UNIVERSITY OF STIRLING

AN INVESTIGATION OF PERFORMANCE AND PRODUCTIVITY IN PETROLEUM RETAILING IN MALAYSIA

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To Everyone

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ABSTRACT

The petroleum retailing industry in Malaysia has long been established since after World War II. The business environment of petroleum retailing industry is very much difficult with issues such as eroding real margins and rising costs that impact on the industry. The Malaysian petroleum retailing industry is a regulated industry and operating costs have been increasing for time to time. The automatic pricing mechanism was established in 1983 and the margins which were set by the government have never changed. However, the industry has grown and the market continues to be very competitive.

The operators or dealers of service stations are required to do something in the market in order to survive in the industry. There are many factors can influencing the performance and/or productivity in this industry. The owners or managers should have to know and identify the external and internal environments which can dictate or affect their operations. Based on the external and internal environmental factors, two groups of variables were chosen from both factors to investigate the effect and impact of these factors on the industry.

The study was conducted in two phases. In the first phase of the study, the researcher analyzed the common problems areas and the techniques used to approach these problems by service station owners and managers. With the initial stage completed, the researchers utilized this information in attempting to identify a methodology for analyzing performance and productivity of service stations. In the second phase of the study, the

survey with structured questionnaire was done in southern part of Peninsular Malaysia.

The results of this research, mainly based on the study of the performance and productivity show that both internal (in this study represented by owner/manager and store characteristics) and external (represented by location and competitive characteristics) environmental variables played the significant roles in performance and productivity of service stations in Malaysia. Interestingly, while both internal and external environmental variables are significantly related to performance, only internal environmental variables can predict the productivity. In other words, internal environmental variables are better predictors of performance than productivity by service stations in this industry. Beside that, the study also found that there is a differences between owner and manager regarding performance and productivity. As a conclusion, the researcher suggested that both measurement should be considered when any study need to be done on any industries especially in business and retailing in the future.

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1.0 Introduction

1.1 Preamble

Thirty five years ago, Malaysia achieved her independence from the British Government. To date, Malaysia is a young nation making its mark in the international trade only within the past decades. Malaysia is experiencing rapid expansion in it economy with the fastest rate of economic growth in the Asian-Pasific region over the past five years. With a population of 18 million and a Gross Domestic Product growing by 8.5 per cent per annum in the 1990s, Malaysia represents one of the most dynamic markets in the world (Euromonitor May 1994).

One of the factors which contributed to the success of the economy was the discovery of vast quantities of oil and gas while the world was facing the economic recession. In 1994, the production of crude oil increased 0.9 per cent to 653,400 barrels per day and natural gas increased about 15 per cent (Malaysia: Ministry of Finance 1994). However, the petroleum refining industry registered only a marginal increase of 1.5 per cent during the first seven months of 1994. Total output of refined fuel oil by the petroleum refineries amounted to 1.3 million tonnes while that of liquefied

petroleum gas totalled 682,393 tonnes. The output of gasoline for motor vehicles amounted to 986,532 tonnes (Malaysia: Ministry of Finance 1994).

Furthermore, Malaysia's robust and fast growing economy was fuelled by higher growth in energy supply of 9.8 per cent a year over the five years from 1988 until 1992 (Malaysia: Malaysian Business, March 1 1994). Standing out prominently was the oil and gas sector which contributed between 20 to 30 per cent in average to government revenue for the five years from 1989-1994 (Malaysia: Ministry of Finance 93). However the realities facing Malaysia are that crude oil demand and prices have declined although supplies from the country are increasing. In addition new oil fields are becoming smaller and often found in deeper waters, generally becoming harder to develop technically and are more difficult to justify economically. Because of that, unit costs have risen. Cost is a thorny issue in the industry. For instance, Shell Company in Malaysia have faced dramatic increases in the costs of fabrication, installation and other essential support services between 30 to 45 per cent from 1990 to 1994 (Malaysia: Malaysian Business, March 1 1994). According to Dunn (1994), the challenges facing the energy industry are so great that marginal improvements are no longer enough to guarantee success. There are two keys to survival in the current low oil prices situation; cost reduction and improved competitiveness (Malaysia: Nada Petronas, April 1994).

