformative because they tend to provide signals only very late in the gestation of a crisis.

The crisis that struck a number of Asian countries in 1997 came as a surprise to almost all observers. The economies of Korea, Thailand, Indonesia, and Malaysia had for many years been seen as "miracles" with the average annual growth rates since 1997.

The possible causes of the crises in Asian countries can be summarized as follows:

(1) The crises had their origins in fundamental deficiencies in the affected countries. Some role, particularly in Thailand, was played by traditional macroeconomic problems such as current account deficits that became

unsustainably large and an exchange rate that had become overvalued. More important, though, the weaknesses in the crisis countries derived from the interaction of weak domestic financial institutions with large capital flows.

(2) While there were indeed some structural and macroeconomic problems in the affected countries, these crises were largely avoidable financial. This implied that if foreign creditors became convinced that other creditors would not roll over their claims, there were not enough reserves to cover the maturing obligations. Panics became self-fulfilling.

Since the crisis has happened to Thailand and believed that it has not been over yet, effective management strategy needed to be applied and effective financial control needed to be observed and analyzed over time to time.

The best information source to see the financial status of a company is the company's financial statements and their footnotes. Essential financial information for analysis is generally including the company's Balance Sheet, Income Statement and Financial Ratios resulted from a company's performance over time.

Some major analysis techniques have been used to evaluate firm performance, one of those is to use financial ratios by looking at the information provided in Balance Sheet and Income Statement.

Liquidity Ratios

Liquidity ratios measure the ability of a firm to meet its maturing financial obligations and recurring operating expense. In general, these are short-term obligation, normally due within one year. Current and Quick ratios are some commonly used ratios to assess liquidity.

Current Ratio $\dfrac{\text{Current assets}}{\text{Current liabilities}}$

This ratio is presumed to measure in some degree the liquidity of the business or the ability of the concern to meet its current obligations. A ratio of 2 to 1 has long been considered as reflecting a satisfactory liquidity condition. Without further review, we could say that current ratio of less than 2 to 1 is unsatisfactory.

To assess liquidity without inventories and prepaid expenses another liquidity measure called the **quick,** or **acid-test, ratio** may be used.

Quick Ratio $\dfrac{\text{Total current assets — Inventory}}{\text{Current liabilities}}$

This ratio permits a better estimate than the current ratio of the immediate ability or the business to meet its current obligations. Inventories are not included because it would take time to sell and/or convert the materials into finished goods for sale.

Account Receivables Turnover $\dfrac{\text{Credit sales}}{\text{Account receivable}}$

A higher account receivable turnover ratio suggests more frequent payment of receivable by customers.

Inventory turnover ratio is a measure of how quickly the firm sells its inventory. The ratio clearly depended upon the firm's inventory accounting method: for example, last-in, first-out (LIFO) or first-in, first-out (FIFO).

Inventory Turnover Ratio = $\frac{\text{Cost of goods sold}}{\text{Inventory}}$

Asset Management Ratios

This type of ratio indicates the amount of sales generated of total and fixed asset, respectively. The fixed asset turnover ratio may be large as a result of the firm's use of old, depreciated equipment. This would indicate that the firm's reliance on old technology could hurt its future market position, or that it could face a large, imminent expense for a new equipment, including the downtime required to install it and train workers. A large total asset turnover ratio also can result from the use of old equipment. Or, it might indicate inadequate receivable arising from an overly strict credit system or dangerously low inventories.

Fixed Asset Turnover Ration = $\frac{\text{Sales}}{\text{Fixed assets}}$

Total Asset Turnover Ratio = $\frac{\text{Sales}}{\text{Total assets}}$

Leverage Ratios

Leverage ratios compare the funds supplied by the owners (equity) with the funds provided by creditors (debt). The **debt-to-assets ratio** is calculated as total debt divided by total assets; it measures the proportion of assets financed by borrowers. The **debt-to-equity ratios** is computed as total debt divided by stockholder' equity.

Debt Ratio = $\frac{\text{Total debt}}{\text{Total assets}}$

Debt to Equity = $\dfrac{\text{Total debt}}{\text{Shareholder's equity}}$

Profitability Ratios

Profitability ratios show the ability of a firm to use its sales, assets, and equity to generate returns. The **profit margin,** or **return on sales,** represents the proportion of each sales dollar that becomes profit or net income to the firm. The **return on assets ratio,** or **ROA** (sometimes called return on investment, or ROI), measures how efficiently the firm uses its total assets to generate income.

The return on assets ratio can be broken into two components; it equals the product of the profit margin and total assets turnover ratio:

Return on Assets = $\dfrac{\text{Net income after taxes}}{\text{Total assets}}$

The **Return on Equity Ratio** measures profitability with respect to the stockholders' investment in the firm. Return on Equity can be broken down into component parts to improve insight into the means by which the firm generates income. The return on equity is identical to return in assets multiplied by the equity multiplier.

Return on Equity = $\dfrac{\text{Net income after taxes}}{\text{Total equity}}$

I. METHODOLOGY AND IMPLEMENTATION

3.1 Methodology

In this chapter, the research methodology is to define the way of gathering the data and information, the method approach to derive the data, which data could be from both primary and secondary source. By using qualitative approach, the primary data have been derived from interviewing the management of each sample company. The tool for gaining data from the sample companies is a list of questions, as shown in appendix A.

The following is background of each sample company.

(1) Company A

Company A is a joint venture company between United Kingdom and Thailand, is a leading international paint business. It is concentrating on decorative paints and coatings for food and beverage cans. The head office is in UK. Any policy to be used has been instructed by the head office. The head office will give financial support to its branches in a form of investment loan. The Company A has got five companies and factories in the same group, similar business type, Poly Uretain business, Chemical business, Industrial car paint business, decorative paints business and food & beverage cans coating business. Some are big and profitable, in contrast, some in the group are small and non-profitable. The head office will give policies and supports directly to all five companies in Thailand. The head office has tried to create a global management and financial policies for all branches worldwide. As of the global policy, all companies in-group are independently managed and separately financed from each other.

The manufacturing operations were established in 1966. In the early days, products were imported through its appointed sold distributor. In 1969, Company A became a full-fledged producer. It has about 1,000 employees working in office & factories and it had increased in sales volumes continuously every year until the beginning of year 1998.

As from 1994, the Company A has possessed very firm financial status, many financial facilities have also been proposed from many banks in relation.

Company A distributes their products directly to its Dealers (wholesalers), about 1,000 dealers throughout the country with no limit for each dealer's purchasing volume. They have no cost on distribution transportation to deliver because the customers have to pay for the delivery cost themselves.

Before they were attacked by the economic crisis, they had already been informed by its head office about the potential the crisis to happen. As the head office will always give policies and advice, they always got deeper information concerning economic & investment situation so that they can foresee the economic trend. The head office will keep their branch office informed of the situation they have foreseen. Since late 1997, the company had been instructed by the head office not to keep contact with any local financial institutions. The company had been allowed to keep contact only with some foreign banks having strong relationship with the head office. Also UK head office all the time keep eyes on the financial and business status of the company and on the economic situation of the whole region.

(2) **Company** B

Company B is a 100% Thai company, playing as one of the top leading company in paint industry of Thailand. It had the first operated in the year 1962 and the second factory, which is a complex with an area of 200 raiis constructed during the period of Persian Gulf War. The second factory has been the biggest painting factory in Asia Arcane Region. The reason they had built the second factory during the downturn of business due to Persian Gulf War is that the company had foreseen as it is the opportunity to invest at the war time as the investment cost will be particularly low. Two years after that the company needed to expand its factory to be fully production capacity after the war ended and the economy had been in the way to be better.

