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Chinese petroleum industry analysis and entry strategies

Xu Zhaoxian

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CHINESE PETROLEUM INDUSTRY ANALYSIS
AND ENTRY STRATEGIES

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Business Administration

by
Xu Zhaoxian
September 2001
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AND ENTRY STRATEGIES

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September 2001

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ABSTRACT

This comprehensive project introduces the past and present of the Chinese petroleum industry, conducts industry analysis using Michael Porter's five forces model, and discusses the changes made in recent years and the business opportunities for foreign companies. In order to effectively enter the Chinese petroleum market, four commonly used entry strategies are introduced. Key issues, weaknesses and strengths, as well as implications of each entry strategy are discussed in detail. Conclusions and recommendations are also discussed.
ACKNOWLEDGMENTS

I would like to thank my comprehensive project committee for their kind support and professional guidance throughout my project research and writing effort. The knowledge and input of Dr. Nabil Y. Razzouk, Dr. Victoria Seitz, Dr. Dong Man Kim, and Dr. Pierre-Xavier Meschi were instrumental in the completion of my project.

I also wish to thank those friends who supplied valuable materials and statistical data on the Chinese petroleum industry. Their contribution made the industry analysis possible and meaningful.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
<td>iii</td>
</tr>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>iv</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>viii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>ix</td>
</tr>
<tr>
<td><strong>CHAPTER ONE: INTRODUCTION</strong></td>
<td></td>
</tr>
<tr>
<td>The General Issue</td>
<td>1</td>
</tr>
<tr>
<td>The Purpose and Value of the Project</td>
<td>1</td>
</tr>
<tr>
<td>Description of the Project</td>
<td>2</td>
</tr>
<tr>
<td>Methodology</td>
<td>3</td>
</tr>
<tr>
<td><strong>CHAPTER TWO: THE CHINESE PETROLEUM INDUSTRY-PAST AND PRESENT</strong></td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>4</td>
</tr>
<tr>
<td>Current Situations</td>
<td>6</td>
</tr>
<tr>
<td>Major Players</td>
<td>7</td>
</tr>
<tr>
<td>Number of Employees</td>
<td>10</td>
</tr>
<tr>
<td>Profitability, Losses and Debts</td>
<td>11</td>
</tr>
<tr>
<td>Trading Right</td>
<td>12</td>
</tr>
<tr>
<td>Opening-up of Petroleum Product Market</td>
<td>12</td>
</tr>
<tr>
<td>Opening-up of Equity Market</td>
<td>13</td>
</tr>
<tr>
<td><strong>CHAPTER THREE: INDUSTRY ANALYSIS</strong></td>
<td></td>
</tr>
<tr>
<td>Industry Competitors</td>
<td>16</td>
</tr>
<tr>
<td>Bargaining Power of Suppliers</td>
<td>20</td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Bargaining Power of Buyers</td>
<td>21</td>
</tr>
<tr>
<td>Threat of New Entrants</td>
<td>23</td>
</tr>
<tr>
<td>Threat of Substitutes</td>
<td>24</td>
</tr>
<tr>
<td><strong>CHAPTER FOUR: MARKET PROFILE, OPPORTUNITIES AND THREATS</strong></td>
<td></td>
</tr>
<tr>
<td>Market Profile</td>
<td>26</td>
</tr>
<tr>
<td>Industry Position</td>
<td>26</td>
</tr>
<tr>
<td>Size</td>
<td>27</td>
</tr>
<tr>
<td>Supply-Demand Balance</td>
<td>27</td>
</tr>
<tr>
<td>Geographical Distribution of Production and Consumption</td>
<td>28</td>
</tr>
<tr>
<td>Import Sources</td>
<td>29</td>
</tr>
<tr>
<td>Opportunities</td>
<td>29</td>
</tr>
<tr>
<td>The Oil Market</td>
<td>29</td>
</tr>
<tr>
<td>Natural Gas Market</td>
<td>30</td>
</tr>
<tr>
<td>Xinjiang Province</td>
<td>31</td>
</tr>
<tr>
<td>West-East Xinjiang-Shanghai Pipeline</td>
<td>32</td>
</tr>
<tr>
<td>China's Accession to the World Trade Organization</td>
<td>32</td>
</tr>
<tr>
<td>Threats</td>
<td>33</td>
</tr>
<tr>
<td><strong>CHAPTER FIVE: ENTRY STRATEGIES AND IMPLICATIONS</strong></td>
<td></td>
</tr>
<tr>
<td>Commonly Used Entry Strategies</td>
<td>35</td>
</tr>
<tr>
<td>Export Strategies</td>
<td>36</td>
</tr>
<tr>
<td>Joint Ventures</td>
<td>44</td>
</tr>
</tbody>
</table>
Wholly Owned Strategy .................. 53
Strategic Alliance ...................... 56
Common Problems and Recommended Solutions .... 60
Implications .......................... 61
"Guan Xi" .................................. 61
Adequate Preparation .................. 63
Aggressiveness .......................... 64
Commitment and Early Involvement ........... 64
Quality People .......................... 65
Understanding and Adapting to the Needs of the Chinese Oil and Gas Industry .... 65
Mutual Benefit and Equality .............. 66
Ranking System .......................... 67

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS ........ 69
APPENDIX A .................................. 72
REFERENCES .................................. 74
LIST OF TABLES

Table 1. Number of Employees ........................................... 11
Table 2. Profit, Losses and Debts for Chinese Petroleum and Petrochemical Enterprises ................. 11
Table 3. Current Tariffs on China's Petroleum and Petrochemical Products(%) ............................... 13
Table 4. Foreign Companies That Have Significant Operations in Chinese Petroleum Market .......... 17
Table 5. The Position of the Petroleum and Petrochemical Industry in China(1999) ................. 26
Table 6. Ranks in the World(1998) ........................................ 27
Table 7. Common Problems and Recommended Solutions .... 61
LIST OF FIGURES

Figure 1. Crude Oil Output by Producer (1998) ............ 10
Figure 2. Alliance Value Creation Logics ................. 57
CHAPTER ONE
INTRODUCTION

The General Issue

The Chinese petroleum industry is considered one of the five pillar industries in China and has contributed its significant share to Chinese continuing robust economic growth. With China’s transition from a planned economy to a Chinese style market economy, the Chinese petroleum industry has been undergoing major restructuring. It provides more open environment and enormous opportunities for foreign competition. Improved market conditions, together with the opportunities created thereof, have attracted and are attracting more and more foreign oil and gas companies to enter this market. However, due to the fact that this is an emerging market, for companies to enter and succeed in this market, selecting the best entry strategy becomes the critical issue that they must tackle with.

The Purpose and Value of the Project

The purpose of this project is to introduce the opportunities created through the current changes, both organizational and functional, in the Chinese petroleum industry. Proper entry strategies were discussed for
companies seeking to do business with this industry. The discussion of the different entry strategies can assist foreign oil and gas companies to focus efforts quickly on the most relevant issues concerning how to effectively enter this industry. International companies can also benefit in avoiding some possible pitfalls that might be encountered in pursuing the Chinese petroleum market.

Description of the Project

This project focuses on commonly used entry strategies to the Chinese petroleum market and the selection of the best entry strategy. For each entry strategy, strengths and weaknesses, as well as some key issues are discussed in detail and the best entry strategy is recommended. In order to give readers an overall picture of the current development of the Chinese petroleum market, some background information is also provided. For example, the history of the Chinese petroleum industry, current situations, impact of WTO on this industry, opportunities and international competition, etc., are introduced at the beginning part of the project. Finally, implications regarding to entry strategies, as well as recommendations and conclusions are discussed.
Methodology

In this project, library sources, as well as knowledge gained in class will be heavily referred to. Primary data created through work experience in the industry is an important input in this project. Some international companies who have presence in China were surveyed through questionnaire. In addition, Internet was another important data source for the fulfillment of this project.
CHAPTER TWO

THE CHINESE PETROLEUM INDUSTRY-PAST AND PRESENT

History

China was the first country to discover and use oil and gas, but a modern oil and gas industry was only begun in the 1950s. Before 1949, China had only one or two small oil fields that produced 120,000 tons of crude oil annually.

In the 1950s, after the People's Republic of China was founded, oil field workers and staff overcame technical and economic difficulties and explored and developed the Gansu Yumen, Xinjiang Karamay, and Qinghai Qaidam oil fields. In 1952, the Ministry of Geology and Mineral Resources was set up. Based on Soviet experts' suggestions, a survey team explored for oil in Gansu, Xinjiang, and Qinghai in northwestern China and concluded that China was an oil-poor country.

In 1953, Chairman Mao Zedong and Premier Zhou Enlai met with geologist Li Siguang and asked him about China's oil and natural gas prospects. Li Siguang said that he believed China's geographical structures held great quantities of underground oil and gas.
In 1954, Li Siguang, the director of the Ministry of Geology and Mineral Resources then, led a team organized to conduct a strategic oil investigation and exploration throughout the nation.

