

Cultural Risk Research on Overseas Merger and Acquisition of Chinese Petroleum Enterprise



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Abstract Cultural risk is one of the major risks of Chinese oil companies' overseas merger and acquisition. The root cause of cultural risk lies in cultural differences. Differences in the political factors, laws and regulations, religions, business environment, business rules, and corporate culture of host countries will inevitably lead to the emergence of ethnic cultural risks, commercial cultural risks, and corporate culture during overseas merger and acquisition. Due to the different characteristics of state-owned oil companies and private oil companies, the main types of cultural risks faced in overseas mergers and acquisitions are also different. "Western model", "Central Asian model" and "Middle East model" are the most common overseas merger and acquisition models of oil companies. Using SWOT risk analysis method, the impact of various cultural risks and the appropriate strategies can be analyzed and developed. The degree of cultural risk in different modes can be assessed to provide reliable strategies or overseas merger and acquisition of oil companies based on the analytic hierarchy process (AHP).

Keywords Overseas merger and acquisition · Risk sources · Risk analysis · Risk assessment · SWOT · AHP

1 Introduction

The conflict between oil supply and demand is deepening with China's economic development and the urbanization process accelerating. China's oil companies have limited production capacity and are increasingly dependent on oil imports [1]. By 2018, China's oil imports accounted for 70% of total consumption. In order to ensure

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the healthy development of the national economy and national strategic security, China's oil companies have to actively seek to develop overseas market, further expand the scale of overseas investment for increasing the supply of overseas oil and gas. At present, CNPC overseas oil and gas operations have expanded to over 30 countries. Since 2014, international oil prices have continued to fall from a high level, which has caused great impact on the entire oil industry. Although the current oil price has rebounded, the future prospects of the oil industry are still unclear due to changes in the international political situation. This is both an opportunity for development and a challenge for overseas oil investors of Chinese oil companies. There are various risks in the M&A process, of which cultural risk is one of the most important risks.

Because overseas M&A originates from multinational corporations in developed countries, the study of cultural risk in overseas mergers and acquisitions is usually based on the Western culture. As a country with a long history of culture, China's influence has been increasing. However, there are still significant culture differences between China and Western countries, countries in the Middle East, and neighboring countries. These differences are not only reflected in differences in national culture such as political systems, legal construction, religions, and social customs, but also in corporate values, management systems, business practices, and business ethics. It is difficult for foreign companies to recognize and accept the culture of Chinese companies and the national culture they represent. Therefore, Chinese oil companies' overseas M&A inevitably faces multicultural conflicts. How to correctly understand and identify the cultural risks in the process of overseas M&A and actively adopt coping strategies to enhance the company's ability to resist risks is an important issue of Chinese oil companies.

Although people have recognized the importance of cultural risk for overseas mergers and acquisitions, culture has complex attributes of politics, law, morality, customs, and other human capabilities, and its risk identification and evaluation is very difficult for business decision makers. The target markets for overseas acquisitions by Chinese oil companies are relatively complex [2]. There are not only oil companies in developed countries such as Europe and the United States, but also some oil companies in Asia, Africa, and Latin America with unstable political situation and backward economy. The national culture, commercial culture, and corporate culture of enterprises in these countries are quite different from those of Chinese oil companies. Using effective methods and techniques to identify and assess cultural risks is crucial to reducing the risk of overseas mergers and acquisitions and increasing the success rate of investments.