There are 4 business groups in Company B Group of companies, all of which are in painting, construction materials, chemical, petrochemical and automotive business. To be prepared for the future global economic trend, it decided to play some major roles in the petrochemical and automotive business types. Petrochemical business is to produce resin used to manufacture electric equipment, auto parts and etc. by joining with Mitsubishi Engineering Corporation Ltd. and Mitsubishi Gas Chemical Corporation Ltd. as it has foreseen this business as having only few competitors in the market. Automotive business is to produce safety equipment, safety belt and air bag, by joining with Takata Corporation Ltd., which is the 1st leader in the safety equipment market in Japan. It has realized that this business would match the campaign of Thai government asking Thai people to be more concerned with driving.

Company B business growth rate is directly related to real estate business. As the boom of the real estate business few years before the crisis, it had its high growth rate with tremendous high sales turnover. Painting business of the company does not depend only on the new building painting but also on the re-painting.

Since the consumer behavior had been changed from living as a big family to prefer a smaller sized family, the concept of small house or condominium had been in very high demand. Once the real estate business started to slow down and dramatically dropped, 6 months after that the company had realized that they had lost 50% of their sales turnover.

Company B had its sources of fund as 25% foreign investment as loan in US dollar currency and 75% local investment as loan in Thai Baht currency, the company tried to expand to have more business types in their group in order to reduce business running risk. It decided to expand their business in to various supportive industries to painting.

The company had 1,500 employees including office workers and factory workers. All the staff had 4 weeks and 2 Saturday working days per month.

From 1996, the company had forecasted that the crisis would have happened but they have never thought that the real crisis happened had been much worse than expected. Since they had the forecast for crisis to happen in very near future, they had started to be prepared for the crisis. The company started to hire new employees by contracting them as a temporary employee with 6-month agreement. They still have 3 shifts working all day with full production capacity to reduce machinery cost.

Four companies in-group of Company B played roles as marketing advisory companies for each other.

Company B classifies their customers into groups by measuring from their purchasing power and financial or payment record. All customers get 120 day-credit-term the longest. Any customer who can settle the payment within 30 days will get 4% discount.

Company C

Company C is a 100% Norwegian company with 100% foreign shareholders. It is the policy that the Managing Director of Company C is always a Norwegian. The head office is in Norway with 50 branches worldwide. The main product types supplied by this company are decorative products and protective coating.

Company C has got sources of fund and other management supports directly from its head office in Norway. The company had 400 employees which are 100 employees working in office and 300 employees working in factory. All employees are full-time employees. Working days of the company are Monday to Friday, 8.00 AM to 5.00 PM.

Its original factory is opened in 1968, and soon used up its entire capacity. In 1988, the factory was totally renovated with new hi technology facilities aimed to boost production capacity to meet the demand of a fast growing Thai economy.

Later on Company C planned to build a new factory, as they wanted to increase their production capacity to be more competitive in the paint market in Thailand. The new factory was started to build in May 1997. Although the company had realized that economic crisis would happen, they had continued building the new factory, as the head office would anyway give them financial support. By that time, the currency of the funds coming from the head office as US Dollar to be used for the construction was forwarded at the fixed rate as about 29-30 baht per US dollar. The construction took about 15-18 months to finish.

Company C has grouped the customers differently depending on the grade or level of particular customer. Its customers could be either dealers or retailers. Some examples of the customers are Esso, Shell, Italian Thai, Sino-Thai and etc. It is different in credit term given to old and new customers but the cash payment discount are given to all customers equally. Credit term generally is around 90-120 days.

3.2 Implementation

Implementation of strategy is the process by which strategies and policies are put into action through the development of procedures. This process might involve changes within the overall culture, structure, and/or management system of the entire organization. Strategy would be implemented to each department/division according to the priority in the company's point of view.

To reduce costs of the organization, all sample companies had typically utilized a common strategy, Cost Leadership strategy (see appendix E), as to keep the expenditures at a minimum level.

One of the important tools used is to give compensation package for early-retired staff. The package can be calculated with many criteria as shown in the table below:

Table 3.1. Criteria to Set Early-retired Compensation Package.

Criteria	Management	Non-management
1. Severance	- Labor Protection Act - Service Year - Term of payment	- Labor Protection Act - Service Year - Term of payment
2. Extra	- Service Year - Performance - Level (i.e. VP, Senior VP and higher than Senior VP) - Income generated	- Service Year - Performance

The early-retired compensation packages, which will be set should take all these criteria into consideration. Compensation according to the Labor Protection Act related to service year of each employee is unavoidable (see Table 3.2 below). The term of payment; one time payment or installments; is upon case by case negotiation.

Table 3.2. Early-retired compensation as stated in Labor Protection Act.

Service Term	Compensation as stated in Labor Protection Act
120 days —1 year	30 days
1 year — 3 years	90 days
3 years — 6 years	180 days
6 years — 10 years	240 days
Over 10 years	360 days

Extra compensation will mostly be given to the early-retired management level staff. The extra compensation to be paid to either management level or operational staff depends on each company's policy or upon agreement with an individual.

(1) Company A

Since the beginning of year 1998, Company A got an impact from the unsustainable exchange rate which caused them higher operational and production costs as they have investment fund supported from UK head office.

They started to fix the rate with their countered banks which are the foreign banks having strong relationship with the head office. Even they had suffered from the fluctuated rate, they could not increase the price of their products due to the Thai government policy so that the price could not cover the cost increased.

As the sales volume is directly related to real estate business, once the real estate business had been in the downturn, painting business unavoidably got direct impact. But as the company had foreseen the crisis and received financial and management policies from the head office, they had not been very much affected.

Then, the situation turned out to reduce some other costs, instead of trying to increase the product price, starting from laying off their employees. At the same time, the head office had tried to make them have some security on financial side by instructing them to sell some of the company's in-group, i.e. Poly Uretain company, Chemical company and Industrial car paint company, as these companies are small and non-profitable.

From the middle of year 1998, they have got a lot of money internally circulated from sale of some small and non-profitable companies and sales turnover of the company had been slightly increasing at the same time. So, the company did not ask for financial support from the head office during the crisis at all but they still needed to have their management strategy adjusted to suit the crisis.

