

# Impact of Cultural Differences on the Results of Overseas Mergers and Acquisitions by Chinese Enterprises

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This study examines 154 Chinese enterprises that completed overseas mergers and acquisitions (M&As) between 2008 and 2017. Based on Hofstede's cultural dimension theory, the cultural distance variable is calculated and the short-term impact of cultural differences on Chinese enterprises' overseas M&As outcomes is then quantitatively analyzed through multiple linear regression analysis.

**Keywords:** Cultural differences, Overseas M & As, Effect of M & As

## Introduction

Since 2017, the Chinese economy has shifted from a period of high-speed growth to one of high-quality development. This transition has required the formation of a new pattern of all-around opening up and the development of an open economy at a higher level. Following the strategic guidance of the "One Belt and One Road" initiative, high-quality overseas mergers and acquisitions (M&As) have become an important way for Chinese enterprises to go out. However, according to the seven seven law, 70% of overseas M&As will not achieve their expected business value, and 70% of the failures will be caused by cultural integration problems. Therefore, it is of great theoretical significance and practical value to study the influence of cultural integration on Chinese enterprises' overseas M&As.

In terms of cultural factors, Feng M and Sun S W *et al.* analyzed the negative impact of cultural distance on overseas M&As<sup>1-3</sup>. Also from the cultural dimension, Yan B found that innovative leadership in the enterprise culture had a significant impact on the profitability of organizations<sup>4</sup>. In terms of index and empirical methods, Feng M *et al.* used a sales profit ratio to indicate the value created by production in the market<sup>5</sup>, Fernández-Gómez M A *et al.* used comprehensive financial index to show the quality of reported earning information<sup>6</sup>, and Hsieh K L used Stepwise regression to screen out possible critical

layers for the yield prediction model excluding unrelated factors<sup>7</sup>.

## Data source and variable selection

The samples examined in this study are from 1,227 overseas M&A events that took place between 2008 and 2017. The events were conducted by Chinese listed companies making overseas acquisitions and were published in the WIND database. 154 Chinese enterprises involved in overseas M&As in 31 host countries were empirically selected based on geographical distribution characteristics of the host country and the availability of relevant data. The sample enterprises include 11 Chinese natural resources enterprises and 86 Chinese high-tech enterprises. As shown in Table 1, the host countries represent multiple global regions. All selected sample companies are Chinese enterprises listed in mainland China or Hong Kong that complete M&A transactions. Enterprises operating overseas in tax havens such as Monaco, Andorra, and the Bahamas were excluded from this study. Because of the homogeneity of financial performance indexes, the financial industry was also excluded from the quantitative analysis.

As shown in Table 2, this study uses national cultural distance (CulDist) as the explanatory variable representing cultural differences. This variable is calculated by using the six cultural indicators based on Hofstede's cultural dimension theory, the Power Distance Index (PDI), the Individualism/Collectivism

Table 1 — Host countries of the acquired enterprises

Continent		Country				
The Americas	North America	the United States	Canada			
	South America	Chile				
Europe	Northern Europe	Denmark	Finland	Netherlands	Norway	Sweden
	Eastern Europe	Bulgaria	Croatia			
	Southern Europe	Malta	Slovenia	Spain	Italy	
	Western Europe	Belgium	France	Britain	Ireland	
	Central Europe	Austria	Germany	Czech Rep	Switzerland	
Asia	Southeast Asia	Singapore	Vietnam	Indonesia		
	East Asia	Japan				
	South Asia	India				
	Western Asia	Malaysia				
Oceania	Australia	New Zealand				
Asia and Europe	Russia					

Table 2 — Variables in the model

Variable	Index	Variable Symbol
Explained variable	Asset-liability ratio	ALR
Explanatory Variable	Total cultural distance	CulDist
Control Variable	The equity proportion in the acquired enterprise at the time of overseas M&As	ER
	Overseas M&As transaction amount	TS
	Take 1 for national high-tech enterprises and 0 for others	ITIN
	Take 1 for natural resource enterprises and 0 for others	NATRES

Index (IDV), the Masculinity/Femininity Index (MAS), the Uncertainty Avoidance Index (UAI), the Long/Short-Term Orientation Index (LTO), and the Indulgence Index (IDG). The cultural distance in each dimension and the total cultural distance between each host country and China are combined using the Groot formula. The specific calculation formula is as follows:

$$CulDist_{CJ} = 1/6 \sum_{k=1}^6 [(I_{kC} - I_{kJ})^2 / V_k]$$

Where,  $CulDist_{CJ}$  is the total cultural distance between the host country J and China, and  $I_{kJ}$  are their Hofstede scores in dimension k respectively, and  $V_k$  is the variance of Hofstede scores of all host countries in dimension k.