2 The Cultural Risk Source of Petroleum Enterprise Overseas M&A

Culture is a group of thoughts, ideas, behaviors, customs, habits formed in a certain period of time, and all activities radiated by this group's overall consciousness [3]. People in different societies cannot be separated from the far-reaching influence of the social, cultural, ethnic, regional, religious and other social cultures of the society in which they live. They are also influenced by the corporate culture that their companies bring them. The source of cultural risk mainly comes from three aspects including national culture, commercial culture and corporate culture. National cultural is a cultural tradition formed by a nation in the course of historical development. Its reflection in real life is multifaceted and often ingrained. Ethnic culture mainly includes institutional and spiritual cultural achievements. Institutional achievements that mainly refer to theoretical forms of expression are a set of normative systems based on certain social relationships, including political systems, laws and regulations. The spiritual cultural achievements are mainly reflected in the social cultural aspects such as religious beliefs, customs and people's values, which have a profound influence on people's cognition and behavior [4]. In the cross-border mergers and acquisitions of Chinese oil companies, Western developed countries will be affected by Chinese national culture. Western countries that always regard Western culture as an advantage culture will inevitably appear to be unsuitable, and set obstacles to M&A in terms of national security, laws and regulations. With the development of globalization, the political, economic, and cultural exchanges and cooperation of various countries have become deeper and deeper, and their influence on each other has also grown. The politics and economy of less power countries will be interfered with by developed countries, and their culture will also be eroded by foreign cultures. Even the superpowers will inevitably be affected by the international situation. Because of the importance of petroleum resources, some of the major petroleum producing countries in the Middle East and South America are often places where some big countries are wrestling. Major countries for economic needs and political goals determine the policy direction of these oil-producing countries to a certain extent.

Business culture is the gradual formation of specific business ideas and behaviors in the long-term business activities. It is an extension of national culture to some extent and is restricted by national culture. Business culture involves business environment, business ethics and business rules. In the process of overseas mergers and acquisitions, due to different cultural backgrounds, different business environments, and differences in business concepts, M&A parties have different ways of understanding and responding to the same thing or phenomenon, which results in misunderstandings or even conflicts in the interaction. At present, the oil industry is in a relatively low tide, oil price has been hovering low, and the outlook for the oil industry remains uncertain. Although the cost of mergers and acquisitions has dropped significantly, investors are cautious about overseas mergers and acquisitions in the current international oil business environment. At the same time, the business

environment of the countries where the companies are purchased is quite different, especially in some oil-producing countries in the Middle East. Due to the unstable political situation, the immature financial markets, and the inability of commercial credit, it will also bring great commercial risks to investors. In the later stages of M&A transactions, the differences between the business ethics, business rules, and business practices of M&A parties can also lead to failure of the company's operations. Chinese companies usually pay more attention to their relationships when they are in business, and then consider business rules and legal requirements. The business activities of western companies are based on legal and business principles. Chinese companies tend to focus only on the results, and as a result, they can ignore the details of mistakes. Western companies value the details of the business process. They think that the process is reliable and the results will follow.

Corporate culture mainly refers to the organizational culture of all employees and managers of a company, such as business philosophy, values, management philosophy, and behavioral norms. Mergers and acquisitions parties are in different corporate culture systems. Each mature company has its own corporate value concept. Under a specific corporate culture, the management style of the company is very different, and the employees of the company will also form their own values, codes of conduct. The employees not only have a high degree of recognition of their corporate culture, but also maintain a high degree of recognition of their own culture. The enterprises of overseas M&A will inevitably face the cultural conflicts brought about by the collision of enterprise culture.

Enterprise culture mainly includes spirit culture and system culture. Enterprise spirit culture refers to a kind of spiritual achievement and cultural concept that has been formed for a long time by enterprises in the process of production and management under the influence of certain social and cultural background and ideology [5]. The enterprise spirit culture is the core of the enterprise culture, which includes the values of the enterprise and the behavior culture of employees who use it as a guiding ideology. Due to the differences in the specific growth background, business philosophy, operating environment and resources of each company, the enterprise spirit culture is also different. As the ideological and behavioral standards of companies and employees, the enterprise spirit culture is hard to be changed, and spiritual culture conflicts often bear the brunt of corporate mergers and acquisitions. The enterprise behavior culture is the external performance of the company's management style, leadership management methods, interpersonal relationships, which is also an intrinsic embodiment of the corporate value. The employees of the host company tend to reject and resist the new corporate culture, so as to resist the invasion of other corporate cultures in order to maintain the superiority of their spiritual culture. The system of the enterprise culture is an important part of enterprise culture. It is a system and norm that is used to regulate the behavior of employees in an enterprise, and generally includes the leading system, organization and management system of the enterprise [6]. The enterprise system culture is the product of the enterprise's spiritual culture, because people are always guided by certain values to improve and improve the company's various systems. However, institutional culture also affects this corporate culture. Due to the long-term impact of the original management

system, leadership system, and behavioral norms, it is difficult for the employees host company to adapt to the changes in organizational structure the adjustment of the original rules of the enterprise after mergers and acquisitions. The employees have a low degree of recognition, and will be intentional or unintentional resistance to the new system.