Oil multinationals in Malaysia view the granting of better fiscal and non-fiscal incentives for exploration and production activities as a positive step towards stimulating their upstream operations in an environment of low oil prices and escalating costs. Some of them have launched a massive effort towards cost containment through challenging conventional development techniques and applying new technology to reduce costs. In upstream business an effort is being made to reduce development costs by applying satellite or so-called 'minimum intervention' technology (Malaysia: Malaysian Business, March 1 1994). Another challenge that Malaysia had been facing is strong competition from neighbouring countries such as Thailand, Vietnam and mainland China. However, Malaysia is still in a good position to enter the export market because it has good investment incentices, good infrastructure and skilled manpower and is strategically located between China and India which have the greatest demand in volume.

Currently Malaysia's oil reserves stands at 4.3 billion barrels and will last about 19 years while production is over 600,000 barrels per day. Gas reserves are estimated at almost 77 trillion cubic feet with production at 2.4 billion standard cubic feet per day (Malaysia: NST April 11th, 1994).

On the other hand, the downstream sector of the business is particularly exciting with considerable growth in demand for more

sophisticated and environmental friendly products and with fierce competition between the various players. This calls for heavy investment in plant and infrastructure in the face of rising costs and static prices which have been practiced and faced in the market today. In the coming years, most oil companies will undoubtedly focus on gas and petroleum refining. Gas is the area which probably offers the greatest potential for the future.

An overall picture shows this industry has undergone a major tilt with the development of new players and alternative fuels, declines in traditional supply sources, more demanding health, safety and environmental requirements and as in western countries, the establishment of full-fledged supermarkets alongside with petrol stations. This may become a reality in the rest of the Asia-Pacific region where oil demand is projected to increase by four per cent per annum.

1.2 Background of the problem

The Malaysian economy continues to grow and with GDP growing by 8.5 per cent per annum and over US$2,200 per capita income, Malaysia represents one of the most dynamic retail markets in the world and one of ASEAN's fastest developing retail markets. Malaysia's economic growth has been allowed to feed directly into

earnings and spending power of the masses, as a result of low taxation and state spending (Euromonitor May 1994).

One sector which will get benefits from this economic growth is the retail sector. The retail sector in Malaysia is mainly made up of small mixed retailers, small family businesses and wet markets. The government also plays an important role in the shaping of the retail market. The government is directly involved in trying to make the capital city, Kuala Lumpur, the future shopping mecca in the Asian region (Euromonitor May 1994). Nowadays, the retail sector does not only consist of the traditional retailers but also department stores, supermarkets, small and medium sized speciality stores which are housed together in shopping malls and plazas in the urban areas. Mega malls, many with over a million square feet in retail area, are springing up. They have a vastly different look and function compared to their predecessors to meet the needs of changing times.

Domestic spending within the retail industry is rising sharply. Higher disposable incomes, a rapidly rising population, a reduction in import duties, and an influx of foreign investment and retailers has led to a dramatic expansion of the retail industry. Private consumption remains the motor for the dramatic growth and seems good for the retail sector. Growth is being seen in all product sectors, including food sales and transportation (including vehicles and petrol). Starting in 1980, the food sales

and transportation are the major section in the retail industry (see the detail in Chapter 3).

Between the two sectors, food and transportation, the latter sector has experienced phenomenal growth in the past decade (Euromonitor May 1994), and with the medium income groups now owning a car and faster growth in Malaysian motor industry, this sector is the most interesting sector for study. With good infrastructure (the nation's road transport network which has been decribed as among the best in the world), the growth in the number of households, coupled with increased wealth and consumer credit has resulted in major growth in sales of cars and the demand on petrol is also high. In 1993, the number of registered private vehicles increased to 6.7 million (Malaysia: Malaysian Business June 1st 1994) and consumed about 390,000,000 litres of petrol per month (Malaysia: NST 19th December 1994). In 1994, about 16,000 extra cars took to Malaysia's road each month (Malaysia: The Star 13th January 1995).