The successful development of the Daqing Oil Field in the 1960s made China self-sufficient in oil. Since the 1970s, China has explored and developed the Shengli, Dagang, Liaohе, Jianghan, Huabei, Changqing, Jilin, Zhongyuan, Henan, Jiangsu, and Jidong oil fields. As well, the Sichuan Gas Field has also been developed (CNPC Manual, 1996).

China's oil and gas production has increased steadily each year. In 1996, China's crude oil production set a new record—more than 156 million tons, 8 million tons more than in 1995. Old East China land oil fields, led by the Daqing Oil Field, produced 80% of this output.

Offshore oil production is also increasing rapidly and accounts for 81 percent of China's yearly increase in crude oil production. China's oil production is expected to continue its steady increase, eventually reaching 165-167 million tons in 1997, an increase of 4.2-5.5 percent over 1996.

In contrast to industrialized countries, China's oil and gas industry is young: It has been a mere 60 years since
the Yumen Oil Field was discovered. The United States and the former Soviet Union have produced oil for more than 150 years. As nonrenewable, high-quality energy sources, oil and gas are an integral part of China's economic growth. The national defense, petrochemical industry, transportation, and aviation industry are all dependent upon oil and gas.

Current Situation

China's energy policy has gone through significant changes over the last 20 years. The country has shifted its focus from an energy strategy based on self-reliance to one of exploration and production of oil and gas resources abroad. The demand for energy in China has overwhelmed domestic production, which has led to rising oil imports. To compensate for the country's growing dependency on imported energy, the Chinese government is beginning to promote vigorous development of the western areas of the country as well as investing in international petroleum projects. Environmental considerations are increasingly important as China seeks to expand and further develop its natural gas infrastructure through a massive natural gas pipeline campaign.
The Chinese government has restructured the petroleum industry and implemented market reforms to modify its stand toward foreign involvement in the energy sector and make the industry more competitive. Foreign investment is being encouraged in upstream exploration and development, as well as in pipeline project construction. From 2000 to 2010, China is planning to build six cross-country natural gas pipelines as part of its strategy to create a nation-wide gas network. The Chinese government is granting preferential policies, tax incentives and more liberal regulations for foreign companies in terms of acquisition of land-use rights to ease market access.

Major Players

Currently, there are three major giants operating in the Chinese petroleum industry: China National Petroleum Corporation (CNPC), China Petrochemical Corporation (Sinopec), and China National Offshore Oil Corporation (CNOOC). In 1998, the petroleum industry was reorganized following the National People’s Congress. This sector has since become more globally competitive. The restructuring resulted in the formation of two vertically integrated firms: the China National Petroleum Corporation (CNPC) and the China
Petrochemical Corporation (Sinopec). The two firms are strategically divided along geographic lines.

After the restructuring, CNPC became an integrated petroleum and petrochemical company. It received 14 refineries and petrochemical complexes and 5 trading companies located in the northern and western regions, while controlling 14 oil and gas fields in the regions. Their production currently accounts for 69% of the country's crude oil production and about 40% of the production of refined products. In late 1999, CNPC set up a holding company, PetroChina, for the purpose of raising money on the international markets. PetroChina has oil reserves of 13 billion tones and a reserve of 1.47 trillion cubic meters of natural gas, which represents respectively 70% and 73% of China's total reserves. As of April 2000, PetroChina became the world's fourth-largest publicly traded oil company when shares were issued in the New York and Hong Kong stock exchanges (CNPC Statistics, 2000).

Sinopec has also been transformed from a downstream refiner and petrochemical producer into a crude producer with a structure that resembles the multinational oil majors. It now owns six oilfields previously controlled by CNPC, and has a crude production capacity of 725,300
barrels/day, 22% of the country's total crude oil in 1998. However, refining and petrochemical production remains Sinopec's core business. It retains 23 of its refinery and petrochemical enterprises in 19 provinces and cities, mainly in the eastern and southern regions of the country. Currently it accounts for about 52% of the production of refined products with 46% for gasoline and 50% for diesels. Its subsidiaries include China's best refineries and petrochemical companies, such as Hong Kong-listed Shanghai Petrochemical, Beijing Yanhua, Yizhen Chemical Fibres and Zhenhai Refining and Chem (CNPC Statistics, 1999). In March 2000, China National Star was transferred to, and became a wholly owned subsidiary of Sinopec. Meanwhile local governments have transferred 19 and 11 provincial petroleum distribution companies to CNPC and Sinopec respectively.

The China National Offshore Oil Corporation (CNOOC) is the largest offshore oil producer, and the third largest oil producer in China (see Figure 1). It currently accounts for about 10% of China's oil production and plans to invest RMB150 billion in expanding facilities to increase its annual oil output to 40 million tons in 2005. The remaining 1% of the petroleum is produced by other small and medium-sized petroleum enterprises (CNPC Statistics, 2000).
Crude Oil Output by Producer (1998)

Source: CNPC Statistics, 1999

Number of Employees

The number of employees in the Chinese petroleum industry has fallen by near 30% in past 5 years, as a result of the reform for state-owned enterprises. A large number of workers have been removed from frontline positions to the enterprises' various services-oriented subsidiaries. In addition, some social functions formerly belonged to the industry such as schools, universities and hospitals are separated from the industry and given to the local government. Nevertheless, redundancy still remains huge compared with international peers (See Table 1).
Table 1. Number of Employees

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum &amp; gas extraction and processing enterprises</td>
<td>1.28</td>
<td>1.25</td>
<td>1.16</td>
<td>1.09</td>
<td>1</td>
</tr>
<tr>
<td>Chemical enterprises</td>
<td>8.19</td>
<td>8.14</td>
<td>7.87</td>
<td>6.22</td>
<td>5.77</td>
</tr>
</tbody>
</table>

Source: CNPC Statistics, 1999

Profitability, Losses and Debts

The petroleum industry has been profitable, and is actually one of the most profitable industries in China (See Table 2). Profits fell in 1998, as a result of the country's economic slowdown and disinflation. But profit growth recovered strongly in 1999 in tandem with economic recovery. The losses, as well as the number, of the loss-generating enterprises were also reduced greatly in 1999.

Table 2. Profit, Losses and Debts for Chinese Petroleum and Petrochemical Enterprises

<table>
<thead>
<tr>
<th></th>
<th>1997</th>
<th>1998</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net profit (RMB billion)</td>
<td>34.9</td>
<td>19.6</td>
<td>40.3</td>
</tr>
<tr>
<td>Losses of loss-making enterprises(%)</td>
<td>-</td>
<td>18.6</td>
<td>14.2</td>
</tr>
<tr>
<td>Assets-Liabilities ratio(%)</td>
<td>55</td>
<td>52.2</td>
<td>40.4</td>
</tr>
<tr>
<td>Petroleum extraction enterprises</td>
<td>65</td>
<td>64</td>
<td>62</td>
</tr>
<tr>
<td>Refining and petrochemical enterprises</td>
<td>-</td>
<td>-</td>
<td>45</td>
</tr>
<tr>
<td>Sinopec Corp.</td>
<td>-</td>
<td>-</td>
<td>45</td>
</tr>
<tr>
<td>PetroChina</td>
<td>-</td>
<td>-</td>
<td>48</td>
</tr>
</tbody>
</table>

Source: CNPC Statistics, 2000
Further, the assets-liabilities ratio has declined in recent years to 40% for crude oil & gas extraction enterprises and 62% for refining and petrochemical enterprises in 1999 (CNPC Statistics, 2000).

Trading Right

Only a small number of state-specified companies including Sinopec's 70% owned subsidiary Unipec, CNPC's 70% owned subsidiary China Oil and Sinochem have been granted licenses by the Chinese government to import and export crude oil and refined products. As a result, if foreign companies intend to do business with Chinese oil and gas companies in these fields, they should know whether or not the Chinese companies have foreign trading rights.

Opening-up of Petroleum Product Market

Domestically, production of crude oil is still subject to government control, but refined and petrochemical products are market-driven except for the sales of gasoline and diesels to special customers.