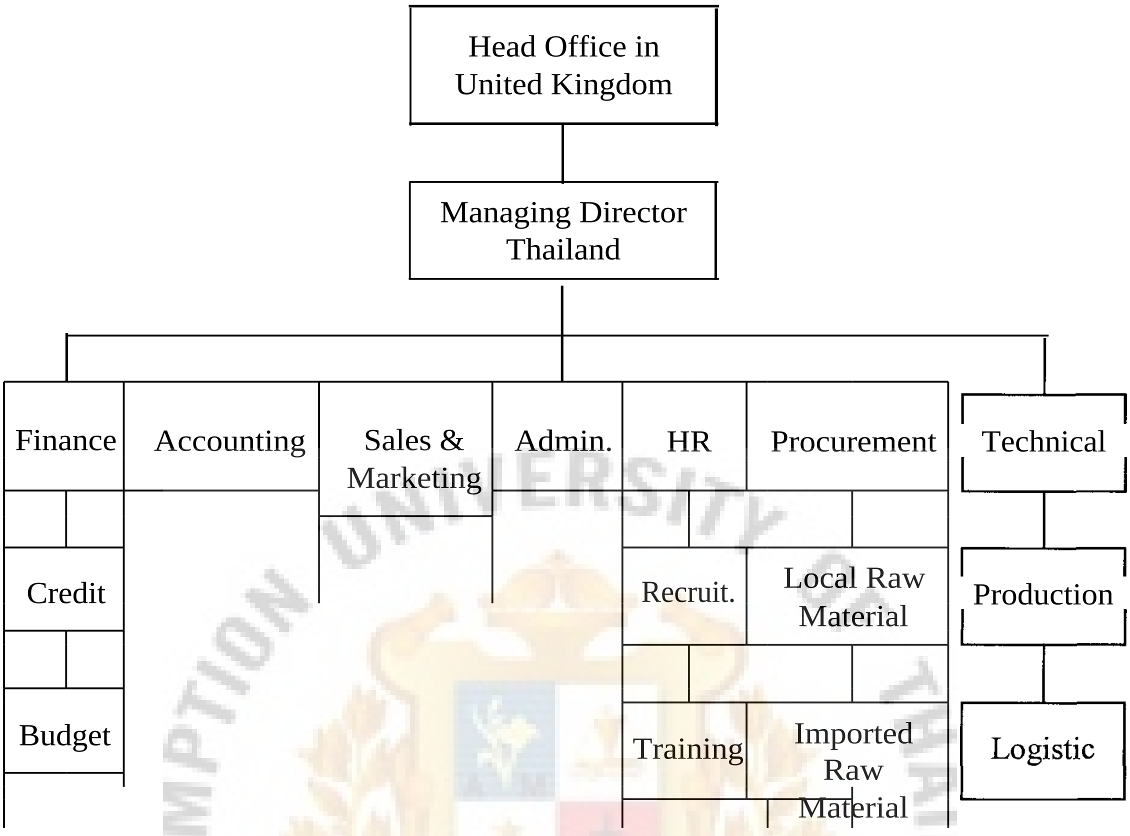

Figure 3.1. Organization Chart of Company A.

Management Strategy Concerning Cost Leadership

Company A, according to priority on each division/department, had done the implementation to sections in the organization.

(a) Personnel & Administration

Company A had 25% layoff from its overall employees to cut cost by giving an early-retired package to the ones to be fired. They had got no financial problem when they had to pay quite a lot for early-retired packages as they had already reserved some money to compensate for the layoff. The management of the company wanted not to panic their employees so that the rest will get the raise as much as the company could afford plus a normal rate of bonus.

The company asked the employees to save unnecessary costs on administration equipment and facilities. As the result of the layoff and documentation reduced, working procedures had been changed and shortened to suite the no. of existing employees, all employees who were still with the company during the crisis had been rotated and got more works under their responsibility.

(b) Sales & Marketing

Sales persons are the key factor to periodically observe and see if the customers still have a reliable business situation. They kept their eyes on each customer all the time during the crisis to make sure that all their customers could run their business and not have any payment problems. Any customers, who have weak financial status plus not sound payment record, will not be allowed to buy big lot of products. They had quite strict investigation on customers' business situation concerning their payment record.

They tried hard to convince their customers to purchase with shorter credit term or by cash if possible by reducing credit term and giving cash payment discount. Earlier Company A gave their customers 150 days the longest credit term but the credit term had been reduced to be only 90 days during the crisis. Any customers who pay before 90 days will get a cash discount. If they can settle their payment with the shorter terms, 90, 60 and 30 days, they will get more and more cash discount accordingly.

For the existing dealers (customers), the same policy on credit terms as during crisis had still been in use. For new dealers, Company A came up with new and stricter policy to screen for new dealers. Two main criteria for screening new dealers are business record and financial record provided by the potential dealers. Sales Department will propose the proven record of the potential dealers to Credit Control Department. If passing through the screening process, new dealers will be in probation period for few months to keep track on the business and financial status. The new dealers will get limited credit term for payment or even have to settle the payment by cash during the probation period.

(c) Engineering / Production

Company A, before the crisis had imported some raw materials and they had to pay for 20% import duty, which had been increased to 30% later on. But they didn't stop importing raw materials, as it was only a short period that they had to pay for 30% import duty.

Some of their suppliers also imported some raw materials and they tried to increase the price to cover their production cost but the company had asked them to keep the same price for 3-4 months which finally few months after that Thai government returned to use 20% import duty.

(2) Company B

Company B and group had been attacked since the end of year 1997, which resulted in a lot of employees to be laid off, working days to be reduced, and salary to be cut and etc.

The group also had to do organization restructuring by merging many companies, which were working as marketing advisory companies, into the only one company in order to decrease operating cost and other expenditures.

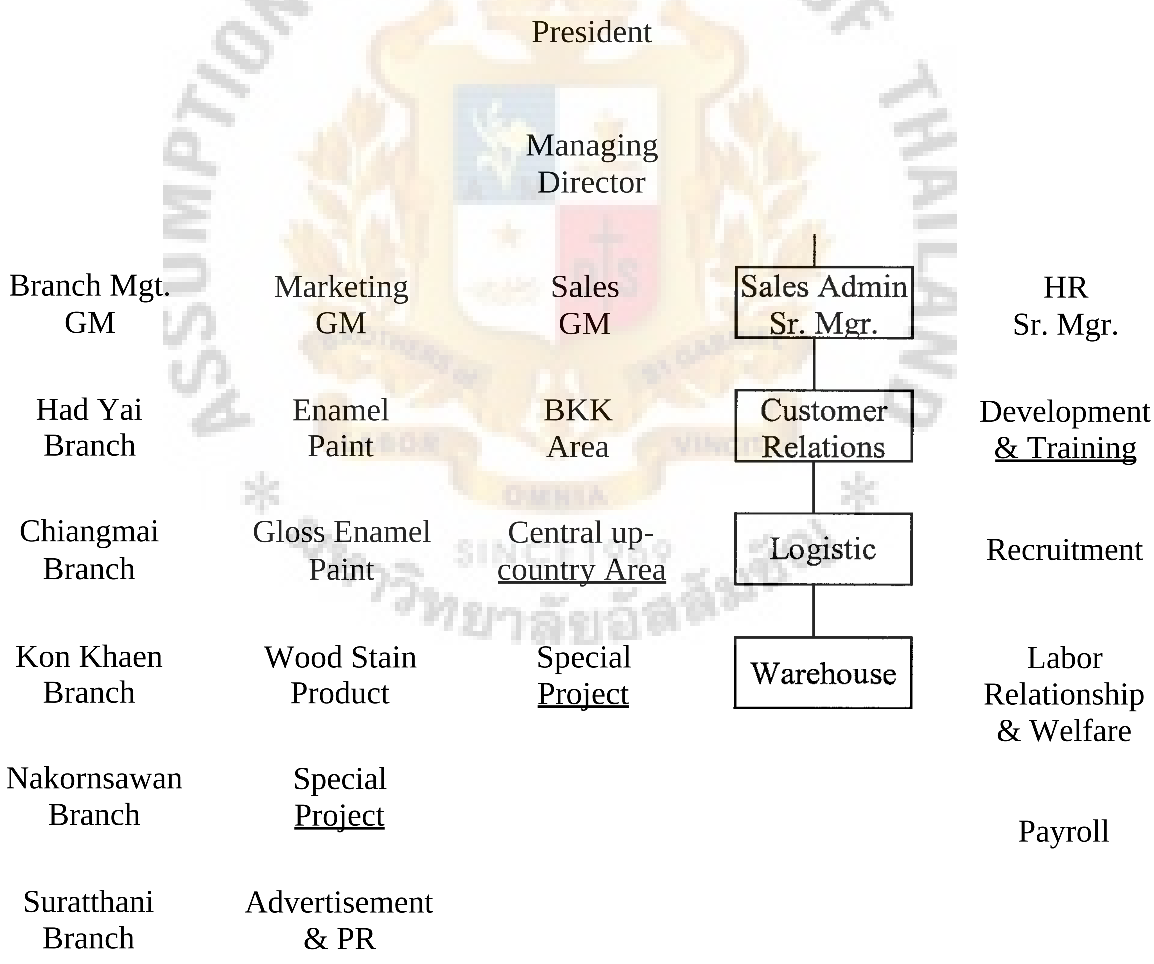

Figure 3.2. Organization Chart of Company B.

