

Study on the Measure of Culture Conflict of Transnational M&As based on Time Latitude

QingHua WANG

Beijing University of Technology, Beijing, China

ABSTRACT: Firstly, based on the concept of culture conflict of transnational M&As, quantitative indicators of culture conflict of transnational M&As were determined. Secondly, so as to calculate the value of the culture conflict, the indicators were quantified, then how to measure the overall value of culture conflict of transnational M&As based on the time latitude was given. Finally, according to the calculation and case analysis, culture conflict curve was drawn base on the time latitude. The curve was a good match with the schematic diagram of culture conflict put forward by Kalvero oberg in 1960.

KEYWORD: Time latitude; Transnational M&As; Culture conflict; Measure

1 INTRODUCTION

American scholar Brown[1] confirmed that relationship between conflicts and performance were of the inverted "U" type. Intense culture conflicts may have a negative impact on the performance of transnational M&As, and even lead to the failure of transnational M&As. Modest culture conflicts will lead to the diversity of culture and then improve the performance of transnational M&As. Low culture conflicts cannot make enterprises take the diversity advantages. To control the culture conflicts of transnational M&As in the range of a reasonable moderate degree, the value of the culture conflicts should be clearly calculated. Therefore, how to measure the culture conflicts of transnational M&As is very important and necessary.

From the evaluation on culture conflicts of joint ventures or multinational coalitions by previous scholars [2-4], we may conclude: first, scholars never considered the time factors. Most scholars just gave an evaluation level on culture conflicts such as "high, medium and low" in their publications. But, in theory, culture conflicts of transnational M&As should not be fixed, it should change over time. Therefore, it is not enough to study culture conflicts just based on the level of culture conflicts. Second, scholars carried on the quantitative research on culture conflicts mostly by fuzzy comprehensive evaluation method to judge the degree of the level of culture conflicts, but they didn't give the change of the value over time. It is not conducive to do

research on culture conflicts and solve the problems of culture conflicts in stages.

2 THE MEANING OF CULTURE CONFLICTS OF TRANSNATIONAL M&AS

The concept of culture conflicts have a broad sense and a narrow sense according to Organizational behavior[5]. In this article culture conflict is defined as: Under the background of transnational M&As, as time goes on, different forms of culture or cultural elements between the two parties is in an interactive process of culture friction in forms of violent confrontations (including the psychological and the behavioral conflicts) through mutual communion with each other because of the existence of the culture differences in two aspects of national culture and corporate culture. The definition has three aspects of meaning: First it is an interactive process of different forms of culture as the change of time, second it includes the national culture conflicts and the corporate culture conflicts, and the third it is in the form of psychology and behavior.

3 QUANTITATIVE INDEX SYSTEM OF NATIONAL CULTURE CONFLICTS

The measured value of culture conflicts we study in this paper was acquired through the subjective evaluation given by the respondents, so most culture conflicts belong to dominant conflicts, which can be

felt by the respondents, otherwise it will be unable to judge. In this paper, the cross-culture conflicts include: national culture conflicts and corporate culture conflicts.

3.1 *The quantitative index system of national culture conflicts*

The division of national culture conflicts dimension derived from theory of five dimensions put forward by Dutch scholar Hofstede[6], five dimensions are as follows: power distance, uncertainty avoidance, individualism and collectivism, male and female, long-term orientation and short-term orientation. The reliability of the cultural dimensions has been widely acknowledged among scholars, and it is put into use in numbers of theoretical and empirical research.

In this paper, national culture conflicts U1 were divided into the above five dimensions of conflicts, in addition to the dimension of male/female was designed for two items, the other four dimensions of culture conflicts were designed for four items [7].

Conflicts from power distance U11 include: divergences of participating in the decision-making U111; divergences of trusting on the leaders U112, divergences of communicating with the leaders U113, divergences of obeying the decision-making by the leaders.

Conflicts from uncertainty avoidance U12 include: divergences of attitude to job changes U121; divergences of attitude to organizational changes U122; divergences of attitude to organizational competitions U123; divergences of attitude to dissent- treating U124.

Conflicts from individual/collective U13 include: divergences of attitude to undertake personal responsibility U131, divergences of attitude to cooperate with others U132; divergences of attitude to intervene in personal life by organizations U133; divergences of attitude to the sense of belonging U134.