In general, compared with other industries in China, the petroleum and petrochemical industry is still under government protection (See Table 3).
### Table 3. Current Tariffs on China's Petroleum and Petrochemical Products (%)

<table>
<thead>
<tr>
<th>Product</th>
<th>Tariff (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude oil</td>
<td>0.5 (%)</td>
</tr>
<tr>
<td>Refined and products (average)</td>
<td>7.3</td>
</tr>
<tr>
<td>Synthetic resin (average)</td>
<td>16</td>
</tr>
<tr>
<td>Gasoline</td>
<td>9</td>
</tr>
<tr>
<td>Diesel</td>
<td>6</td>
</tr>
<tr>
<td>Kerosene</td>
<td>9</td>
</tr>
<tr>
<td>Naphtha</td>
<td>6</td>
</tr>
<tr>
<td>Ethylene</td>
<td>17</td>
</tr>
<tr>
<td>Ethylene (average)</td>
<td></td>
</tr>
<tr>
<td>PE</td>
<td>18</td>
</tr>
<tr>
<td>PP</td>
<td>16</td>
</tr>
<tr>
<td>PS</td>
<td>16</td>
</tr>
<tr>
<td>PVC</td>
<td>16</td>
</tr>
<tr>
<td>ABS</td>
<td>16</td>
</tr>
<tr>
<td>Synthetic fiber (average)</td>
<td>16</td>
</tr>
<tr>
<td>Synthetic fiber materials (average)</td>
<td>13</td>
</tr>
<tr>
<td>Synthetic rubber (average)</td>
<td>7.5</td>
</tr>
</tbody>
</table>

Source: Ministry of Foreign Trade and Economic Corporation (MOFTEC), 1999

**Opening-up of Equity Market**

No foreign investors can be granted crude oil exploration and production licenses, but they can form joint ventures with domestic oil producers, refineries and petrochemical producers, with government approvals. For oil exploration and production, refining, ethylene production, pipeline transportation, oil storage facilities and oil jetties, a domestic majority ownership is required.
According to new government policies, the former state owned petroleum companies can raise capital in international equity market. CNPC and Sinopec have successively listed their wholly-owned PetroChina and Sinopec Companies in New York and Hong Kong Stock Exchanges in March 2000 and October 2000, raising $2.9 billion and $3.73 billion respectively. The world's Big Three, Exxon, BP and Shell, have all purchased the shares in these Initial Public Offerings. CNOOC also announced listings in New York and Hong Kong Stock Exchanges in February 2001. Shell has promised a 20% share purchase. BP and Texaco also expressed interest in purchase of this stock (CNOOC News, 2001).

Crude oil exploration and production licenses are granted by the Ministry of Land and Natural Resources, and currently they are only granted to CNPC, Sinopec and CNOOC. Meanwhile approvals by the State Development Planning Commission are required for investment projects in refineries and petrochemical plants with values exceeding $6 million. Recognition that it's cheaper to import than to build and produce domestically, the government decided in the mid-1990s to increase imports and control domestic capacity expansion for refining and petrochemical products. As a result, fixed asset investment in the chemical sector
fell by 6% a year during 1995-1999. And at the beginning of 1999, the government suspended plans for the new petrochemical projects, including six ethylene complexes. However, facing increasing upgrading needs in anticipation of the impending international competition after WTO entry, the government has relaxed the controls and approved many joint venture projects in year 2000.
CHAPTER THREE
INDUSTRY ANALYSIS

The five forces model by Michael Porter is used as a basic framework in analyzing the Chinese petroleum industry.

Industry Competitors

In the Chinese petroleum industry, there are roughly three levels of competition: One is the competition among the domestic players; another is among domestic players and foreign companies; the third is among foreign companies.

For the first level of competition, the largest three companies such as CNPC, Sinopec, and CNOOC, account for nearly 100% market share, therefore, this is a highly monopolized market in China. In addition, the operation areas for these three companies are divided according to geographic locations, as a result, competition among them is minimized.

For the second level competition, which is among domestic players and foreign companies, it is not intensified due to the governmental policies of attracting foreign investment in this sector in terms of both capital and advanced technologies. Another factor contributing to this less intensive competition environment is that the
government still protects this industry through imposing some legal restrictions for foreign companies to enter.

For the third level competition, there are active international operations in this industry, thus the competition is intensive. Many foreign companies now have a significant presence. Table 4 (See Table 4) lists some foreign companies who have entered the Chinese petroleum market. Some examples of their businesses in China are also listed below.

Table 4. Foreign Companies That Have Significant Operations in Chinese Petroleum Market

<table>
<thead>
<tr>
<th>• Agip Italy</th>
<th>• Meiya Power Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Atlantic Richfield</td>
<td>• Mitsubishi</td>
</tr>
<tr>
<td>• British Petroleum PLC</td>
<td>• Pertamina Indonesia</td>
</tr>
<tr>
<td>• BP Amoco Arco U.K.</td>
<td>• Phillips U.S.A.</td>
</tr>
<tr>
<td>• Broken Hill Proprietary</td>
<td>• Rosneft Russia</td>
</tr>
<tr>
<td>• Chevron U.S.A.</td>
<td>• Royal Dutch Shell</td>
</tr>
<tr>
<td>• Enron</td>
<td>• Saudi Amaco</td>
</tr>
<tr>
<td>• Esso</td>
<td>• Texaco U.S.A.</td>
</tr>
<tr>
<td>• Exxon Mobil Corp.</td>
<td>• Total De France</td>
</tr>
<tr>
<td>• Gaz De France</td>
<td>• Tokyo Gas</td>
</tr>
<tr>
<td>• Japan National Oil Corp.</td>
<td>• Woodside Petroleum Ltd.</td>
</tr>
<tr>
<td>• Kerr-Mcgee</td>
<td>• Worley Ltd.</td>
</tr>
<tr>
<td>• Korea Gas Corp.</td>
<td>• XCL Ltd.</td>
</tr>
<tr>
<td>• Malaysia Petronas</td>
<td></td>
</tr>
</tbody>
</table>

Source: State Bureau of Petroleum and Chemical Industries, 2000

A consortium including Chevron, Texaco, Agip and CNOOC has developed a major offshore oil field in the Pearl River
Mouth area. The field is expected to reach a production of 27,000 barrels per day when fully operational.

BP Amoco has purchased a 20% share of PetroChina, which represents a larger strategic alliance with CNPC. The company is planning to construct more than 800 gas stations costing $1.4 billion in southern Guangdong Province in 2001. In addition, PetroChina and BP Amoco have set up a joint venture to market the gas produced in the Tarim Basin to areas in Shanghai and Eastern China.

Kerr-Mcgee, a U.S. oil company, has pumped a high-yield exploratory well in a block in North China’s Bohai Bay. The well is capable of producing 395 cubic meters of crude oil per day. CNPC and Enron, a U.S pipeline company, are currently constructing a 675km pipeline from Chongqui to Wuhan in central Hubei Province.

Royal Dutch Shell is the largest foreign participant in the onshore gas sector in China. In September 2000, the company signed a $4.4 billion contract with CNPC for the exploration and development of the Orfus basin in northwestern China. They also have a contract to undertake a feasibility study to develop the Changbei gas field in Shanxi province in a joint venture with CNPC. Development will begin in 2004. In April 2000, Shell and CNOOC also
signed a contract to extract petroleum in the Pearl River basin of the South China Sea. The CACT Group, which is composed of CNOOC, Agip China, Chevron and Texaco, represents the largest foreign investment in offshore field production in China. Texaco currently possesses a share of 15,000 tones per day of production in five offshore fields in the South China Sea. In August 2000, the company announced an offshore oil discovery in the Bohai Bay area near the port of Tianjin.

Agip Oil and CNPC have signed a co-operative contract for oil and gas exploration in the Sebei Block located in northwest China’s Qaidam Basin. Agip is also active in the development of onshore oil resources in the Tarim Basin.

In October 1998, XCL Ltd. signed a production-sharing contract with CNODC for development drilling operations in the Bohai Bay area. In July 2000, Texaco made a significant oil discovery off northeastern China on Bohai Bay near the port of Tianjin. If deemed commercial, the discovery will allow Texaco to expand its joint developments of oil fields in China with CNOOC.

In March 2000, Worley Ltd. an Australian engineering firm, won a contract by China Offshore Engineering Corp (COOEC) for structural and subsea pipeline consultancy
services. A $4.4 billion project involving Shell Exploration Ltd. and the Changqing Exploration Bureau began in July 2000. The two companies will drill and test wells on the Changbei block in the Ordos basin. In addition, a pipeline will be laid to develop gas in northern and eastern China. The project will begin in 2004.

Meiya Power Company, a U.S. corporation based in Hong Kong has joined China Zhenglian Sanbei Group Co. Ltd. in a joint investment of $950 million in a gas-fired power plant in Jingbian County of Shanxi Province. The U.S. company announced that it plans to invest more than $140 million in high-tech projects in the coming years (MLNR, 1999).

**Bargaining Power of Suppliers**

After the abolish of the Ministry of Petroleum Industry and the Ministry of Chemical Industry in 1998, CNPC and Sinopec became two vertically integrated corporations. Their businesses range from upstream to downstream including oil and gas exploration, petroleum production, oil and gas transportation, oil refining, and marketing of petroleum products, etc. The resources needed for this industry are allocated by the government because all the energy resources are under state control. So the government has absolute bargaining power over the industry. There are several
governmental agencies governing the input of this industry. They are supposed to be responsible for drafting laws and regulations, formulating industry policies, guiding investment decisions and promoting and overseeing reforms for the enterprises. The State Bureau of Petroleum and Chemical Industries was established under the State Economic and Trade Commission (SEETC) to oversee and guide the operations of the petroleum industry. The State Development Planning Commission engaged in long-term development issues including approving large projects and JVs, and SEETC handles short-term operating and reform issues. The Ministry of Land and Natural Resources (MLNR) is in charge of oil resources issues and the Ministry of Foreign Trade and Economic Corporation (MOFTEC) is responsible for foreign trade issues(See Appendix A for the Structure of China's Petroleum and Petrochemical industry).