In the downstream sector, especially in retailing of petroleum to the local consumer, they consumed about 5.1 per cent per year which is more higher compared to 3 per cent for industrial countries (Malaysia: Ministry of Energy, Telecommunication and Posts 1985). The sales volume of three grades of petrol (premium leaded 97RON, regular leaded 85RON and unleaded 97RON) until

November 1994 had reached over 390,000,000 litres per month. Beginning from January 1995, the government decided to introduce only two grade structure of petrol (leaded 92RON and unleaded 97RON). RON is an acronym for Research Octane Number. It is the measurement of the "octane rating" of petrol. The higher the octane rating, the greater the protection against engine "knocking". Knocking damages engines over time (Malaysia: NST 31th December 1994).

In the petrolum retailing industry, the market was dominated by three major oil companies. Two are multinationals which were established in the market more than 100 years, Shell and Esso and the other was Petronas, the government controlled company. The total of service stations owned by three of them reached nearly 1700 stations over the nation (detail in chapter 3). The analysts estimated the industry will grow about 6 per cent per year, based on the 1991's market of about RM 4 billion. On the other hand, profit margins over five years averaged less than 4 per cent only and never changed because it followed the pricing mechanism set up by the government. This is a dilemma faced by the owners or dealers of service stations.

In business, it is very common to see some companies die or go out of business. Others survive but their growth appears to be restricted. Still others grow, develop and make good performance. Any research that identifies the factors having the greatest impact

on performance will aid executives in the decision-making process and improve probability of success. On the other hand, for business specifically in retailing industries, the decision making processes are commonly referred to as the formulation, evaluation and selection of the alternatives to solve the managerial problems. The owners and managers must wade through a plethora of data, information sources and studies that, more often than not, are confusing and sometimes outright conflicting. This state of affairs, coupled with the increasing complexity of the decision making environment, suggests the need for management in all functional areas to understand better the process of obtaining information for their decision making responsibilities. Retail chain store executives (owners and managers) especially in petrol retailing industries are constantly facing the problem of chosing a combination of decision making processes in their effort to achieve success. Although many executives are increasingly using more sophisticated tools for decision making, there still appear to be instances of decision by intuition, hunch or untested rules of thumb.

Further more, the elements of productivity are always related to profitability or success. Nowadays, productivity is a major concern across many segments of the business. After the ravages of inflation in the late 1970s and early 1980s and recession in late 1980s and early 1990s, the need to increase productivity appears to be more urgent. Knowing this major concern, the Malaysian

Government also had set up a centre for productivity for all sectors in Malaysia known as National Productivity Centre (NPC). Although the productivity is well-known in other sectors, especially manufacturing and theories are well developed in the industry, in retailing the valid methods of productivity measurement need further development (Ratchford and Stoops 1988).

After the general election in April 1995, Malaysian Government has set up a ministry for developing the interest in entrepreneurship and small business. This step shows that the interest among policy makers at federal levels in small and growing firms. Thus, there will be increasing interest in identifying the factors associated with the conduct and performance and/or productivity of the small, dynamic firm and the relationships among those factors. Unfortunately, the literature tends to be presciptive and lacks both theory and empirical base (Glueck and Mescon 1985; Robinson and Pearce 1984 in Keats and Bracker 1988; Cooper et al 1993). On the other hand, small firms are quite different from large firms in a number of ways, and in the researcher opinion, the theory and practice in the large firm cannot be used in the small firms (Storey et at 1987). So, one of the purpose of this research is to build on and/or expand the above argument by developing a model of small firm's (in this study, outlets or chain stores) performance and productivity.

On the other hand, previous research has also used a variety of performance and productivity measures, so making comparisions across studies is also more difficult. From the reviews, little effort has been done to determine whether the factors or variables that enhance one measure of performance are the same as those that lead to other measures. Furthermore, some researchers have a tendency to examine variables that were easy to study, rather than those that were important. There are also problems relating to the ways in which data have been analysed. For example, most of the earlier studies only used cross-tabulations or univariate analysis or in other hand, less sophisticated and very few used multivariate analysis (more details in Chapter five).

The following section will discuss further the problems faced by the petroleum retailing industry in Malaysia.

1.3 Statement of the problem

The purpose of this study is to contribute to better understanding of the problems involved in decision making process of retail chain store executives, and in particular in the petroleum retail industry. There are a number of variables or factors which can have an impact on the success of individual chain store units. They include such variables as product offerings; store location; strength, number and strategies of competitors; promotional

efforts; store factors such as store size, inventory level and number of employees; store manager characteristics including such factors as the store manager's experience, age, marital status and educational level; and market factors such as disposable income and population. All of these factors will be discussed deeply in chapter four and five. One main question is to answer which variables are involved in decision making process in petroleum retailing industry in Malaysia.