Conflicts from male/female U14 include: divergences of attitude to money and materials U141, divergences of attitude to overtime-working without pay U142; divergences of attitude to less income U143; divergences of attitude to gender roles U144.

Conflicts from long/short term orientation U15 include: divergences of attitude to short-term profits of enterprise U151, divergences of attitude to future development of enterprise U152.

3.2 *The quantitative index system of corporate culture conflicts*

In this article, we put the corporate culture conflicts U2 of transnational M&As into the following four aspects: material-culture conflicts U21, behavior-

culture conflicts U22, system-culture conflicts U23 and spirit-culture conflicts U24.

In order to fully measure the corporate culture conflicts of transnational M&As, each aspects was designed for four items [6]. Specific as follows:

Material-culture conflicts U21 include: divergences of attitude to different salary and welfare U211; divergences of attitude to arrangement for management position U212; divergences of attitude to promotion U213; divergences of attitude to product development and production policy U214.

Behavior-culture conflicts U22 include: divergences of attitude to Chinese and foreign leaders' different behavior U221, divergences of attitude to the way of communicating U222; divergences of attitude to conflicts-handling strategy U223; divergences of attitude to the way of cooperation U224.

System-culture conflicts U23 include: divergences of attitude to laws and regulations U231, divergences of attitude to management style U232; divergences of attitude to employee motivation U233; divergences of attitude to different decision-making style U234.

Spirit-culture conflicts U24 include: divergences of respecting on employees and their career development U241, divergences of attitude to different entrepreneurship between Chinese and foreigners U242; divergences of attitude to management U243, divergences of attitude to the sense of talent U244.

3.3 *The quantitative index system of relational capital*

3.3.1 *Introduction of Relational capital*

Relational capital refers to the quality of relationship between the two enterprises in the transnational M&As. It is mainly related to the social psychology of the both enterprises, especially those positive and beneficial social psychologies, It is mainly showed as personal relationships between senior managers and the organizational relationships between the enterprises in transnational M&As. Under the sense of transnational M&As, good relational capital is beneficial for both sides in communication, learning and creative activity on the basis of mutual trust. Thus it may effectively coordinate and reduce the culture conflicts between the two sides, and reduce the negative effects caused by culture conflicts. Relational capital, as an indicator to measure an enterprise's perception ability to intercultural conflicts, can increase the enterprise's ability to understand different cultures and the ability to adapt to the culture conflicts. It thus plays a big role on reducing all sorts of culture conflicts caused by culture differences between the two sides in transnational M&As.

In this article, therefore, the relational capital was introduced to calculate the culture conflicts in transnational M&As. Relational capital is defined as: it is a kind of relationship resources between the both sides in transnational M&As, and it is based on mutual trust in each other and communication with each other between the individuals or organizations, and takes culture cognition as the basic social psychological factors. Based on comprehensive analysis on the dimension of social capital put forward by NallaPie and Ghoshal[8], and the dimension of relational capital put forward by Lee [9]. In this article we divided relational capital into four aspects, which were: awareness of culture differences U31, perception of culture conflicts U32, trust between the two sides U33, communication between the two sides U34.

3.3.2 The quantitative index of relational capital

In this paper, based on the above definition of relational capital, the quantitative index for relational capital[7] as follows:

Awareness of culture differences U31 includes: the two sides should adapt to each other and learn from each other U311, the enterprise's nationality is very important in transnational M&As U312, some culture differences are necessary because they have a positive influence on enterprise's performance U313, If the culture difference is too big, it may lead to the failure of transnational M&As U314.

Perception of culture conflicts U32 includes: it is much more difficult to resolve the conflicts because of different problem-solving style U321, there are many conflicts between both sides U322.

Trust between the two sides U33 includes: both sides interfere with each other at work because they are lack of trust in each other U331, the two sides don't care about each other's fate U332, the two sides trust each other completely at work U333, both sides think the other side takes the attitude of the cooperation U334.

Communication between the two sides U34 includes: both sides don't always keep their promises U341, both sides inform each other of all major issues regularly U342, both sides share information with reservation U343, both sides think that the other has a cooperative attitude U344.

3.4 Determination of index weight

In order to calculate the culture conflicts more scientifically and reasonably, we need to determine the index weights of all levels. In this paper, we adopt the Analytic Hierarchy Process (AHP) to calculate the corresponding weights of various index by using expert scoring method.