Bargaining Power of Buyers

Wholesale distribution companies are typical buyers of this industry. Because this sector of industries is highly regulated by the government, there are restrictions and regulations in terms of both the distribution of petroleum products and the pricing of the products.
For products pricing, under the new pricing system introduced in June 2000, the State Development Planning Commission (SDPC) publishes a benchmark price for crude oil and a retail guidance price for gasoline and diesels on a monthly basis. Crude oil is permitted to be sold at the benchmark price plus surcharges (discounts) reflecting income duties, transportation costs and oil quality etc, while the prices of gasoline and diesels are allowed to be set within 5% of the guidance prices. For other refined products, they are still directly determined by the State Development Planning Commission. Kerosene and some heavy oil are linked to state guided prices and those of the remaining are set by producers and subject to market conditions. The prices for petrochemical products, except for a small amount of urea and synthetic resins, have been liberalized and market-driven since 1994.

For the distribution of the petroleum products, Wholesale distribution companies for gasoline and diesels must be at least partially owned or jointly operated by either Sinopec or CNPC. But the wholesale distribution for petrochemical products is not regulated for domestic companies. Retail distribution of gasoline and diesels is open to domestic companies.
Threat of New Entrants

In the past the Chinese petroleum industry was highly regulated with nearly 100% state owned companies operating in the sector. After the major restructuring, this industry is dominated by CNPC, Sinopec, and CNOOC.

In order to evaluate the potential threat of new entrants, two levels have to be distinguished: The first level is of the Chinese Companies such as CNPC, Sinopec, and CNOOC, who are controlling the upstream and downstream production. The threat of new entrants is low, since the Chinese government still has a strong influence on the oil and gas market and allows only limited competition. The second level is of foreign companies working together with the state owned companies. Investments in the oil industry are capital-intensive and contracts are being made on a long-term basis. Companies who establish close relations with the Chinese now seem to have a strong stand also in the future. It might be difficult for companies lagging behind to get access to the oil and gas market. A foreign company could enter this market by setting up a joint venture with the Chinese companies, but approval for the partnership must be granted at first by the State Development and Planning Commission, which is a further obstacle for market access.
In addition, the new Ministry of Land and Natural Resources (MLNR) has become regulator of all land use in China. It has a target of implementing a certificate of title and permitted land use for all of China. All mineral assets in China are property of the state and only the three state oil companies are granted certificate rights to develop the mineral resources. Foreign owned companies can only participate in the development of oil and gas through partnerships of various type with the state oil companies. All these barriers add the difficulties for new entrants to enter this industry. As a result, the threat of new entrants is minimal.

**Threat of Substitutes**

Alternative energies such as coal and natural gas are substitutes to the oil and gas products. Up to now China is the largest emitter of carbon emissions in the world, which can be led back to the strong dependence on coal. Since 1970 China has achieved to reduce the carbon emissions by nearly one half, but the major industries still use coal as energy far more intensive than most developed countries do. In 1996 the Chinese government put up a five-year plan to reduce the emissions caused by the use of the energy sources such as oil and carbon. With increasing concerns on environmental
protection and higher energy efficiency, the government made plans to increase the use of natural gas, which might further reduce the demand for oil. Solar energy could also be the substitute of oil because it is considered clean and environmentally friendly energy.
CHAPTER FOUR
MARKET PROFILE, OPPORTUNITIES AND THREATS

Market Profile

Industry Position

The petroleum and petrochemicals industry is considered one of the five pillar industries in China and accounted for 15% of the output and assets, and 18% of the profits, of the country's whole industrial sector in 1999 (See Table 5).

Table 5. The Position of the Petroleum and Petrochemical Industry in China (1999)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Over the respective indicators of the whole industrial sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Output Value</td>
<td>15%</td>
</tr>
<tr>
<td>among which</td>
<td></td>
</tr>
<tr>
<td>by petroleum sector</td>
<td>8%</td>
</tr>
<tr>
<td>by refinery sector</td>
<td>4%</td>
</tr>
<tr>
<td>by petrochemical sector</td>
<td>3%</td>
</tr>
<tr>
<td>Sales</td>
<td>14.70%</td>
</tr>
<tr>
<td>Exports</td>
<td>8.40%</td>
</tr>
<tr>
<td>Imports</td>
<td>2.40%</td>
</tr>
<tr>
<td>Net Profits</td>
<td>18.30%</td>
</tr>
<tr>
<td>Assets</td>
<td>15%</td>
</tr>
<tr>
<td>Representation of energy consumption</td>
<td>23.40%</td>
</tr>
</tbody>
</table>

Source: CNPC Statistics, 1999

Meanwhile it represented 23% of China's energy consumption in 1999, with coal and gas representing the remaining 67% and 3% respectively (CNPC Statistics, 2000).
Size

China is currently the world's largest producer of synthetic fibers, fifth largest producer of crude oil and synthetic rubbers, and seventh largest manufacturer of synthetic ammonia. The ranks in terms of capacity are higher. Sinopec ranked 73rd among the Fortune 500, and the 7th largest petroleum and petrochemical company in the world in 1998 (See Table 6) (Sinopec Statistics, 1999).

Table 6. Ranks in the World (1998)

<table>
<thead>
<tr>
<th></th>
<th>Volume (million tons)</th>
<th>Rank in the world</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude oil output</td>
<td>160.2</td>
<td>5</td>
</tr>
<tr>
<td>Synthetic fiber output</td>
<td>4.37</td>
<td>1</td>
</tr>
<tr>
<td>Synthetic rubber output</td>
<td>0.59</td>
<td>5</td>
</tr>
<tr>
<td>Synthetic ammonia output</td>
<td>31.6</td>
<td>7</td>
</tr>
<tr>
<td>Refinery capacity</td>
<td>217.3</td>
<td>4</td>
</tr>
<tr>
<td>Ethylene producing capacity</td>
<td>4.2</td>
<td>6</td>
</tr>
<tr>
<td>Synthetic fiber producing capacity</td>
<td>3.9</td>
<td>1</td>
</tr>
<tr>
<td>Sinopec as a petrochemical company</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>Sinopec among Fortune 500</td>
<td>-</td>
<td>73</td>
</tr>
</tbody>
</table>

Source: Sinopec Statistics, 1999

Supply-Demand Balance

China is currently a net importer of oil. All major refined and petrochemical products need to be imported except for gasoline. Though there are substantial oil
exports, local sufficiency rate for crude oil is only about 80%. A larger amount of oil is imported to satisfy local needs. For gasoline and diesels, the domestic production can satisfy the domestic consumption, this is partly due to the government's import ban of these two products. But the sufficiency rate for kerosene is less than 80%. There is a large supply-demand gap for petrochemical products, with about 40% of synthetic resins, 50% of synthetic rubbers and 80% of synthetic rubbers relying on imports. The local sufficient rate is 99.3% for ethylene. The genuine sufficient rate in terms of the demand for its downstream products is about 45%. Exports of petrochemical products are negligible (MLNR, 1999).

Geographical Distribution of Production and Consumption

There is a mismatch between production and consumption for crude oil and refined products in China. Consumption is concentrated on the East and Central China while the Northeast owns about one third of the country's oil processing capability. About two third of refined products produced in Northeast need to be transported out of the region.
Import Sources

The majority of the imports of China's refined and petrochemical products are from Asia. Seventy five percent of refined product imports are from Singapore and Korea, and 66% of the imports of the five major synthetic resins and 80% of polyester fibers are from Japan, Korea, Malaysia and Taiwan (MOFTEC, 1999).

Opportunities

In order to be competitive in the world petroleum market, the Chinese government is beginning to encourage foreign investment in projects. Therefore, considerable business opportunities exist in the following areas such as oil and gas exploration and enhanced oil recovery programs, natural gas processing, technology and equipment for heavy oil, sulfur recovery, and pipeline construction. China's accession to the World Trade Organization will also bring opportunities to this industry.

The Oil Market

China’s Tenth Five-year Plan outlines the country’s strategy to step up exploration of the offshore southeastern coastal areas and oil pipeline development. A 1200 km oil pipeline, capable of transporting more than 5 million tones
of oil annually from Lanzhou to Chongqing, is currently in the construction phase. China expects to witness an annual average increase of 20% in offshore oil and gas production from 2001 to 2005. Also, CNOOC will expand its operations in extracting oil from the Bohai Sea and in areas of the East China Sea for future growth. The Penglai 19-3 oilfield in the Bohai Sea has confirmed oil reserves of 610 million tones and will be put into operation by 2004. Moreover, major exploration efforts have uncovered a group of rich oil-bearing structures in the East and South China Sea, which will provide significant opportunities for foreign oil and gas companies to participate in launching large-scale oil and gas development in the 21st century.

Natural Gas Market

In August 2000, the Government amended its regulations related to foreign access to the energy sector in an effort to attract investment and technology. Thus China is taking full advantage of its domestic resources through a multiple natural gas pipeline campaign. These pipeline projects offer business opportunities to Chinese and foreign investors ranging from natural gas exploration, to development and downstream operations which include gas utilities and equipment supply.
The Chinese government has dropped its ban on foreign ownership of energy assets to accelerate the construction period of the pipeline campaign. The modernization of the energy industry with new technology is one of the Government's top priorities for 2001. Favorable policies have been implemented to make it easier for foreign oil and gas companies to participate in major projects. These policies include fee reduction, exemptions in mineral exploration and mining, tax-free imports on related equipment, and freer access to land. Foreign investors are also permitted to own a majority share of some major pipeline projects and are allowed to contribute funding to urban construction of natural gas delivery grids in China's major cities. These include the system of pipes and gauges necessary to allow millions of households to start using natural gas as an alternative to coal for heat and power generation (MLNR, 1999).