Management Strategy Concerning Cost Leadership

Company B, according to priority on each division/department, had done the implementation to sections in the organization.

(a) Personnel & Administration

Employees had been laid off for 600 people from 1,500 people, started by temporary employees with 6-month agreement. The rest of 900 employees who were still with the company are 300 people for office works (Sales & Marketing, staff to support Sales & Marketing and management) and 600 people worked within the factories.

As the result of the merger, all the experts from all those companies had been working in the only one company. The policy for no decrease in salary of operational staff level had been used by Company B but as they had to reduce the shift of working, it automatically decreased the earning of the operational staff. Moreover, originally, the company had its working day as 4 weeks and 2 Saturdays per month, this had been changed. Two working Saturdays had been cancelled, so, the staff have their working days for only 4 weeks a month.

Performance evaluation was still made during the crisis for 3 times per year for individual, departmental and organizational performance levels. The company kept all evaluation records carefully and set the ranks for all employees in the organization to be about 27-28 levels from top management to the operational level.

The performance evaluation result reflected the promotion of the staff but it was the promotion only the title to be promoted without any compensation increased. Moreover, salary had been decreased by level in every section of the organization as follows:

(1)	Top management	20% decreased in salary
(2)	Middle management	15% decreased in salary
(3)	Manager	12% decreased in salary
(4)	Officer	10% decreased in salary
(5)	Operational staff	6.67% decreased in salary

There is no bonus and no increase in salary for 2 years since they had been attacked by the economic crisis. It had been 40 — 50% of documentation cost cutting by decreasing stationery using and controlling the cost to be under the budget. Working procedure had been shortened to be more precise and efficiently.

(b) Sales & Marketing

Only few percentages of sales staff had been laid off. The company treats this section as the heart of the organization due to the connection and relationship with the customers.

As the company sells products directly to their dealers (customers), they plan to expand their customer based.

Credit term given to the customers had been reduced from 120 days to only 90 days the longest as their suppliers had also reduced their credit term. The company set limit purchasing volume for each group of customers.

Incentive system had been set up for all customers. The company provided purchasing promotion package and training courses, i.e. training course - management strategy for 21^{st} century. This incentive system was a mutual benefit and a tool to stimulate the market. The training team will travel throughout the country to set up the training for their customers in each region. With this strategy, sales persons of the company will have more opportunity to approach the dealers/customers.

(c) Production

Production cost per piece of Company B is quite high with sales volume considered low. The shifts of work had been reduced from 3 shifts per day to only 1 — 1 ½ shift per day. Over time working will be paid to the employee during the peak demand period only.

Until today the company still does not believe that the crisis is really over, so, they still keep the strategy used during crisis until present.

(3) Company C

Company C got impact from economic crisis since July 1997 but it had not been affected much. They had some management strategies to be applied to its organization structure to keep its cost under budget.

Head office in Norway all the time gives advice / instruction for the implementation plan during the crisis. They also sent experts to observe the situation periodically.

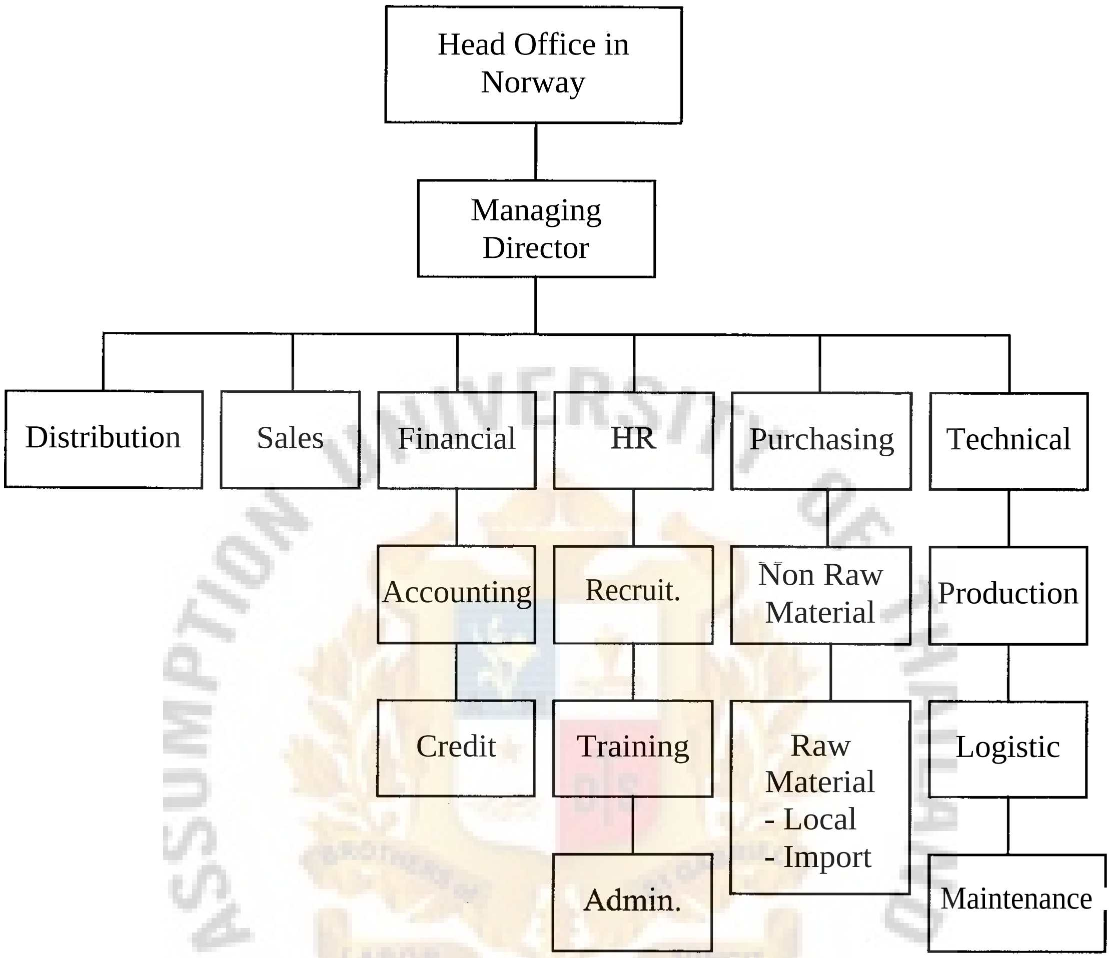

Figure 3.3. Organization Chart of Company C.

Management Strategy Concerning Cost Leadership

Company C, according to priority on each division/department, had done the implementation to sections in the organization.

(a) Personnel & Administration

Since new factory was ready to be utilized, the old factory had to be closed. The employees from old factory had to move to work at the new factory. Almost all employees working at the old factory were local people, so, some of them resigned because of the distance to come to work and the change of working environment. In addition, they were afraid of high technology machine being used in the new factory, although the company provided the buses and vans to pick them up, better conditioned canteen and etc. The ones who resigned because of the distance to work got the package for at least 10-18 months.

As the result of people resigned because of factory location changed, Company C had no lay-off and no cutting in salary. Eventhough the sales turnover had decreased for 20-30% since the crisis began, the company still had to increase salary of the lower level employees with 1-month bonus guarantee. There is no increase in salary only in the year 1997. The company cut all administrative cost such as documentation, advertising and etc.