In addition, the national cultural distance in each dimension is expressed by the following formula:

$$CD_k = |I_{kC} - I_{kJ}|$$

$CD_k$  is the cultural distance between China and country J in dimension k, for example,  $CD_{PDI}$  indicates the cultural distance between China and country J in PDI dimension.

In this study, as shown in Table 2, the asset-liability ratio (ALR) of the acquiring enterprise in its second year after completing overseas M&As is set as the explained variable to measure the short-term economic benefits of overseas M&As. The equity proportion of the acquiring enterprise in the acquisition target (ER) and the total value of the overseas M&A transactions (TS) are taken as control variables representing the M&A scale. The GDP deflator from the base year 2009 is used to find the total value of the M&A transactions which removes the impact of price changes.

Natural resources and high-tech enterprises are two of the most important entity types making overseas M&A transactions in China. We assign acquiring enterprises 1 if they are a national high-tech enterprise (ITIN) and 0 if not. In addition, we assign natural resource enterprises (NATURES) that engage in oil, natural gas exploitation, coal mining, non-ferrous metals industries a value of 1, and assign 0 to all others.

**Model construction**

Generally, cultural differences between the acquiring and host countries' inherent values,

customs, corporate culture, and other cultural factors cause short-term constraints during overseas M&As. This is not conducive to the improvement of the short-term financial performance of enterprises. Therefore, this study assumes that national cultural differences will reduce the overseas M&A performance of Chinese listed companies, and proposes the following model.

$$ALR = \alpha_1CulDist + \alpha_2ER + \alpha_3TS + \alpha_4ITIN + \alpha_5NATURES + \mu$$

In this study, IBM’s SPSS Statistics 19.0 software was used to analyze the Pearson correlation of each explanatory variable. As shown in Table 3, the correlation coefficients between CulDist, ER, TS,

ITIN, and NATURES are all less than 0.3, which is considered to be a low correlation. This indicates that the independent variables are reasonably selected without serious multicollinearity. In our empirical analysis, the stepwise regression method with no intercept was used to analyze the influence of cultural differences on the overseas M & As of enterprises through the multiple linear regression model. In order to improve the accuracy of the model, the insignificant ITIN and NATURES variables were eliminated.

**Empirical results**

The regression results of Table 4 show that  $R^2=0.784$ , a high determination coefficient, indicating

Table 3 — Correlation test of total cultural distance and other variables

		CulDist	ER	TS	ITIN	NATRES
CulDist	Pearson Correlation	1	-0.007	.166*	-0.035	0.135
	Sig.(2-tailed)		0.933	0.039	0.669	0.095
	N	154	154	154	154	154
ER	Pearson Correlation	-0.007	1	0.037	0.008	-0.137
	Sig.(2-tailed)	0.933		0.647	0.926	0.09
	N	154	154	154	154	154
TS	Pearson Correlation	.166*	0.037	1	-.186*	.211**
	Sig.(2-tailed)	0.039	0.647		0.021	0.009
	N	154	154	154	154	154
ITIN	Pearson Correlation	-0.035	0.008	-.186*	1	-.163*
	Sig.(2-tailed)	0.669	0.926	0.021		0.043
	N	154	154	154	154	154
NATRES	Pearson Correlation	0.135	-0.137	.211**	-.163*	1
	Sig.(2-tailed)	0.095	0.09	0.009	0.043	
	N	154	154	154	154	154

\*.Significant correlation at 0.05 level (2-tailed).

\*\*. Significant correlation at 0.01 level (2-tailed).

Table 4 — Regression results of the model

Model	Non-standardized Coefficient		Standardized Coefficient	Collinearity Statistics			
	B	Standard Error	Trial	t	sig.	TOL	VIF
CulDist	5.889	0.913	0.440	6.448	0.000	0.307	3.256
ER	0.277	0.042	0.445	6.634	0.000	0.318	3.147
TS	0.000	0.000	0.108	2.695	0.008	0.895	1.117
R	R <sup>2</sup>		F		sig.		
0.885	0.784		182.609		0.000		

that the regression model has a good fit. The significance level of the F test =  $0.000 < \alpha$  of 0.05, showing that the regression model is effective. For the independent variable CulDist and control variables ER and TS, the significance levels are 0.000, 0.000 and 0.008 respectively, so these three variables are significant at the 1% significance level. This all indicates that the total cultural distance and overseas M&A scale have a significant impact on the short-term post-overseas M&A performance of Chinese enterprises. In addition, the tolerance TOL values of significant independent variables in the regression model are all greater than 0.1, and the variance inflation factors VIF are all less than 5, which are consistent with the above correlation test results, indicating no autocorrelation in the model.