Xinjiang Province

China is conducting extensive development of Xinjiang Province according to the long-term petroleum production strategy of "Stabilize the east and develop the west". The province will launch major construction projects that include six petroleum and chemical projects, which will
require a $3.5 billion investment. Other major construction projects are focussed on exploring and developing several oilfields in the province. Once developed, crude oil capacity of the Xinjiang oilfield will increase by 8.5 million tones per year, with an initial investment of $7.1 billion. Moreover, crude oil capacity at Tarim Oilfield will be expanded by 5 million tons per year at a cost of $6.2 billion (CNPC statistics, 1999).

**West-East Xinjiang-Shanghai Pipeline**

Construction of the pipeline will be conducted in two phases. The first section scheduled to begin construction in 2001, will be built from Jingbian to Shanghai covering a distance of 1581 km. The second section, 2586 km in length, will continue from Tarim to Jingbian with construction scheduled to start in 2002 and end in 2004. The pipeline project will require an investment of approximately $7.4 billion. To encourage investment in these projects, the Chinese government has lifted certain foreign ownership rules and has relaxed the tight controls of its energy sector.

**China’s Accession to the World Trade Organization**

China’s WTO commitments should help to reduce the risk of doing business in the country and encourage increased
trade and investment flow. The lifting of the restrictions on foreign investment is expected to result in more joint ventures, which overall should be conducive to the industry. The new joint ventures will exert pressures on the non-JV producers, but would make stronger the JV partners that normally are relatively strong ones, by introducing more advanced technology, equipment and management methodologies. This should also help slow down the pace of import growth. More importantly increased foreign investment will help accelerate the pace of the technological upgrading and management modernization of the industry. Petroleum and petrochemical exports should increase, while the industry will also benefit from improved export prospects of its downstream products (MOFTEC, 1999).

Threats

Though opportunities are abound, there are also some threats facing this industry. First, on the one hand, China's future accession to the World Trade Organization will bring opportunities to the industry. On the other hand, it will also threat the industry in at least the short and medium term. For example, tariff reductions will hurt petrochemical products in a moderate and gradual way. The
lifting of the import ban and the elimination of import quotas & licenses will seriously affect refined products and synthetic fibers. The opening of distribution systems would have adverse impact on both refined products and petrochemical products. The severity of the impact will depend on the results of continued efforts to develop the distribution systems by Sinopec and CNPC. Most petrochemical products would feel heavy pressures immediately after WTO entry from the opening of their wholesale distribution. Refined products, especially gasoline and diesels, would face a greater threat from 2003 from the opening of their retail distribution, which is expected more effectively to boost the sales prospects of imports. Second, due to the restructuring of the petroleum industry, unemployment is on the rise, which sometimes resulted in organized labor actions and social problems. Third, the still largely redundant work force severely affects the profitability of this industry. Finally, as nonrenewable energy, the petroleum reserves are steadily declining and this industry is normally classified as dead-end industry.
CHAPTER FIVE
ENTRY STRATEGIES AND IMPLICATIONS

Commonly Used Entry Strategies

Considering the improved business environment of the Chinese oil and gas industry and the huge opportunities thereof, it is strategically advantageous for foreign companies to seek development in this market. However, how to effectively enter this market is an important decision that foreign companies must make.

In the literature, entry modes have long been regarded as closely associated with varying degrees of resource commitment, risk exposure, control, and profit return (Ghoshal, 1987). Companies have a number of ways to enter a market depending on their prior international experience, financial and managerial resources, and long and short-term goals (Erin and Anne, 1987). These choices vary in degree of commitment and include exporting products or technology from the home country, licensing or franchising, equity joint ventures, and wholly owned ventures. A more recent phenomenon is the development of strategic alliances in China. Strategic alliance is a broad concept and a joint venture can be the vehicle of it. In this thesis, strategic
alliance is elaborated in a separate section. As companies gain more experience doing business in China, over time they may alter the entry strategy or use a combination of different strategies to do business in China.

Regarding to the Chinese oil and gas market, there are proven entry strategies that work best. Following are some entry strategies that are commonly used by foreign companies.

Export Strategies

Export strategies are usually employed as the first approach to open the door of the Chinese market, and it is also the case for entering the oil and gas market. These strategies are often used by companies that seek a relatively less risky method of doing business in this market. Export strategies put at risk only a limited amount of product, samples or advertising dollars if a company decides to withdraw quickly. The company can decide to handle exports in two ways: Do it itself or contract out (Connolly, Seamus G: 1987). The latter is the minimal form of entry because basically it is indirect. Through indirect exporting, the company is using people and agencies in its own country without really having much contact or feedback from the foreign market. Also, it is a way of
responding to an unsolicited request or market testing without any significant commitment of time or resources to that market.

Another exporting strategy commonly used is direct exporting. Through this strategy, the company exports through intermediaries located in the foreign markets. For instance, a foreign company can use a China based distributor or agent to export its product. Direct exporting requires a set of specialized skills that includes knowledge about export documentation, selection of carriers, packaging and marketing, insurance, foreign-exchange regulations, and export financing. The cost of direct exporting is high compared with the indirect exporting, but the rewards are greater such as higher sales, greater control, direct market information and familiarity with operations in the Chinese oil and gas marketplace. The step from indirect to direct exporting is great but can be learned gradually through the process of indirect exporting. The need for direct contact with the market, increased sales, or cost considerations will push the firm towards direct exporting. However, the company can still use skills and expertise that are readily available from other companies until the company masters all of the tasks itself. Or the company may decide to use some
of them all of the time, depending on the costs involved. The company can also use foreign-based distributors for exporting purposes. In the Chinese oil and gas market, foreign companies may find some Chinese distributors who are well established in this market.

One advantage for indirect exporting is that the exporting company can take advantage of the domestic intermediary's knowledge of the Chinese oil and gas market conditions. Particularly for companies with little or no experience in exporting to the Chinese oil and gas market, the use of a domestic intermediary provides the exporter with readily available expertise.

The disadvantages of indirect exporting strategy is the difficulty for exporters to control the distribution channels of their products once they get into the Chinese oil and gas market. It is also difficult to get feedback from the end-users by using this strategy. In addition, there may be some conflicts between the exporter and the intermediary. For example, the intermediaries may wish to increase company's sales for greater commissions. At the same time they may also fear that as the company's sales increase it makes much more sense for the company to take over the exporting function. Moreover, contrary to the
interest of the intermediary to incorporate other entry strategies, such as a joint venture may be the best way for the company to supply the market in the long run.

For direct exporting, the company exports through intermediaries located in the Chinese oil and gas markets. One advantage of this entry strategy is that it provides companies with a greater degree of control over the distribution channels than an indirect exporting. But a direct exporting operation requires a larger degree of expertise and is more costly in terms of building relationships with the local distributors and/or agents. As will be discussed in more detail in the following sections, "Guan Xi" or human relationship is very important in doing business with Chinese companies.

The major advantage of exporting, both indirect and direct, is the overall lower costs involved because the premier costs of implementing this strategy come from marketing, selling and related overhead that support the efforts. In addition, this strategy allows foreign companies to test and establish a foothold in the Chinese oil and gas market without being exposed to uncertainties.

Another advantage of direct exporting is its low risk. The company does not make a capital investment in China and
can pull out at any point of time without huge capital loss. In addition, the company also has full control over its products and technology because the technology and means of production remain in house (Janet, 1994).

However, there are also some disadvantages for exporting. First, most foreign exporters are unwilling to continue developing good relationships after signing the contract. Foreign companies usually have tight schedules, which often leave little or no room for socializing and building relationship with the Chinese partners. In addition, because the foreign-based sales representatives travel back and forth, the foreign company may be perceived as not to having a permanent presence in China. By not being there in the market, the company may not feel the changing pulse of the Chinese oil and gas market thus insulated from some business opportunities.

Second, the Chinese partners may feel that the foreign company is not committed to this market, because the company can come and go at any point of time. Third, the foreign company's representatives are not available at all times to answer and deal with questions and problems. Finally, because the Chinese companies perceive no benefits by only importing from foreign companies (Janet, 1994), the exporting
entry strategy is normally handled with extreme care and the contracts are much more difficult to conclude.

To use export strategies successfully, a company should have at least one person who truly understands the Chinese culture, system and how the Chinese do business. This individual has to be interested in working in China and with the Chinese culture (Hofstede, 1991). This individual does not have to be a Chinese national, a foreigner is usually more persuasive than a Chinese representative because most Chinese people believe that a foreigner knows the technology better than a Chinese representative. However, a Chinese representative is knowledgeable regarding language, local business knowledge, and connections in the industry.