4 THE MEASURE OF ALL INDEXES OF CULTURE CONFLICTS IN TRANSNATIONAL M&AS

In current literatures, there isn't a kind of method of how to measure culture conflicts of transnational M&As. In some scholars' research, the dominant conflicts level in transnational joint ventures were tried to judge based on frequency or intensity of divergences among the partners. In this paper, a kind of method for measurement, which was put forward by Habib Ghazi [10] on the basis of predecessors' study in 1987 and its reliability and validity had been recognized in research, was used for reference. The Habib Ghazi method is as follows: first of all, total values of the frequency and intensity of all levels of culture conflicts were measured respectively, then the conflict frequency is multiplied by the conflict intensity. But in this paper, compared with his method, the variable relational capital was introduced to calculate the culture conflicts.

4.1 Measure of national culture conflicts

In this paper we used the Likert measure method. We had five grades which are "almost never, rarely, sometimes, often, and always" and "very low, low, medium, high and very high" when testing the frequency and intensity of the culture conflicts respectively, and giving the score "1, 3, 5, 7, 9" correspondingly. National culture conflicts of transnational M&As are determined by two dimensions: the frequency of the conflicts and the intensity of the conflicts. National culture conflicts in transnational M&As are equaled to: the frequency of the conflicts N_F times the intensity of the conflicts N_I . And its formula is:

$$N_F(n) = \sum_{h=1}^h \eta_h \left[\sum_{k=1}^k \phi_k N_F(n, h, k) \right]$$

$$N_I(n) = \sum_{h=1}^h \eta_h \left[\sum_{k=1}^k \phi_k N_I(n, h, k) \right]$$

N_F , N_I are represented as the frequency and intensity of culture conflicts respectively. "n, h, k" mean that the scores of the No. k items of the No. h types in the No. n enterprises. ϕ_k means the weight of the No. k items. η_h means the weight of the No. h types. Weight was calculated by using Analytic Hierarchy Process (AHP).

4.2 Measure of the corporate culture conflicts

Corporate culture conflicts of transnational M&As are also determined by two dimensions: the frequency of the conflicts and the intensity of the

conflicts. C_F , C_I are represented as the frequency and intensity of corporate culture conflicts respectively. And the measure steps are the same as the steps of national culture conflicts in transnational M&As.

4.3 Measurement of relational capital

We still used Likert measurement of five levels. We get the scores for each item from the levels of evaluation given by the managers of both sides in transnational M&As. Levels of evaluation is as "strongly disagree, disagree, neutral, agree, agree with very much" and is given the score "1, 3, 5, 7, 9" correspondingly. Respondents were asked to give the score based on their judgment. R is represented as the value of relational capital. The measure steps are the same as the steps of national culture conflicts in transnational M&As.

5 DISCUSSION ON THE MEASURE METHODS OF THE OVERALL VALUE OF CULTURE CONFLICTS IN TRANSNATIONAL M&AS BASED ON TIME LATITUDE

Through the analysis on the literatures we can learn that, both the national culture conflicts and the corporate culture conflicts have a positive correlation with the overall values of the culture conflicts, and the relational capital has a negative correlation with the overall values of the culture conflicts, therefore in this paper, a formula of measuring the overall values of the culture conflicts in transnational M&As based on time latitude was proposed as follows.

$$VC = \frac{[WN \times (N_F \times N_I) + WC \times (C_F \times C_I)]}{R}$$

Where VC = the overall values of the culture conflicts. WN = the weight of national culture conflicts. WC = the weight of corporate culture conflicts.

In theory, culture conflicts of transnational M&As should not be fixed, it should change over time. Therefore, we treated the first two years after the completion of the deal in transnational M&As as a measure range, among which every 3 months is treated as a measure-point. After calculation on the culture conflicts according to the above evaluation formula, we can get the values of the culture conflicts on each measure-point. We can find the evolution process of the culture conflicts of transnational M&As over time according to the change of the values on each measure-point. And also we can do further analysis on culture conflicts of transnational M&As.