These empirical results are based on stepwise regression performed after excluding insignificant variables, using cultural distance as the main explanatory variable. According to the regression results of the model, when ALR is used to measure the short-term operating benefits of Chinese enterprises' overseas M&As, the coefficient of explanatory variable CulDist is 0.440, indicating that the greater the total cultural distance between the host country and China, the higher the asset-liability ratio will be. In other words, the bigger the cultural differences between countries, the worse the operation effect of enterprises after overseas M&As are completed.

### **Empirical analysis**

The 154 Chinese enterprises examined in this study are classified into three types of enterprises, high, moderate, and low cultural fit for host countries. This represents the cultural differences between overseas M&A parties. When combined with the cultural differences index analysis, 12 Chinese enterprises in the sample have a total cultural distance of less than 1 from the enterprises they acquired in Singapore, Indonesia, Vietnam, and India. These enterprises are all located in Asia and belong to the category of enterprises with high cultural fit. In the year following the M&As, the average asset-liability ratio of these 12 enterprises was lower than 44.58, the average of the 154 sample enterprises. These enterprises have lower financial risk, stronger development momentum, and a better operation effect after overseas M&As. In addition, 81 Chinese enterprises in the selected samples have a total cultural distance between 1 and 4

from the host countries, and belong to the second category of enterprises with moderate cultural fit. These host countries are located in the Czech Republic, Germany, Switzerland, Austria, France, Belgium, the United Kingdom, Italy, Spain, Slovenia, Malta, Bulgaria, Croatia, Finland, Canada, Chile, Malaysia, Japan, and Russia. They are all located in Europe, the Americas, or Asia. The average asset-liability ratio of these 81 enterprises in the second year after overseas M&As is also lower than the average of the 154 enterprises studied, and the operation effect is relatively good. It is worth noting that in terms of the effect of overseas M&As, the average asset-liability ratio of enterprises in the category with the highest cultural fit is 0.93, which is higher than that of the second category. This may be because the scale of overseas M&As by some Chinese enterprises is too large, making the cultural conflicts faced by overseas M&As more complicated and bringing a degree of negative impact on the M&As' effect. In the stepwise regression, the control variable coefficient representing the scale of overseas M&As is positive, which also indicates the possibility of such indirect influence. We also find that 61 Chinese enterprises in the selected samples have a total cultural distance between 4 and 6 from the host country, belonging to the category of enterprises with low cultural fit. These host countries are located in Denmark, Netherlands, Norway, Sweden, Ireland, the United States, Australia, and New Zealand, and are part of the European, American, and Oceania regions. The average debt-asset ratio of the 61 third-category companies in the second year after overseas M&As was relatively high. Among them, the total cultural distance between Motorola in the United States and Lenovo in China is 4.79. The asset-liability ratio of Lenovo in the second year after the M&A is recorded as high as 87.86, far higher than the average asset-liability ratio of the sample enterprises, 44.58. This shows that its long-term solvency outlook is relatively poor and its financial risk relatively high. The excessive cultural differences between the two countries restrains the profitability of Chinese enterprises, and also makes the operating effect of enterprises after overseas M&As poor.

### **Conclusions and prospects**

In conclusion, according to the empirical results,

the 154 Chinese enterprises examined in this study can be classified into three types of enterprises, high, moderate, and low cultural fit for host countries, and the greater the cultural distance, the higher the asset-liability ratio of the enterprise. In another word, cultural differences have negative impact on the operating effect of enterprises after overseas M&As. And this negative impact may be potentially related to the size of overseas M&As. Follow-up studies will extend the dependent variable of the model from the total cultural distance to the Power Distance Index, Individualism/Collectivism Index, Masculinity/Femininity Index, Uncertainty Avoidance Index, Long/Short-Term Orientation Index, and Indulgence Index in order to measure different dimensions of cultural differences on Chinese enterprises' overseas M&As' effects, which could be either short- or long-term.

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