Because a foreign company based salesperson will not always be available in China, it is important to hire a third party intermediary, such as an agent or broker in China. The intermediary has to be accessible to the Chinese oil and gas companies and has to be well connected in the Chinese petroleum industry, and preferably, not representing other competing companies. The intermediary serves a few common roles for foreign exporters. It can help serve existing clients, act as liaison between the company and the Chinese market, and provide market intelligence on
competition and potential business opportunities. It can also help prepare and facilitate negotiation with the Chinese companies and individuals.

Foreign exporters should also know that Chinese oil and gas companies prefer to buy packages of product, technology, equipment and training, instead of buying them individually. This allows the companies to establish relationship and negotiate with a smaller number of foreign companies for everything. Further, Chinese companies prefer to deal with companies who are willing to help set up the imported technology needed in the local environment and demonstrate its use. Companies who tried to sell their product concepts before the product had been physically produced and could be demonstrated found it extremely hard to sell in China, because most Chinese companies or individuals tend to buy things that work in their existing environment. Since individual Chinese companies or enterprises cannot change the whole environment to suit the product, the product has to be suitable for the environment and fit with existing systems as well.

Many foreign exporters were criticized by the Chinese companies for a number of reasons. First, many foreign exporters were not strong at developing relationships in
China. This may have been the reason that most foreign sales persons, especially from small to medium companies, stay in China only for the business negotiation and leave little time for socializing and relationship building. Second, some foreign exporters, in general, were not strong at promoting themselves in the Chinese market. They should provide detailed information about the performance of their products, the production location, and contact numbers. These kinds of information should be provided in the Chinese as well as in the English language.

Cross-cultural differences were another concern for foreign companies exporting products to the Chinese oil and gas market. Foreign exporters should also be aware of the differences in culture between their home country and China. Many foreign companies confronted some cross-cultural problems in the Chinese market. In this context, it is important to hire local Chinese people to facilitate the Chinese decision process.

Concerning foreign exchange availability and the convertibility of the local currency, they were no problems because exporters only deal with Chinese companies who have foreign exchange and the Chinese partners will deal with the foreign exchange problem. The drawback of this situation is
that fewer sales can be realized since many potential
customers were eliminated automatically due to this
limitation.

The cost of using exporting strategies for doing
business in China is lower than other strategies. The main
cost items come from soliciting and obtaining contracts from
the Chinese oil and gas market. Once the contract is signed,
the expense to the exporters is very limited. In addition,
the foreign exporters will not be "stuck" in China by
pursuing this strategy. If the political and economical
environment changed, exporters could pull out quickly.

**Joint Ventures**

A joint venture is an equity sharing arrangement
between two partners or a consortium of three or more
partners. The partners share the risks and profit or losses
in proportion to their equity ownership (Swierczek and
Hirsch, 1994). Under a joint venture arrangement, the
foreign company invites an outside partner to share stock
ownership in the new venture.

The Chinese government encourages foreign companies to
do business with Chinese companies in the form of joint
ventures. As a result, there are many joint ventures
operating in the oil and gas industry. Generally, there are
three types of joint venture agreements that many foreign companies have been using to get involved into the Chinese oil and gas market. First, the equity joint venture has the status of a limited liability company while there is full liability in a contractual joint venture. Second, equity joint ventures are governed by the government regulations, which give them higher priority in the distribution of supplies. Third, the tax imposed on equity joint ventures is also lower than that on contractual joint ventures (Paliwoda: 1991).

The participation of the partners may vary, with some companies accepting either a minority or majority share. Equity joint ventures are considered to be a relatively risky entry mode because, in addition to committing resources, technology and human resources, companies are also dependent on their ability to work successfully with managers from another company. In China, equity joint ventures may reduce risk because local Chinese partners may help foreigners understand how to be more successful in their business environment.

Among the three types of joint ventures operating in the Chinese oil and gas market, contractual joint ventures are more similar to licensing agreements. Licensing
agreements and technology transfers are a kind of joint venture where foreign companies often derive their compensation from a one-time up front fee plus some percentage of royalty from the Chinese side for an agreed period of time. These ventures are considered joint ventures by the Chinese, first, because they involve a foreign company, and second, because the foreign company might be involved beyond the signing of the contract. The Chinese, for example, may consult the foreign company's advice and expertise in making the venture work.

The advantage of contractual joint ventures is its low risk to foreign companies. Companies involved recover their cost from the up front fee, however, there is opposition from both sides regarding to this approach. The Chinese prefers to work with foreign companies who have taken some ownership, even 10%, in the venture because the company would be more committed. However, 10% foreign ownership is not enough because the Chinese regulation requires at least 25% foreign ownership for the project to qualify for joint venture status and enjoy related tax benefits. In addition, many foreign companies believe that taking only minority interest with the Chinese is asking for trouble because they
can make it difficult for the foreign company to exercise any control (Lee, 1990).

The opposition from the foreign companies center on intellectual property protection. Many foreign companies worry about the protection for their technology in the Chinese market. Another concern is about losing control over marketing channels. The licensor accepts the channels offered by the licensee. In this case, the licensee is unlikely to create a channel for the licensor unless there is a large volume of business involved.

To avoid drawbacks of contractual joint ventures, equity joint ventures have been strongly encouraged by the Chinese government since the beginning of the Open Door Policy in 1979. Equity joint ventures have brought great benefits to the Chinese individuals and the Chinese economy. First, foreign partners were encouraged to bring technology, capital, equipment and management skills that Chinese companies needed. The fast economic growth and the overall improvement of the standard of living in China were two indicators of the ingenuity of this policy. In most cases, the Chinese contribution in these joint ventures were in labor, land, factories, equipment and tax concessions. But in the Chinese oil and gas industry, a lot of companies also
contributed in the form of capital. These contributions helped foreign companies have access to the Chinese market and make profit.

In return, the Chinese parties receive a variety of short and long-term tangible benefits (Swierczek, and Hirsch, 1994). For example, joint ventures create more employment and higher incomes for the Chinese. Because joint ventures have to export part of their production, the Chinese partner companies also receive greater access to international markets. Over the long term, joint ventures have helped Chinese companies to upgrade the facilities and management structures (Swierczek and Hirsch, 1994). The downstream refining enterprises of the Chinese petroleum industry have already benefited significantly in terms of equipment upgrading and management skill improvement form the joint ventures formed between Chinese and foreign companies.

Because of Chinese government regulations, equity joint venture was the only permissible way in some sectors for foreign companies to enter. Up until 1986, wholly owned foreign operations in China were not allowed. Even after that ban was lifted, there were restrictions over foreign
ownership in many strategic sectors such as the energy industry.

By participating in equity joint, foreign companies have the following concerns: First, they need to find suitable Chinese partners. Because of isolation, some Chinese companies, especially the formerly state owned oil and gas giants, were not familiar with international business practices. Because of government regulations, there had not been any large, well-established private companies in the Chinese oil and gas industry. As a result, most available partner organizations in China were state-owned companies. Though joint ventures are created as a separate entity, Chinese parent companies, mainly state owned enterprises or government departments or agencies like CNPC, Sinopec, and CNOOC, etc., could still exercise some control over the joint ventures and influence the decision-making process.

Second, foreign companies were concerned about being unable to control their investment in the Chinese oil and gas market. This concern was proven to be unwarranted because, to improve both technical and management standards, Chinese companies usually gave foreign company more control.
over their investment, and some control policies were also specified in the contract.

Third, there has been the concern over the long-term risk of doing business in the Chinese oil and gas market. Many joint ventures are for 10 to 25 years and there is concern about whether China would remain politically stable over this period. Finally, foreign companies have to deal with some deficiencies such as low labor productivity, government regulation over foreign exchange supply, human resource practices, and raw material supplies.

However, many advantages exist using equity joint ventures as an entry strategy. First, the risk is low. In this joint venture, foreign companies can rely on Chinese partners (most of them are subsidiaries of the state owned companies such as CNPC, Sinopec, CNOOC and many others), who preferably were knowledgeable about the local environment and well connected, to deal with local problems. This is perhaps the number one motivation for some foreign companies to enter joint ventures with the Chinese partners.

The second key advantage is having Chinese partners in the same boat with the foreign companies to navigate the Chinese oil and gas market. Through equity ownership, all partners are believed to be as equally motivated to make the
venture work. If the joint venture fails, all sides would lose. In this regard, joint venture creates shared goals.

Third, equity joint ventures with Chinese partners create competitive advantages for foreign companies. Foreign companies that started with exporting, sooner or later run into strong competition from either other international companies or local Chinese companies. In addition to more and more intensive international competition, Chinese oil and gas companies also began to compete with foreign companies in some sectors. For example, the Chinese petrochemical industry has advanced remarkably during the last decade and entered the international market. Though it might take a while before they become a full-fledged competitor internationally, their technology developed significantly in the past few years. In addition to technological superiority, Chinese companies also value affordability and suitability. As a result, foreign companies, while introducing advanced technology, would also make their products more price competitive and more suitable for the local market (Vern, 1982). Joint ventures, with local Chinese partners, allow foreign companies to produce products using inexpensive local raw materials, labor and
transportation. Being close to the market also allows the company to be more responsive to market demand.