3 SWOT Analysis of Cultural Risk in Chinese Oil Companies Overseas M&A

3.1 Cultural Risk Models of Oil Company Overseas M&A

The strategy of going global for Chinese oil companies has been implemented for more than 20 years. There are three main modes of overseas mergers and acquisitions. The first is the “Middle East model.” The socio-political environment of the host countries is turbulent, and the industrial foundation is weak, and customs and habits are different. However, their oil resources are abundant. The second is the “Central Asian model”. The host countries have better geopolitical relations with China, and the oil transportation is convenient. The third type is the “Western model.” Western developed countries have a high level of cultural maturity and a relatively complete corporate culture system. Different M&A models have different cultural risk characteristics. In general, different M&A models have different cultural risk characteristics.

3.2 SWOT Analysis for Different Cultural Risk Models

SWOT analysis is often used to formulate the development strategy and analyze the situation of competitors. In the risk analysis, it is one of the most commonly used methods. From the perspective of the external environment, the continued downturn in the petroleum industry provides a good opportunity for Chinese companies overseas M&A. As the largest energy importer, China is one of the largest energy demand countries and has huge market demand. Oil companies in oil-producing countries are eager to cooperate with Chinese companies. At the same time, due to energy security considerations, the overseas development of oil companies is strongly supported by the Chinese government. Especially in the “One Belt And One Road” environment, Chinese oil companies’ overseas investment is supported not only by the Chinese government but also by the government of neighboring countries. It can solve China’s energy shortage and promote the common development of the local economy of the host countries. The threat of overseas mergers and acquisitions cultural risks also needs to be vigilant. The long-term political instability in the Middle East has led to the emergence of ethnic cultural risks. The agreement signed with the ruling party

may become a waste of paper after the opposition political party come to power. The relevant legal systems in some countries in the Middle East are not perfect, which is very unfavorable to deal with the disputes in the merger and acquisition process and management.

From the analysis of internal factors, the advantage of overseas M&A cultural risk is that Chinese state-owned petroleum enterprises have better financial credit and decision-making mode, and can quickly organize the operation of projects with low human and material costs. Petroleum exploration and development technology originated from western countries, so multinational companies from developed countries have obvious technological advantages. At the same time, most of these companies have experienced decades or even hundreds of years of corporate culture precipitation, and the enterprise organization structure and management system are more reasonable.

However, in the process of management and operation, Chinese oil companies prefer to be people-oriented and emphasize the relationship between people. Western oil companies tend to use the system as the principle and use the system to restrict employees' behavioral norms. Western oil companies value the interests of employees and protect the reputation of the company. They will not achieve their own performance through unpaid overtime work, nor will they win the bribe by bribery. Differences in religion and customs can lead to conflicts in the organization and culture of companies. The hard work of the Chinese is in contrast to the relatively free work style of local employees. There is a great difference in the aspect of enterprise management between Chinese employees who bear hardship without complaint and those with their work habits from the host countries, and the differences in corporate culture will inevitably bring problems to the management of the later stages of mergers and acquisitions.

3.3 Countermeasures of Cultural Risk Based on SWOT

For different M&A models, give full play to the dominant factors, analyze and overcome the inferior factors; make better use of opportunities, identify and evade threats. For the cultural risks in the M&A of the "Middle East model", Chinese oil companies use W-O countermeasures, which focus on opportunity factors and weaknesses to maximize opportunities and minimize weaknesses. After all, the period of the low tide of the entire oil industry will remain unclear. The export of petroleum resources is the most important economic pillar of the Middle East countries. The Middle East countries must rely on China's huge oil demand market. On the other hand, as long as Chinese oil companies fully respect their customs and religious culture, the conflicts of corporate culture will naturally weaken. The ST strategy is relatively suitable for the merger of the "Central Asian model". Central Asian oil companies are happy to enjoy the economic vitality brought by Chinese companies, and Chinese companies can also get reliable oil supply guarantees from neighboring countries. At the same time, Chinese oil companies in Central Asia have to face competition with Western

companies. For the “Western model”, the WT strategy may be a good choice. Mergers and acquisitions of Western oil companies need to be cautious. Not only do Western political concepts, laws, and social environments create resistance to Chinese oil companies’ mergers and acquisitions, but Western oil companies’ strong corporate culture also interferes with later operations.