(b) Sales & Marketing

As cost of production was increased, Company C tried hard to expand its customer base by planning for export. Sales staff had a lot of work to do to pull the sales turnover up as higher production cost causes higher product price.

The company has tried to export to other country, for example, China and USA to expand their market base not to be only in Thailand. They have tried to have their export figure continuously increased as much as it can be.

To convince for more cash payment and reduce risk that customers could not settle their payment as due, the company offered its customers more attractive discount for cash payment.

(c) Production

As Company C has their production raw materials from both local and imported, they had a hard time to locally find some similar quality as imported chemical materials to reduce the production cost. Purchasing division at the time of crisis had always been keeping busy to help sustaining the business of the company.

From 1999 until present, Company C has been keeping the same management strategy as during the crisis as they maintain the same no. of employees and positions, try to increase production capacity and has got some business expansion to China and USA about 5% of the overall capacity. They also expect to increase the export to both countries in the future.

The company has foreseen that there will be the economic downturn again at the end of this year, so, they are now well planned and prepared to confront the crisis again.

II. ANALYSIS & FINDINGS

Looking at 3 sample companies, all of which have quite different background and styles of management before confronting the economic crisis.

From the interview with the management of 3 sample companies, they have applied many management strategies to solve the organizational problems during the economic crisis, from year 1997 to 2000.

Table 4.1. Analysis of Strategic Management — Sample Company A, **B** and C

Criteria	Company A	Company B	Company C
Organization Restructuring	- Downsized by selling small and non-profitable companies to public.	- Downsized by merging companies' in-group into one company.	- Downsized by maintaining no. of employees after they resigned because of factory moved.
Cost Reduction Management	- Laid off a number of employees. - Reduced documentation and manpower	- Laid off a number of employees. - Reduced documentation and manpower	- Laid off a number of employees. - Reduced documentation and manpower

Criteria	Company A	Company B	Company C
	cost. - Decreased quantity of imported raw materials.	cost. - Decreased quantity of imported raw materials.	cost. - Decreased quantity of imported raw materials.
Financial Management	- Financial support from head office abroad. - Fixed currency exchange rate.	- Loan from domestic financial institutions.	- Financial support from head office abroad. - Fixed currency exchange rate.
Sales & Marketing Management	- Offered attractive discount rate for cash payment. - Provided shorter credit term.	- Offered attractive discount rate for cash payment. - Provided shorter credit term. - Created incentive system.	- Offered attractive discount rate for cash payment. - Provided shorter credit term.
Production Management	- Reduced shifts of work. - Reduced no. of	- Reduced shifts of work. - Reduced no. of	- Reduced shifts of work. - Reduced no. of

Criteria	Company A	Company B	Company C
	workers. - Decreased production capacity.	workers. - Decreased production capacity.	workers. - Decreased production capacity.

Table 4.1 shows 5 major implemented management strategies of the sample companies with different background and management style, the organization restructuring method has been differently applied concerning the structure and environment of the companies.

By studying the strategic management of each company, there are 5 typical management strategies utilized in common. The strategies, which have been successfully implemented by the sample companies, are:

4.1 Organization Restructuring

There are many strategies could be applied to the entire organization in order to restructure it as to be best suit with the current situation. Organization restructuring could be done through mergers, acquisitions, and strategic alliances (see glossary, appendix E). Each company's decision to utilize any tool affects the whole organization.

The organization restructuring would mostly be the first thing should be done, especially in crisis circumstance, which everyone tries to have most efficiently managed all existing resource.

First thing that all sample companies did to keep the whole organization survive is to downsize their organization as it relatively helps them save a lot of operational and administrative costs. Two cases had happened.

The first case is to sell small and non-profitable company's in-group to public. Other reasons those companies had been sold to the public are that the management of the main organization does not expertise in such businesses. So, they did not want to leave these non-profit making companies to be their burden. The example of this case is Company A.

The second case is to merge many companies in-group into one main organization. Merger could be done for the companies that they all have been financial supported to each other. The example of this case is Company B.

However, the sample companies have their organization restructured by using downsize strategy.

4.2 Cost Reduction Management

To be competitive during crisis period, each company required a cost minimization in some or all area of their business units. Cost Leadership strategy has been brought into implementation of the sample companies. Cost leadership is a strategy that aims at vigorous pursuit of cost reductions, cost control and cost minimization in area like service, sales force, advertising and so on.

All 3 samples had made use of cost leadership strategy by reducing the operational costs of their organization as soon as they were attacked by the crisis. They mainly emphasized on reducing number of employees of all sections with different reasons. The percentage of layoff employees varied from 25-40% upon the necessity of each company.

Only one company, Company B, had to cut cost by decreasing employees' salary referring to the fact that the companies' in-group had been independently managed and funded among themselves only in Thailand without any parent company. The salary decrease had been done as from top-down management level, ranging from 20% maximum to 6.67% minimum. Their employees did not get any raise and bonus for 2-year period after the crisis. Working hours had been reduced in order to save some operational and administrative costs.

With cost reduction approach, production raw materials of the sample companies, which were originally imported about half in quantity of total raw materials used in production process, have to be decreased. They have tried to look for local raw material with same or at least similar quality. They have attempted to constantly decrease the imported amount.

4.3 Financial Management

Financial strategy examines the financial implications of corporate and business level strategic options and identifies the best financial course of action. It can also provide competitive advantage through a lower cost of funds and a flexible ability to raise capital to support a business strategy. Financial strategy usually attempts to maximize the financial value of the firm.

The effective financial strategy required as they had foreseen the crisis to happen and of course, they prepared some reserved amount to be used during the crisis. As the result of difference of each company background & policy with different forms of financial support, the reserved amounts of each company are unequally prepared.

Corporate financial support had been provided by head office abroad for Company A and C as they have got their parent companies in UK and Norway. However, they had to negotiate for the fixed exchange rate with their countered banks.

Financial support of Company B had come as in form of loan from many financial institutions domestically, which later on only Thai Baht Currency to be borrowed.

4.4 Sales & Marketing Management

Marketing strategy deals with pricing, selling, and distributing a product. Under uncertain market circumstance, marketing strategy is needed. There are numerous other marketing strategies, for example, advertising and promotion. A company or business unit can choose between a "push" or "pull" marketing strategy. By following a push strategy, they will emphasize on trade promotion including discounts and advertising allowances designed to pull products through the distribution channel.

The sample companies of this study have proved that, to be practical and in line with other strategies being used during crisis, "push" strategy has been effective in their implementation.

They had created and offered attractive promotion packages for cash payment purchasing customers. More cash payment discount had been given for the customers who had settled their payment more quickly.

Another marketing tool had been utilized which is related to the cash payment discount offering to customer is that they had reduced their credit terms and tried to convince their customers to pay by cash. The longest credit term of 120-150 days in the past had been shortened to 90 days credit term during the crisis.

The companies had to carefully keep eyes on their customers especially for the customers with unsound business and financial/payment record. They had even convinced these customers to not purchase a big lot of products. Finally, they came up with the limit for purchasing volume.

A stricter new dealers screening process has been set up to screen for good dealers and/or customers for the company. Two main criteria for screening new dealers are business record and financial record provided by the potential dealers. Sales Department will propose the proven record of the potential dealers to Credit Control Department or other related sections in a particular company. If passing through the screening process, new dealers will be in probation period for few months to keep track on the business and financial status. The new dealers will get limited credit term for payment or even have to settle the payment by cash during the probation period.

4.5 Production Management

In production process, operational strategy is also needed to determine how and where a product is to be manufactured, the deployment of physical resources, and relationship with suppliers. It should also deal with the optimum level of technology the firm should use in its operations processes.