However, entering equity joint ventures with the Chinese partners is not without its problems. Some of the problems are inherent to the joint venture strategy itself while others are related to joint ventures in the Chinese oil and gas industry. Most problems, in general, are associated with incompatibility between partners (Killing, 1982). For example, although some foreign companies realize the importance of selecting Chinese partners with either shared goals or complimentary goals, doing so is not an easy task. The goal conflicts between Chinese and foreign companies seemed to emerge from the very beginning. While the majority of Chinese enterprises are primarily concerned with upgrading and earning foreign exchange through export, most foreign companies are primarily interested in the domestic Chinese market. Other limitations such as lack of international experience, the influence from both partners' parents company, and relationship and trust between the partners are also important for the two parties to consider at the very beginning of entering into a contract for setting up a joint venture.
**Wholly Owned Strategy**

Wholly owned entry modes are especially preferred by companies that have the resources and the ability to assume a greater degree of risk, because this kind of entry mode can provide greater latitude for companies to plan, manage and control their wholly owned subsidiary. In addition, profit for the wholly owned venture is also supposed to be higher. By having a high degree of control, the company can source their raw materials, use the cheapest labor available, and combine their plants, to supply their global market in the cheapest way possible. Wholly owned ventures can be formed through the development of subsidiaries or acquisition of existing local companies (Connolly, 1987).

Wholly owned strategies were legalized by the Chinese government in 1986 and received tax treatment equal to that of equity joint ventures in 1992. These strategies transfer capital, staff and/or technology into China so that a product may be developed, manufactured, marketed, sold and/or serviced from a wholly owned Chinese location. Some companies may transfer all these functions to China while others may have a simple sales office (Swierczek and Hirsch, 1994).
Wholly owned ventures involve the highest degree of investment but also provide the company the highest degree of profit, planning and control. Foreign companies familiar with the business environment in the Chinese oil and gas market may consider wholly owned strategies to realize full control over their investment and maximize their profits. Through the investigation of foreign companies who have wholly owned businesses in the Chinese oil and gas market, it was found that these companies always have highly experienced executives located in China and usually have competent local Chinese managers and employees.

Through wholly owned strategies, foreign companies are encouraged to manufacture in China products that would be exported out of the country. This kind of wholly owned ventures is given priority during the registration process and often approved over other kinds of wholly owned ventures. The Chinese government makes an effort to attract export-oriented investments from foreign companies by offering them a variety of incentives and concessions (Nagesh, 1994) Foreign companies also benefit from wholly owned strategies in terms of low labor costs, inexpensive raw materials, increased control of their investment, and independent decision-making. Foreign wholly owned ventures
can also enjoy some favorable treatments in terms of taxes and land use while their products are considered locally produced.

The setbacks of the wholly owned strategies are that the Chinese government often imposes performance requirements on wholly owned ventures of foreign companies. These requirements include local content requirements, restrictions on imports and utilization of foreign exchange, export obligations, and restrictions on employment of foreign personnel. In addition, in implementing wholly owned strategies, foreign companies need to allocate more resources, including capital, technology, and personnel to China, thus makes it a risky strategy. These factors usually lessen the motivation for foreign companies to implement their wholly owned strategies.

Despite these setbacks, companies using wholly owned ventures as the entry strategy, are far more successful than companies using other entry strategies. The success mainly comes from the full control of their investment, independent decision-making process, their long-term commitment and experience in the Chinese oil and gas market, and their practices.
Strategic Alliance

A strategic alliance is a close, long-term, mutually beneficial agreement between two or more partners in which resources, knowledge and capabilities are shared with the objective of enhancing the competitive position of each partner (Spekman, Forbes, Isabella, and MacAvoy, 1994). The sharing of knowledge, capabilities, and resources takes many legal and structural forms. Mergers, purchasing and licensing agreements, projects-based and technology-based joint ventures, ad hoc organizations, consortiums, and a myriad of other arrangements are established for the purpose of enhancing the partners' position in the marketplace. In an alliance, each partner brings a particular skill or resources, which are usually complementary. Typically, alliances involve either distribution access, technology transfer, or production technology, with each partner contributing a different element to the venture. Given the benefits that the strategic alliances may bring, Chinese oil and gas companies are more likely to form strategic alliances with foreign partners to gain an international presence, as well as advanced technological and managerial skills. The increased number of strategic alliances formed
in the Chinese oil and gas industry in the past 10 years supports this trend.

Although strategic alliances are a relatively new concept in China, it is receiving more and more attention due to the challenges posed by globalization and new technologies. Its main strength lies in the value created through partnering (see Figure 2) (Yves L. Doz, Gary Hamel, 1998).

**Alliance Value Creation - Logics**

![Alliance Value Creation Logics Diagram](image)

**GLOBALIZATION**
- Racing for the World
  - Building Critical Mass
  - Reaching New Markets
  - Plugging Skill Gaps
    - Co-option
    - Getting Competitive Strength
    - Leveraging Co-specialized Resources
    - Internalized Learning Gaining Competence
- Building Nodal Coalitions
- Creating New Opportunities
- Building New Competences

**TECHNOLOGY**
- Racing for the Future

**Figure 2. Alliance Value Creation Logics**

Source: Yves L. Doz, Gary Hamel, 1998

A strategic alliance allows the acquisition of expertise that does not exist within an organization at
present. Expertise has to be either developed (which takes a long time) or purchased (which can be very expensive), hence an alliance provides the expertise that did not exist in both organizations. This development of "synergy" allows both organizations to remain focused on their core businesses while expanding into new areas (Hamel, 1991). In addition, through a strategic alliance, trust among partners can be established, contributing to a solid relationship and mutual benefit. For example, China National Offshore Oil Corporation (CNOOC) has signed a Strategic Alliance Agreement with Shell Overseas Investments BV, a wholly owned member of the Royal Dutch/Shell Group of Companies (Shell), to jointly develop a range of opportunities in oil and gas exploration and production and gas marketing. Mr. Liucheng Wei, President of CNOOC, said:

This agreement demonstrates our continued commitment to pursuing opportunities with excellent prospects jointly with foreign companies. The oil and gas fields in Bohai Bay and the gas reserves in the East China Sea have significant development potential. We already have a very successful working relationship with Shell. By combining the experience and expertise of the two oil and gas companies, we believe the strategic alliance will strengthen this relationship and provide invaluable benefits to ourselves and to our partner. (CNOOC news, Beijing, China, November 13, 2000)
Another reason to develop an alliance is that the company has a partner to share the risk, particularly if the move is a bold or unusual one for the company. In addition, the company also has a capital dollar requirement that is significantly less than if the company were doing it alone. In today’s rapidly changing environment, strategic alliances are also needed to share risks that individual companies may encounter.

The weakness of strategic alliances involves a substantial commitment of resources by partners in money and in human resources. The cost of an alliance failure can run in the millions of dollars of direct costs for equipment, facilities, hiring, and relocating the workforce. In addition to the financial losses, the indirect costs of losses in market share, time, company reputation, and jobs add to the risk of strategic alliances.

Another weakness of strategic alliances is that some top managers in the oil and gas industry do not prefer this form of cooperation. They think strategic alliances are loose organizational structures and have less binding mechanisms between partners.

However, given the benefit realized from the strategic alliances, the perception of the top management in the
Chinese oil and gas industry is changing toward them. They have realized that no company is an island, especially in today's ever changing and competitive business environment. In an interdependent world every company has to think in terms of working with others if they want to compete in the global marketplace (Morita, 1995).

As the next century approaches, a major issue facing business corporations is their ability to compete in a global marketplace (Pucik, Tichy and Barnett, 1992). In light of the tremendous opportunities and significant market potential, the Chinese oil and gas market is becoming the hot point of business for international petroleum corporations. Developing successful strategic alliances that will build the competitive advantages can serve as the key to unlock those opportunities.

Common Problems and Recommended Solutions

Regardless of entry strategies, foreign companies encountered many common problems in the Chinese market. For companies to share the experiences of other companies already operating in the Chinese petroleum market, these existing companies' evaluation of the seriousness of these problems and their solutions are summarized (See Table 7).
Table 7. Common Problems and Recommended Solutions

<table>
<thead>
<tr>
<th>Areas of Main Concern</th>
<th>Evaluation</th>
<th>How Did the Company Deal With It?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture Difference</td>
<td>Large but manageable</td>
<td>- Hire local Chinese to bridge the gap</td>
</tr>
<tr>
<td>Foreign Exchange</td>
<td>Extremely Important</td>
<td>- Help the Chinese companies apply for foreign exchange</td>
</tr>
<tr>
<td>Quality of Local Employees</td>
<td>Very Important</td>
<td>- High quality local employees are available - Higher pay to attract quality people</td>
</tr>
<tr>
<td>Training Needs for the Chinese</td>
<td>Extremely Important</td>
<td>- Written into the employment contract for the Chinese employees to get training - Very good motivational tool</td>
</tr>
<tr>
<td>High Cost of Doing business in China</td>
<td>The cost is reasonable</td>
<td>- Hiring as many local Chinese as possible to lower the cost</td>
</tr>
<tr>
<td>Expatriates</td>
<td>Not critical</td>
<td>- None of the operations required full time expatriate to be stationed in China - Make frequent trip to China.</td>
</tr>
<tr>
<td>Finding connections to help Navigate the System</td>
<td>Very Important</td>
<td>- Connections and Local Employees are of great value in doing business in China</td>
</tr>
</tbody>
</table>

Source: Quanyu and Andrulis, 1994

Implications

When a company selects to do business in the Chinese oil and gas market, the following implications should be well considered in order to be successful.