At this stage, Chinese oil companies are cautious about adopting “Western models” of overseas mergers and acquisitions. The main threat comes from the fact that Western developed countries are hostile to the rapid development of China. They believe that Chinese companies may have ulterior motives for the acquisition of strategic resources. Therefore, the overseas mergers and acquisitions of Chinese oil companies in Western developed countries are often hindered by various aspects. However, once the acquisition is approved by western governments, its standardized commercial operation will make the merger progress smoothly. The relatively abundant capital of Chinese oil companies and Chinese government policy and economic support can help western oil companies escape the financial difficulty in the low oil price period. The advantage of the “Western model” is that Chinese oil companies can not only learn advanced management experience and business concepts, but also introduce and utilize advanced technologies from Western enterprises. However, there are certain disadvantages in adopting the “Western model” when integrating Western corporate culture. In the process of management and operation, on the one hand, Chinese oil companies prefer human-oriented, emphasizing the relationship between people. Western oil companies tend to use the system as the principle to restrain employees’ code of conduct [7]. On the other hand, Chinese oil companies focus on maximizing collective profits. Western oil companies attach importance to the interests of employees and protect the reputation of enterprises. They will not realize their own performance through unpaid overtime, nor will they win profits by offering bribes.

4 The AHP Application in Cultural Risk Assessment on Overseas M&A of Chinese Petroleum Enterprise

AHP (Analytic Hierarchy Process) is a practical multi-scheme and multi-objective decision-making method put forward by American operational researcher T. L. Saaty in the 1970s. It is a qualitative and quantitative decision analysis method [8]. It is often applied to multi-objective, multi-criteria, multi-factor, multi-level complex problems, especially strategic decision-making issues, and has a very wide applicability.

When using AHP to solve all kinds of decision problems, the complex problem should first be decomposed into several components, and then different components should be grouped according to classes. Finally, a multi-level evaluation model is established based on the grouping situation. According to the analysis of risk sources and the identification of risks, the cultural risk assessment index system of Chinese oil companies’ overseas M&A is constructed. In this paper, the cultural risk of overseas

M&A is taken as the target level, and some major risks involved in national culture, business culture, and corporate culture are taken as the criterion level. The main risks include political factors, laws and regulations, religious customs, business environment, commercial marketing, business ethics, corporate values, corporate systems, employees' behavioral culture, etc. Three types of overseas M&A which includes the Western model, the Central Asia model, and the Middle East model are served as the programmatic layers (Fig. 1).

According to the above hierarchy, the 1–9 scale method is adopted to construct a judgment matrix using expert scoring. In this study, some experts from the oil industry, cultural institutions, and venture capital industry were invited to score the weights of overseas M&A cultural risk indicators. All members will score points based on their understanding of the various risk indicators and compare the importance of each. According to the established hierarchical model, the judgment matrix(A) of each element relative to the total target are established, as shown in Table 1. This matrix is used to describe the relative importance of each element in the criterion layer relative to the upper element.