In this case, during the economic crisis, it was the higher supply than demand market atmosphere, the producers could not avoid decreasing their production volume. By doing that, all companies had to decrease their working shifts, which gave impact on number of people, number of working hours and time of machine running needed for production procedure.

Before the crisis some companies had to import their production raw materials and they had burdened the increased import duty during the crisis. The import duty had been increased from 20% to 30% for few months, this made higher production cost but at the same time they could not increase their product prices as the Thai Government has requests them not to increase any product prices during the increase of the import duty. So, they had asked their supplier to keep the price of the imported raw materials at the same level, as before import duty increased. They also tried to use more local raw materials with similar quality for their production to avoid the import duty problem if there will be an increase in import duty again in the future.

III. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The study of this report shows that the leading companies in Paint Industry have successfully implemented the management strategies summarized as a model below.

Figure 5.1. Model of Strategic Management Problem Solving.

Figure 5.1 is a model of generic strategic management formulated from investigating and studying the top leading companies in Paint industry of Thailand. This model has been created in order to be a guideline and future reference for the companies either in this or other industries.

The 5 generic management strategies, as shown in the model (figure 5.1), are actually related to each other in common. The difference is that any strategy was implemented before or after the others.

By analyzing and concluding this project with three sample companies, Organization Restructuring strategy has been chosen as the first priority to solve the problem in a corporate level. The organization restructuring could be applied through various strategies. It is clear that the sales of non-profitable companies in group and the merger, one of the major restructuring strategies, was implemented. Since the organizations had been restructured, the corporate sectors, i.e. departments and/or divisions, of the company have also been more or less altered.

The second priority is to do the Cost Reduction management or Cost Leadership strategy. This cost reduction became extremely important as the companies tried to reduce the per-unit cost of products sold and increase sales, thereby, increase their profits. The cost reduction was implemented in several forms, for example, lay-off, bonus and salary cut, documentation cost reduction and so on.

Financial management had been treated as the next thing to be implemented. Some companies have been supported financially by their mother companies while other has not. With the different background of each company, causing differences in sources of fund, the sample companies at that time had tried to keep the currency exchange rate hedged at the lowest level as they can in order to not increase their operational expenditures.

As all sample companies have assured that they are top leading companies in paint industry and possessed a particular satisfactory level of market shares. During the crisis period, they had cut almost all the advertising costs since they were not interested to promote their positioning and/or branding. And they turned to put more efforts on Sales and Marketing unit of the companies. The sales and marketing units have been pushed to stimulate market by offering special sales promotion packages, extra discount rate for cash payment. Some companies had created an additional mutual benefit to attract their customers by providing interesting training courses as an incentive. But they all used the same strategy to reduce business risk by decreasing the credit term period, which is in line in implementing with the extra discount for cash payment. Emphasize was made on sales promotion other than other area of sales and marketing unit.

By the time, Sales and Marketing unit tried to re-build the market up by initiating and developing many sales and marketing strategies, Production unit had to be slowdown by decreasing production capacity. And in relation with the decrease of production capacity, the shifts and number of workers for production process have to be reduced as well. Imported raw materials, which were about half in quantity of total raw materials used in production process, needed to be reduced in accordance with the cost leadership approach.

Furthermore, Financial Statement of each sample company, which is attached here below in Appendices part of this report, is another measurement that can show improvement from utilizing management strategies of each company. Financial comparisons of the sample companies for 4 years backward have been provided in appendix B, C and D.

The organizational improvement analysis with respect to the financial comparisons as in the mentioned Appendices was summarized as below.

(1) Company A

After implementing the management strategies, financial statement and ratio of Company A shows the improvement of business circumstance. Current ratio of the company has been increasing continuously from year 1997 to 1999. It shows that the company has liquidity improved, including inventory of the company as shown in Table 5.1, the inventory was also decreased in units, which directly related to the better Inventory Turnover Ratio reduced the money that put in the inventory (non-active cost). By implementing Sales & Marketing strategies, they also had a better ratio of Account Receivables Turnover (in Table 5.3) every year (1997-2000) which means they more or less could collect some debt from their customers but this, one way or another, can cause the inflexibility to the customers because they tried to convince the customer to pay by cash or with at least shorter term than before. As a result of better Account Receivable Turnover, the Net Account & Notes receivable was lower than the ratio of its previous year as shown in Table 5.1.

Cost of goods sold and operating expense of the company had been lower due to the implement of cost reduction strategy. The fact that demand of the market has been fluctuated and trended to be downward since the crisis happened in July 1997, which caused huge effect to the company's sales volume, cost reduction strategy may be the only alternative for the firm to survive in this situation.

As stated above that the crisis occurred in mid 1997, you would see that the company faced loss in 1998, also shown in Table 5.2. The reason behind that is because paint industry depends on the real estate business which had been impacted by the crisis in mid 1997 and the paint business would be affected in approximately 6 months later. Therefore, it caused a big loss to Company A in 1998 financial statement.

(2) Company B

The same strategies with Company A had been applied, Company B had the ability to collect money from their debtor as shown in the decreasing Net Account & Note Receivables (as in Table 5.4) and Account Receivable Turnover ratio (as in Table 5.6).

Inventories in year 1998 and 1999 had been lower than in year 1997 respectively, which is as actually depending on the decrease in market demand. But you might see that the inventory in year 2000 had been increasing mainly because Company **B** invested in more other business sectors than the painting industry and those industries were finally all merged into one main company, Company B, has taken unequally time period to rebound. Of course, the fields related to real estate business would not help the company situation but the other industries such as safety equipment and automotive have been in the way to be in better business atmosphere. So, this increases the inventories of the company (as in Table 5.4).

Due to the fact from the management of the company that Company B had a gigantic impact by the crisis few months after the crisis occurred, which was at the middle of July 1997, the result is a negative Net Profit of the company in the year 1997 (as in Table 5.5). Subsequently, in 1998, some businesses that the company has played significant role have been improved which made the net profit to be positive again. This figure is in relative to Net Profit Margin (%) of the company as shown in Table 5.6.

Sale figure, in consistent with Current Ratio, shows a diminish in year 1998 as it was the first time the company realized that they were the crisis victim and without the guidance of what should be done to handle it, they had lost quite a huge sales volume. Then after applying some effective management strategies as stated in the Analysis and Comparison part, they were more or less recovered by having sale figure increased accordingly in year 1999 and 2000.

(3) Company C

Two years after the crisis, Company C had its Current ratio lower than in year 1997, as shown in Table 5.9, but at least the ratio was stable for both 1998 and 1999 at 0.45 times/year. It had been in the way to increase in the year 2000 to 0.52 time/year, which shows the improvement in liquidity ability of the company.

Cost of goods sold and Operating expense had been decreased in the year 1998 and 1999 after the company applied their management strategies, as mentioned in Analysis and Comparison part above, to reduce their operational costs. And as they believed that the business had been slightly rebounded in the beginning of the year 2000, they spent more on these costs, including new hired employees to increase their production capacity in order to cope with USA and China demand. This affected their Sale figure (as in Table 5.8), showing that their sales volume has been bigger in the year 2000.

Net Profit figure in Table 5.8 in accordance with Net Profit Margin (%) in Table 5.9 shows loss in the year 1999 as it had decreased a half (in unit: Baht) from 1997 to 1998. After they got a loss in 1999, they had decided to export to USA and China to gain more profit which is the right decision to make as you can see the increasing net profit figure and net profit margin (%).

All of them seem to keep the management styles used during the crisis until today as they are still worrying if any economic downturn might happen again in the future.