"Guan Xi"

The term "guan xi" is a mandarin word that refers to relations, and relationships (Yang, 1994). In China, the
term "guan xi" does not necessarily relate to corruption and negative connotations. This is because the Chinese people value a culture of collectivism and harmony. "Harmony and good relationship make money" is a popular motto worshipped by almost all Chinese business people. Thus developing "Guan Xi" or good relationship is very important and helpful for doing business in the Chinese petroleum market. It is especially important for developing strategic alliances, because strategic alliances are usually built on the bases of trust, mutual understanding and mutual benefits. If there is no "Guan Xi", the bases of trust will be weakened. For example, provided that two companies bidding for a same project have the same technical and financial, the contract is usually awarded to the one who has "Guan Xi" with the tender offering company. The reason for this situation is very simple, they know and trust one another. This phenomenon is not uncommon in the Chinese oil and gas market. Because "Guan Xi" is such a deeply ingrained element of Chinese culture, it is unlikely that its importance will change. So, for foreign companies who intend to enter the Chinese oil and gas market through strategic alliances, it is essential to understand the need to build a "Guan Xi" network and learn to behave accordingly.
In doing business in the Chinese petroleum market, developing sound relationship CNPC, Sinopec, and CNOOC is crucial to ensure smooth and successful operations. The reason is that these companies were restructured from the former Ministries of the People's Republic of China and they still exercise some rights in the place of the government. In addition, most of the resources are tightly controlled by these companies. For building good "Guan Xi", foreign companies should make long-term commitment and early involvement. Chinese companies usually seek long-term relationships, characterized by friendship, trust, equality and mutual benefit between the negotiating parties. For example, when the contract of west-east pipeline project was awarded to Enron Corporation, "Guan Xi" might play a role in the process. However, developing "Guan Xi" takes time, and companies having long presence in this market are likely to have an edge over newer entrants.

Adequate Preparation

Foreign companies must learn about the conditions for doing business in the Chinese oil and gas market. Those aspects such as cross-cultural differences, negotiation styles, legal environment, "Guan Xi" network, etc., are
always among the most important issues to deal with before entering into any kind of contract.

**Aggressiveness**

Foreign companies must pro-actively pursue opportunities, relationships and contracts in the Chinese oil and gas market rather than waiting to be offered opportunities, especially during the period when the Chinese oil and gas industry is undergoing major restructuring and in the eve of China's accession to the World Trade Organization.

**Commitment and Early Involvement**

Foreign companies must demonstrate to the Chinese partners that they are committed to helping develop the Chinese oil and gas industry in the long term. Foreign competitors making this commitment are being well received by the Chinese oil and gas companies. Even if a company prefers to export until a market is established, it is prudent to discuss the possibility of eventual investment. Early involvement is another important aspect for smooth and fruitful operations in China. It allows foreign companies to better understand the business environment of the Chinese oil and gas market and accumulate experience for further involvement. For example, Enron Corporation had
involved heavily in the research and feasibility study on the Chinese west-east natural gas pipeline project before it could form a joint venture with a Chinese oil and gas pipeline company and got the contract for building part of this pipeline.

Quality People

Foreign companies need human resources understanding Chinese market conditions. Also they need to know that qualified technical staff is extremely important to start business in the Chinese oil and gas market, especially at the stage of technical negotiations. Chinese partners usually pay more attention to the technical aspects of the business. Hence, if the foreign engineers cannot answer or solve some technical questions raised by the Chinese partners at the negotiation stage, it will be very difficult for them to persuade the Chinese partner to believe in its technical ability and advancement. So foreign companies should send their most competent staff in negotiation to further the possibility of winning business.

Understanding and Adapting to the Needs of the Chinese Oil and Gas Industry

Foreign companies that adapt their marketing and sales strategies to help the Chinese oil and gas companies meet
important policy goals are more likely to be well received. Important goals include investment, producing foreign exchange, and providing technology and advanced management skills. In addition, foreign companies must understand the Chinese way of doing business. It usually takes more time for the Chinese partners to conclude a contract, because the process is marked with numerous consultations with superiors, from whom approval must be sought at every stage of the negotiation process. It also takes time for the Chinese partners to digest the results of each negotiation because it is normally held in English, which is not the native language of the Chinese partners. In addition, the Chinese partners have to obtain approvals from several levels of government, so being patient will be helpful in dealing with the Chinese partners.

**Mutual Benefit and Equality**

Mutual benefit is another important factor that foreign companies should pay attention to when negotiating contracts with Chinese partners. In a traditional Chinese contract, there is an implicit understanding that the parties will work together for their mutual benefit. The emphasis is placed on the word "mutual". For example, if one party is achieving extreme benefit at the expense of the other, the
losing party may view the contract unfair. The losing party will then have the sense of being cheated. In this case, it will be very difficult for the two parties to develop a good relationship in the future. That means the benefiting party will lose the other forever as a business partner. What is worse, due to the bad mouth of word, the benefiting party may lose other partners who have good relationship with the dissatisfactory party.

Equality is another factor that Chinese partners are highly concerned with. They do not like to be treated like little brothers. Not to say that the alliance structure must be 50/50; however, it is critical that smaller players not feel overwhelmed, taken for granted or under-valued as a partner, but rather are given the opportunity to contribute to as great an extent as is possible to the overall success of the operation.

**Ranking System**

It is very important for foreign companies who want to do business in the Chinese oil and gas market to know the official standard of the companies with whom they have a business relationship. The key is that every organization has its own eligible administrative rank and different eligible administrative ranks have different limits on
authority. For instance, some may be eligible to enter into foreign trade immediately; some may only indirectly import foreign goods through another company; some may not have the authority to decide foreign employees' salaries; and some may have authority to send invitation letters to foreign experts whom they want immediately (Huang, Richard and Chen, 1994). Being familiar with the titles and ranks of their Chinese counterparts is also important because this would give the foreign investors insight into the real power invested in each individual. This is essential to the process of establishing appropriate protocol for meetings and social events. It would be wise for foreign investors to acquire the knowledge of China's cadre ranking system, which is used widely throughout government organizations, state-owned and collectively owned enterprises. Different ranks imply different authorities. Talking to the right person who has the final say on specific business issues is very important for a successful deal.
CHAPTER SIX
CONCLUSIONS AND RECOMMENDATIONS

China's economy has grown substantially and has become one of the world's fastest growing economies since the emergences of reforms and open door policies. The Chinese oil and gas industry has played an active role in this growing economy and has contributed significantly to the prosperity of China's economy. The major restructuring and policies adjustment of this industry have created huge opportunities for foreign companies. In fact, many foreign oil and gas companies have already been firmly rooted in this market and been profiting from it. With the commitment of the Chinese government to offer more and better investment opportunities to foreign companies, more and more foreign oil and gas companies are exploring business opportunities in this market. As a result, deciding on the proper entry strategies is one of the most important issues that managers must consider before they can make final decisions.

The strategies of entering the Chinese oil and gas market vary according to the foreign company's degree of resource commitment, risk exposure, control, and profit
return. Equity joint ventures have been the most common method used by foreign companies to enter the Chinese oil and gas market and is also encouraged by the Chinese government. In this type of joint venture, Chinese partners provide knowledge of the local operating environment and help build "Guan Xi" network for the business.

While equity joint ventures are popular, wholly owned ventures are also increasing in importance, because they offer such benefits as full control of their investment, quick return on invested capital, and higher profit. However, wholly owned ventures may lose because of lack of local knowledge and connections that a joint venture partner brings. In addition, wholly owned ventures are not allowed in some sectors of this industry.

Foreign companies can also use exporting or contractual joint ventures as an entry strategy if they perceive greater risk in this market, but this strategy is usually accompanied by difficulties and pitfalls because they are not encouraged by the Chinese government.

Strategic alliances are gaining more and more popularity in the Chinese oil and gas market. As discussed, many successful strategic alliances formed by the Chinese oil and gas industry with foreign oil and gas companies are
enjoying the improved investment environment and the mutual benefit realized through this entry mode.

In general, foreign companies have many choices concerning entry strategies to China and each has its strengths and limitations. No absolute rules or easy formulas can be given to assure the correct choice because different companies have different goals for doing business in the Chinese oil and gas market. The choice of the entry strategy depends on the situation and needs of the company and the characteristics of the particular entry strategy. One strategy may work for a specific product and company while others work for other product and other company. To conclude, foreign companies should carefully analyze all factors influencing their choice of an entry strategy and decide on the most suitable strategy before entering the Chinese oil and gas market.
APPENDIX A

China's Petroleum and Petrochemical Industry

Source: State Development Planning Commission (SDPC)
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