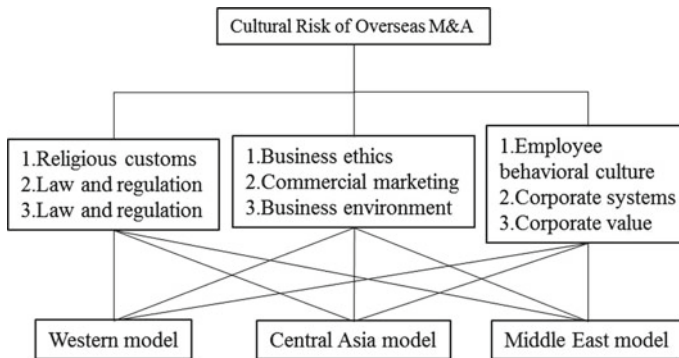


Fig. 1 Analytic hierarchy process model

Table 1 Judgment matrix(A)

A	B1	B2	B3	B4	B5	B6	B7	B8	B9
B1	1	3	7	4	5	6	2	5	8
B2	1/3	1	5	2	3	4	1/2	3	6
B3	1/7	1/5	1	1/4	1/3	1/2	1/6	1/3	2
B4	1/4	1/2	4	1	2	3	1/3	2	5
B5	1/5	1/3	3	1/2	1	2	1/4	1	4
B6	1/6	1/4	2	1/3	1/2	1	1/5	1/2	3
B7	1/2	2	6	1/3	4	5	1	4	7
B8	1/5	1/3	3	1/2	1	2	1/4	1	4
B9	1/8	1/6	1/2	1/5	1/4	1/3	1/7	1/4	1

The maximum eigenvalue and eigenvector of the judgment matrix are calculated by the summation method.

The judgment matrix (A) is normalized (that is, the sum of the column elements is 1). The values in the normalized matrix are summed in rows:

$$S_i = \sum (A_{ij} / \sum A_{ij}) \tag{1}$$

In the Eq. (1), i and j are from 1 to 9.

By normalization of S_i , the normalized eigenvector of the maximum characteristic root of matrix A is obtained as the weight vector.

$$w_i = S_i / \sum S_i \tag{2}$$

$$\begin{aligned} w^A &= \{w_1, w_2, \dots, w_9\}^T \\ &= \{0.32, 0.16, 0.03, 0.10, 0.07, 0.05, 0.09, 0.07, 0.02\}^T \end{aligned} \tag{3}$$

Where, the maximum eigenvalue:

$$\lambda_{max} = \frac{1}{9} \sum \left(\frac{(AW)_i}{W_i} \right) = 9.17 \tag{4}$$

According to the principle of the analytic hierarchy process (AHP), the consistency between the maximum eigenvalues λ_{max} of matrix(A) and n is tested for consistency. The eigenvector corresponding to the largest eigenvalue is used as the weight vector of the effects of the compared factor on a certain factor in the upper layer. The greater the degree of inconsistency, the greater the judgment error caused.

$$CI = \frac{\lambda_{max} - 9}{9 - 1} = (9.17 - 9) / 8 = 0.0213 < 0.1 \tag{5}$$

$$CR = \frac{CI}{RI} = \frac{0.0213}{1.45} = 0.014 < 0.1 \tag{6}$$

Here CI is the consistency index, CR is the random consistency index, and n is the matrix dimension. RI is the Coincidence index for different dimension matrix.

The average random conformance index of the same order is shown in Table 2, and RI is equal to 1.45. It is generally believed that the consistency of judgment matrix is acceptable when CI is less than 0.1 and CR less than 0.1.

Table 2 Coincidence index of judgment matrix

n	3	4	5	6	7	8	9	10	11
RI	0.58	0.90	1.12	1.24	1.32	1.41	1.45	1.49	1.51

Table 3 National cultural risk judgment matrix

B1	C1	C2	C3	B2	C1	C2	C3	B3	C1	C2	C3
C1	1	2	7	C1	1	1/3	1/2	C1	1	4	5
C2	1/2	1	6	C2	3	1	1/2	C2	1/4	1	2
C3	1/7	1/6	1	C3	2	2	1	C3	1/5	1/2	1

Similarly, the judgment matrix B1, B2, B3, B4, B5, B6, B7, B8 and B9 of each element of the scheme layer relative to the criterion layer can be obtained as follows (Tables 3, 4 and 5):

Similar to the calculation process of judgment matrix (A), the characteristic roots, eigenvectors and consistency tests of matrix B1, B2, B3, B4, B5, B6, B7, B8 and B9 are obtained as follows:

After obtaining the relative importance of each level, we can calculate the overall importance of the factors at all levels by top-down processing (Table 6).