5.2 Recommendations

An effective management strategy model, as provided in conclusion part, shows the priority of problem solving strategies to be implemented to an organization by the time of crisis. There are five priorities of problem solving process, which are (1) Organization Restructuring, (2) Cost Reduction Management, (3) Financial Management, (4) Sales & Marketing Management and (5) Production Management. These are the management strategies in common, analyzed from what all sample companies had successfully implemented during crisis circumstance and current situation.

From my point of view, an organization could be effectively restructured in several ways, i.e. joint venture, merger and so on, depending on the company's background and policy. The cost reduction approach has been made to almost every area of the companies in order to reduce operational expenditures. As the result of implementing cost leadership strategy, it could be proved that this approach did diminish a lot of the corporate cost. Another tool for cost reduction management and at the same time for production management is the outsourcing. Outsourcing is to search for others who can do cheaper and better activities. The companies should also keep their inventories low at a particular level but they should have ability to adequately and quickly serve the customers. The cost reduction helps the companies to increase its liquidity. The sales & marketing strategy, i.e. an attractive discount rate for cash payment, helps the companies keeping their liquidity status by increasing cash flow, which is related to financial management. Besides, the companies should have their "financial risk assessment" study in order to properly anticipate for any fluctuated market situation. And as long as they have the financial support in other currency than Thai baht, the exchange rate shall be hedged. Sales and marketing staff has attempted to keep their competitive advantage by creating sales promotion packages and/or mutual benefit incentive system, i.e. training course, for their customers. Purposes of sales promotion package is to serve the customers' demand as they seek for lower price products and show a readiness to switch to cheaper substitutes and to increase sales volume but the decrease in product price shall more or less affect the company's image and positioning of the brand. Therefore, sales and marketing people shall carefully utilize this strategy. In addition, sales and marketing team shall continuously create a product or service that is perceived throughout its industry as unique. The firms must develop their own distinctive competence to differentiate their products in some ways in order to compete successfully. And in order to maintain the positioning of the product and customer loyalty, constantly marketing observation shall be pursued. Moreover, market base expansion is another important approaches that sales and marketing team should apply. Once the market base of the company is expanded, the production would then meet economy-of-scale.

Contingency plan should also be prepared. In any case of economic downturn that would be possible to happen in future, I would propose that the cost reduction strategy should be applied immediately because it is not a time consuming process. Example of the organization that applied the cost reduction approach at first place is American Airlines. They recently faced the financial problems after American tragedy on September 11, 2001. They had decided to layoff about 20,000 employees to cope with their financial problems.

APPENDIX A

QUESTIONS FOR INTERVIEW WITH SAMPLE COMPANIES

Questions for Interview

Management Strategy During Economic Crisis for Paint Industry

Before the economic crisis:

- Background of the company
- Situation of the company's business
- Source of fund
- Management tools

During the crisis:

- Business situation
- Any changes happened
- Any strategic management applied to any organizational / management level
- Sources of fund

APPENDIX B

FINANCIAL FIGURES OF COMPANY A

Table B.1. Comparison of Balance Sheet of Company A (1997-2000).

COMPANY A

Balance Sheet Comparison

	Unit . Baht			
	Year 2000	**Year 1999**	**Year 1998**	**Year 1997**
Assets				
Net Account & Notes Receivable	310,181,382	304,748,224	355,587,712	830,224,636
Inventories	99,319,493	106,642,664	148,138,883	364,441,532
Total Current Assets	700,485,189	1,078,852,901	796,914,274	1,380,955,850
Land, Buildings and Equipment (Net)	352,785,816	367,906,781	485,281,010	539,157,479
Total Assets	1,056,381,439	1,449,365,271	1,285,883,346	1,924,671,613
Liabilities and Shareholders' Equity				
Payables	200,452,620	192,554,096	232,539,536	592,740,453
Total Current Liabilities	528,474,165	639,952,081	635,890,055	1,232,091,027
Total Liabilities	528,474,165	639,952,081	635,890,055	1,232,091,027
Total Shareholders' Equity	527,907,274	809,413,190	649,993,291	692,580,586
Registered Capital	15,000,000	15,000,000	15,000,000	15,000,000
Issued Capital	3,750,000	3,750,000	3,750,000	3,750,000
Number of Registered Capital (Shares)	15,000	15,000	15,000	15,000

Table B.2. Comparison of Income Statement of Company A (1997-2000).

COMPANY A

Income Statement Comparison

	Unit . Baht			
	Year 2000	**Year 1999**	**Year 1998**	**Year 1997**
Sale	1,427,321,192	1,455,868,949	1,979,099,066	2,955,807,867
Total Revenue	1,446,725,065	1,723,599,846	2,036,547,093	2,976,743,600
Cost of Sale	785,271,734	859,082,451	1,482,850,075	2,030,989,934
Operating Expense	387,416,216	431,224,770	522,958,228	613,880,387
Interest Paid	643,803	6,442,061	58,592,956	53,854,620
Income Tax	84,949,228	73,186,665	14,733,129	109,814,152
Total Expense	1,258,280,981	1,369,935,947	2,079,134,388	2,808,539,093
Net Profit (Loss)	188,444,084	353,663,899	(42,587,295)	111,610,564
Earning per Share (Baht)	12,563	23,578	-	7,441

Table B.3. Comparison of Financial Ratio of Company A (1997-2000).

COMPANY A

Financial Ratio Comparison

	Year			
	2000	**1999**	**1998**	**1997**
1. Liquidity Ratios				
Current Raio (times)	1.33	1.69	1.25	1.12
Quick Ratio (times)	1.13	1.52	1.02	0.83
2. Activity Ratios				
Asset Turnover (times)	1.35	1.00	1.54	1.54
Collection Period (days)	78.23	75.36	64.68	83.97
Account Receivables Turnover (times)	4.59	4.78	5.57	4.29
Inventory Turnover Period (days)	45.53	44.69	35.96	44.39
Inventory Turnover (times)	7.91	8.06	10.01	8.11
Account Payables Turnover Period (days)	91.90	80.69	56.45	106.52
3. Profitability Ratios				
Gross Profit Margin (%)	44.98	40.99	25.07	25.07
Net Profit Margin (%)	13.20	24.29	(2.15)	5.50
Earning before Tax to Total Assets (%)	25.88	29.45	(2.17)	25.88
Return on Equity (%)	35.70	43.69	(6.55)	16.12
Return on Assets (%)	17.84	24.40	(3.31)	5.80
4. Leverage Ratios				
Debt Ratio (times)	0.5	0.44	0.49	0.64
Debt to Equity (times)	1	0.79	0.98	1.78
Capital to Total Assets (times)	0.01	0.01	0.01	0.01
Equity to Total Assets (times)	0.5	0.56	0.51	0.36
Interest Coverage (times)	425.65	67.26	0.52	6.16
5. Growth Ratios				
Sales Growth	(1.96)	(26.44)	(33.04)	
Net Profit Growth	(46.72)	(930.44)	(138.16)	
Total Asset Growth	(27.11)	12.71	(33.19)	

APPENDIX C

FINANCIAL FIGURES OF COMPANY B

Table C.1. Comparison of Balance Sheet of Company **B** (1997-2000).