In Malaysia, the service stations were categoried in small business sector. Normally, the small business requires organized and systematic management in order to produce results. According to Drucker (1974), small business managerial needs to center around strategy formulation, the proper structure of managerial tasks and the presence of informational control systems.

The small business also needs its own control and information system ensuring that resources are implemented for maximum results. Drucker (1974) also specifically states that the information obtained should be related to the present condition of the firm and the present deployment of key resources to anticipate future developments, both to identify opportunities and to ward off potential danger.

One of the important characteristics is effective usage and interpretation of information. The degree of long run success will

ultimately depend to a great extent upon management ability to recognize its needs, to gather information, and to interpret, utilize and effectively interrelate the vast amount of information and assistance available from all sources (Creenden 1966).

However we cannot ignore the important of small business sector in economic aspects. For example, in US and Canada, 97 per cent of all businesses are catogerized as small and they employed 57 per cent of the workforce, produced 45 per cent of the GNP and created 67 per cent of the new jobs (Ibrahim and Goodwin 1986). Statistics have shown that over 80 per cent of all new jobs are created by small businesses (Hofer and Sandbery 1987). Approximately 785,000 0f all businesses in Australia employ fewer than 100 employees. These small businesses represent some 98 per cent of the total private interprises, and employ approximately 55 per cent of the total private sector employment and 80 per cent of small businesses are located in agriculture, wholesale, retail, business services and construction sectors (Kent 1994). In Malaysia, statistics about small businesses are unknown but from the number of establishment in 1990, 93.4 per cent are sole proprieter and partnership. This figure shows that most of the establishments are small businesses and employ not more than five employees per establishments (more detail refer to Chapter three).

Furthermore, the main problem facing by the small business sector is survival. There are a number of reports stated that each year many

of the small firms are forced to close their doors. For example, in 1980, there were 11,000 small business failures (Ibrahim and Goodwin 1987) and leaving behind US$14.64 billion in liabilities (Saladin and Nelson 1984).

In petroleum industry, the retailers do even more poorly than average of all retail establishment (Hand et al 1987). In the USA, one out of four retail petroleum service stations fails each year and 80 per cent of the failures are due to lack of ability to generate a profit (Bank of America 1971). In UK, the number of petrol stations has fallen from almost 40,000 in 1968 to just 16,951 at the end of 1995 (UK: The Sunday Times, March 3th 1996).

From my observation for the past few years, in Malaysia, this industry is the fastest growing compared to other industries. With large reserves of oil and gas, the potential development of the industry remain bright. Somehow it has become the surporting industry to other industries. Every industry needs power to operate, needs transportation to carry out their products for export or to reach their customer and consumer and all of them need fuel and the only resources they can get are from the petrol stations.

So how the dealers of service station in Malaysia survive? They are categories as small businesses but the amount of monies they have to spend is large compared to other categories of small businesses.

They have to find cash, bank guarantee and others to satisfy the oil companies before they are given the permission to run their service stations. To apply for a dealership, one has to show the oil companies enough working capital. For example, Mobil prefers those who can provide working capital of at least RM70,000 (US$28,000) and be able to secure a RM50,000 (US$20,000) bank guarantee. Caltex requires one to have RM100,000 (US$40,000) for working capital and a RM50,000 (US$20,000) cash security deposit. Petronas ask for RM100,000 (US$40,000) for working capital and RM50,000 (US$20,000) for bank guarantee (Malaysia: Malaysian Business April 1993). On the other hand, prices are controlled by the government and local people are not willing to work as pump attendant. One dealer tells that getting workers, and getting them to stay on, heads the list of problems. Another main problem which dealers have to bear with is the evaporation of petrol, being an invisible cost. According to one dealer, most of them have to write off another RM2,000 a month because of evaporation. In other aspect, they have to think or react just like other businessmen do, such as making decisions based on daily operations besides following the procedures set by the oil companies.

The main problem faced by the dealer, the owner or the manager, is how to make decisions when so many variables have to be considered? Which ones of the variables play the important parts in the business and which ones do not? If this one was important,