Table 4 Business cultural risk judgment matrix

B4	C1	C2	C3	B5	C1	C2	C3	B6	C1	C2	C3
C1	1	1/2	1/3	C1	1	3	5	C1	1	5	3
C2	2	1	1/2	C2	1/3	1	3	C2	1/5	1	1/3
C3	3	2	1	C3	1/5	1/3	1	C3	1/3	3	1

Table 5 Corporate cultural risk judgment matrix

B7	C1	C2	C3	B8	C1	C2	C3	B9	C1	C2	C3
C1	1	3	5	C1	1	6	4	C1	1	6	3
C2	1/3	1	3	C2	1/6	1	1/3	C2	1/6	1	1/3
C3	1/5	1/3	1	C3	1/4	3	1	C3	1/3	3	1

Table 6 Parameters of judgment matrix(Bi)

$w_1^B = \{0.59, 0.33, 0.08\}$	$\lambda_{max} = 3.08$	CR = 0.069
$w_2^B = \{0.16, 0.30, 0.54\}$	$\lambda_{max} = 3.01$	CR = 0.01
$w_3^B = \{0.68, 0.20, 0.12\}$	$\lambda_{max} = 3.02$	CR = 0.02
$w_4^B = \{0.16, 0.30, 0.54\}$	$\lambda_{max} = 3.01$	CR = 0.008
$w_5^B = \{0.63, 0.26, 0.11\}$	$\lambda_{max} = 3.04$	CR = 0.03
$w_6^B = \{0.63, 0.11, 0.26\}$	$\lambda_{max} = 3.04$	CR = 0.03
$w_7^B = \{0.63, 0.26, 0.11\}$	$\lambda_{max} = 3.04$	CR = 0.033
$w_8^B = \{0.69, 0.09, 0.22\}$	$\lambda_{max} = 3.05$	CR = 0.05
$w_9^B = \{0.65, 0.10, 0.25\}$	$\lambda_{max} = 3.02$	CR = 0.02

$$\begin{aligned}
 w &= w^B * w^A \\
 &= \left\{ (w_1^B)^T, (w_2^B)^T, \dots, (w_9^B)^T \right\} * w^A \\
 &= \{0.50, 0.27, 0.23\}
 \end{aligned}
 \tag{7}$$

Based on the perspective of comprehensive evaluation, the western model is still the preferred mode from the perspective of cultural risk.

5 Conclusion

There are many cultural risks in the overseas mergers and acquisitions of Chinese oil companies. The differences in ethnic culture, business culture, and corporate culture may bring certain risks to overseas mergers and acquisitions and involve all aspects of the M&A process. It is necessary not only to do in-depth research on the source of cultural risk, but also to identify different types of cultural risks by using effective methods.

The cultural risks in the overseas mergers and acquisitions of oil companies are multi-faceted. Differences in national culture, business culture and corporate culture may bring certain risks to overseas mergers and acquisitions and involve all aspects of the M&A process. The motives of overseas M&A by Chinese oil companies are often easily questioned, and they are particularly vulnerable to political interference of the host country. State-owned oil companies should be more open-minded in the process of overseas M&A to create more benefits for the enterprises and their host countries, and to obtain the understanding of the host government and the public. Privately-owned oil companies are small in scale, and their business culture and corporate culture are not mature enough. They should take the initiative to cross-cultural exchanges for absorbing and learning foreign advanced management experience and business model, and achieve the integration of the culture of M&A parties.

The assessment of the cultural risk of overseas M&A of Chinese oil companies requires not only an in-depth analysis of the connotations and root causes of cultural risks, but also different approaches to different types of cultural risks for different modes. Using SWOT analysis and AHP method to analyze cultural risks in overseas M&A is a good risk assessment method. By analyzing the degree of cultural risk in overseas mergers and acquisitions under different modes, the negative impact of cultural risks can be reduced and overseas investors can be helped for optimization decision. Due to the diversity of sources and types of cultural risks, accurate identification of cultural risks and establishment of a reasonable assessment of cultural risks have yet to be tested in more practice.

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