COMPANY B

Balance Sheet Comparison

	Unit : Baht			
	Year 2000	**Year 1999**	**Year 1998**	**Year 1997**
Assets				
Net Account & Notes Receivable	857,342,764	1,350,941,696	2,851,071,744	3,195,831,473
Inventories	601,442,233	526,974,062	534,376,376	729,789,951
Total Current Assets	1,788,587,002	2,101,565,230	3,444,081,578	3,995,034,123
Land, Buildings and Equipment (Net)	439,022,469	484,323,918	396,786,237	456,215,468
Total Assets	3,245,819,540	2,734,595,713	4,052,539,875	4,663,539,751
Liabilities and Shareholders' Equity				
Payables	356,266,703	763,518,656	761,641,472	836,238,327
Total Current Liabilities	1,234,138,819	4,330,286,660	4,155,703,756	4,977,707,449
Total Liabilities	3,825,783,163	4,706,522,109	4,457,588,845	5,195,440,129
Total Shareholders' Equity	(579,963,623)	(1,971,926,391)	(405,048,969)	(531,900,378)
Registered Capital	890,000,000	500,000,000	500,000,000	500,000,000
Issued Capital	890,000,000	500,000,000	500,000,000	500,000,000
Number of Registered Capital (Shares)	890,000	500,000	500,000	500,000

Table C.2. Comparison of Income Statement of Company **B** (1997-2000).

COMPANY B

Income Statement Comparison

	Unit . Baht			
	Year 2000	**Year 1999**	**Year 1998**	**Year 1997**
Sale	3,536,460,780	3,435,568,438	2,221,637,522	2,980,012,362
Total Revenue	4,420,928,186	3,493,387,858	2,777,113,718	3,110,904,637
Cost of Sale	2,349,248,574	2,477,128,633	2,010,111,790	2,638,789,870
Operating Expense	658,799,064	643,007,719	173,504,518	177,219,009
Interest Paid	278,981,835	420,642,357	466,646,002	413,707,837
Income Tax				
Total Expense	3,397,923,992	5,175,422,796	2,650,262,310	3,229,716,717
Net Profit (Loss)	1,023,004,194	(1,682,034,938)	126,851,409	(1,372,441,641)
Earning per Share (Baht)	1,451	(3,364)	254	(2,745)

Table C.3. Comparison of Financial Ratio of Company B (1997-2000).

COMPANY B

Financial Ratio Comparison

	Year			
	2000	**1999**	**1998**	**1997**
1. Liquidity Ratios				
Current Raio (times)	1.45	0.49	0.83	0.80
Quick Ratio (times)	0.96	0.36	0.7	0.66
2. Activity Ratios				
Asset Turnover (times)	1.09	1.26	0.55	0.64
Collection Period (days)	87.27	141.56	462.00	386.07
Account Receivables Turnover (times)	4.12	2.54	0.78	0.93
Inventory Turnover Period (days)	92.17	76.58	95.70	88.16
Inventory Turnover (times)	3.91	4.70	3.76	4.08
Account Payables Turnover Period (days)	54.59	110.96	136.41	114.08
3. Profitability Ratios				
Gross Profit Margin (%)	33.57	27.90	9.52	11.45
Net Profit Margin (%)	28.93	(48.96)	5.71	(46.05)
Earning before Tax to Total Assets (%)	31.52	(61.51)	3.13	(2.55)
Return on Equity (%)	(176.39)	85.30	(31.32)	-
Return on Assets (%)	31.52	(61.51)	3.13	(29.43)
4. Leverage Ratios				
Debt Ratio (times)	1.18	1.72	1.10	1.11
Debt to Equity (times)	(6.60)	(2.39)	(11.01)	(9.77)
Capital to Total Assets (times)	0.27	0.18	0.12	0.01
Equity to Total Assets (times)	(0.18)	(0.72)	(0.10)	(0.11)
Interest Coverage (times)	4.67	(3.00)	1.27	0.71
5. Growth Ratios				
Sales Growth	2.94	54.64	(25.45)	
Net Profit Growth	(160.82)	(1,425.99)	(109.24)	
Total Asset Growth	18.69	(32.53)	(13.10)	

APPENDIX D

FINANCIAL FIGURES OF COMPANY C

Table D.1. Comparison of Balance Sheet of Company C (1997-2000).

COMPANY C

Balance Sheet Comparison

	Unit : Baht			
	Year 2000	**Year 1999**	**Year 1998**	**Year 1997**
Assets				
Net Account & Notes Receivable	215,825,947	183,952,272	204,424,592	285,867,659
Inventories	113,443,902	103,432,453	85,193,228	100,794,911
Total Current Assets	499,577,746	420,850,301	377,473,221	390,320,521
Land, Buildings and Equipment (Net)	916,742,455	957,676,275	933,638,017	358,654,196
Total Assets	1,457,026,472	1,421,580,419	1,377,581,284	789,280,202
Liabilities and Shareholders' Equity				
Payables	114,573,192	85,543,416.00	82,537,592.00	72,282,136.12
Total Current Liabilities	953,061,496	933,882,966.25	835,244,288.26	296,844,635.56
Total Liabilities	953,061,496	933,882,966	835,244,288	366,844,636
Total Shareholders' Equity	503,964,977	487,697,453	542,336,995	422,435,567
Registered Capital	84,000,000	84,000,000	84,000,000	14,000,000
Issued Capital	84,000,000	84,000,000	84,000,000	14,000,000
Number of Registered Capital (Shares)	84,000	84,000	84,000	14,000

Table D.2. Comparison of Income Statement of Company C (1997-2000).

COMPANY C

Income Statement Comparison

	Unit . Baht			
	Year 2000	**Year 1999**	**Year 1998**	**Year 1997**
Sale	915,147,632	696,464,037	668,336,542	899,775,888
Total Revenue	973,384,557	759,689,424	740,208,918	917,910,495
Cost of Sale	629,799,707	476,120,059	433,580,473	521,009,695
Operating Expense	280,283,658	252,915,917	223,071,981	249,566,438
Interest Paid	45,072,216	33,059,273	12,615,001	11,592,074
Income Tax	1,961,451	5,099,607	21,040,034	39,454,335
Total Expense	957,117,033	767,194,855	690,307,489	821,622,543
Net Profit (Loss)	16,267,524	(7,505,431)	49,901,429	75,113,309
Earning per Share (Baht)	194	(89)	615	5,365

Table D.3. Comparison of Financial Ratio of Company C (1997-2000).

COMPANY C

Financial Ratio Comparison

	Year			
	2000	**1999**	**1998**	**1997**
1. Liquidity Ratios				
Current Raio (times)	0.52	0.45	0.45	1.31
Quick Ratio (times)	0.41	0.34	0.35	0.98
2. Activity Ratios				
Asset Turnover (times)	0.63	0.49	0.49	1.14
Collection Period (days)	84.9	95.08	110.11	109.56
Account Receivables Turnover (times)	4.24	3.79	3.27	3.29
Inventory Turnover Period (days)	64.84	78.2	70.73	40.33
Inventory Turnover (times)	5.55	4.59	5.09	8.93
Account Payables Turnover Period (days)	65.48	64.68	68.53	50.64
3. Profitability Ratios				
Gross Profit Margin (%)	31.18	31.64	35.13	35.13
Net Profit Margin (%)	1.78	(1.08)	7.47	14.42
Earning before Tax to Total Assets (%)	1.25	(0.17)	5.15	1.25
Return on Equity (%)	3.23	(1.54)	9.19	17.78
Return on Assets (%)	1.12	(0.53)	3.62	9.52
4. Leverage Ratios				
Debt Ratio (times)	0.65	0.66	0.61	0.46
Debt to Equity (times)	1.89	1.91	1.54	0.87
Capital to Total Assets (times)	0.06	0.06	0.06	0.02
Equity to Total Assets (times)	0.35	0.34	0.39	0.54
Interest Coverage (times)	1.4	0.93	6.62	1.40
5. Growth Ratios				
Sales Growth	31.4	4.21	(25.72)	
Net Profit Growth	(316.74)	(115.04)	(33.57)	
Total Asset Growth	2.49	3.19	74.54	

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