6 CASE STUDY

6.1 Acquisition of IBM PC by Lenovo

In this paper, In order to explore the culture conflicts after transnational M&As we took the acquisition of IBM PC by Lenovo for example. On May 1, 2005 Lenovo announced its successful acquisition of IBM's PC. This transnational M&As was like "a snake swallows an elephant." Lenovo's business volume was only \$2.9 billion in the market of China before the acquisition, however its business volume was \$16.9 billion at the end of the second year after the acquisition in 2007, its net profit increased from \$1.4 billion to \$4.84 billion, and its international market share also increased from 2.4% to 7.7%. (quoted from Lenovo annual report 2007). But Lenovo also met with the problems of culture conflicts. Liu Chuanzhi, Lenovo's chairman, once said when he was interviewed in 2011: "the culture conflicts were the biggest risk of all after the acquisition, its difficulty was beyond the expected. [11]"

6.2 The questionnaire and the sample statistics

In order to get the quantitative value of culture conflicts, we need to calculate the weight of each index. In this paper we designed questionnaire and asked experts to give the scores. We had a total of 30 copies of questionnaires for survey. And this 30 copies were distributed to 10 scholars engaged in cross-culture research, 10 executives and 10 middle-class managers from the enterprises which had finished the transnational M&As. Finally, we successfully got all the 30 copies of questionnaires back and all of the 30 copies were effective. Based on the scores given by the 30 experts, we calculated the weight of each index by using AHP.

The measure of culture conflicts we study was acquired through the subjective evaluations given by the respondents, so most culture conflicts belonged to dominant conflicts, which could be felt by the respondents, otherwise it would be unable to evaluate. In order to get the quantitative value of culture conflicts, we designed questionnaires of frequency and intensity of national culture conflicts, questionnaires of frequency and intensity of corporate culture conflicts, and questionnaires of relational capital. Each form in the questionnaires is based on the time latitude. We set up a measurement range which was from the beginning of the completion of deal to the second year after the completion of deal. In this range, we set every three months as a measure-point. And finally we had 8 measure points based on time latitude. We had a total of 120 copies of questionnaires for investigation of Lenovo. And the 120 copies were distributed to 10 scholars engaged in cross-culture research, 30 executives and 30 middle-class

managers and 50 employees. Finally, we successfully got 108 copies of questionnaires back. All of the 108 copies passed the test of the reliability and validity with the application of SPSS, and 108 copies were effective to satisfy the requirements of sample statistics. Then we averaged the data of 108

copies and calculated the mean of every index.

Then we substituted the mean in the above formula to calculate, and we got the values of culture conflicts on each measure-point based on time latitude. The calculated results are shown in table 1.

Table1 Measured values of culture conflicts after Lenovo's acquisition of IBM PC

Time Value	1 year after Lenovo's acquisition of IBM PC				2 year after Lenovo's acquisition of IBM PC			
	1-3m	4-6m	7-9m	10-12m	13-15m	16-18m	19-21m	22-24m
$N_F \times N_I$	9.4	19.5	29.9	36.9	33.8	25.2	12.9	5.7
$C_F \times C_I$	21.6	41.5	55.5	57.0	47.6	31.7	18.4	6.5
$WN \times (N_F \times N_I) + WC \times (C_F \times C_I)$	17.9	34.9	47.8	51.0	43.5	29.7	16.7	6.3
R	6.9	6.0	5.7	5.1	5.3	5.9	5.2	5.7
VC	2.6	5.8	6.8	7.8	6.3	3.8	2.5	0.8

We drew out the culture conflict curve according to the values of culture conflicts on each measure-point. And the curve is shown in figure 1, 2, 3, 4.

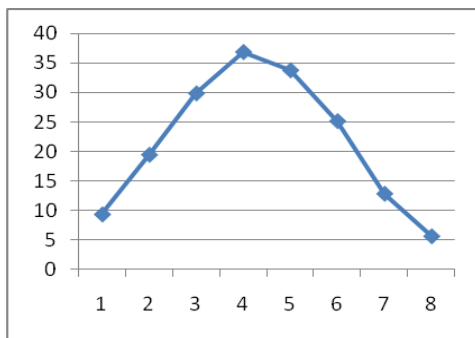


Figure 1 Value of $N_F \times N_I$ based on time latitude

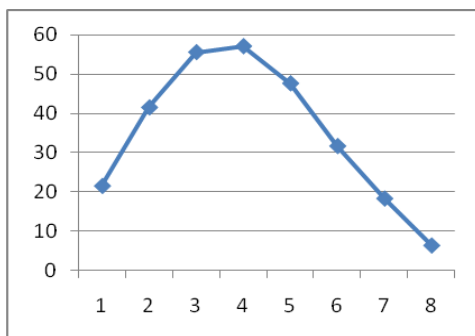


Figure 2 Value of $C_F \times C_I$ based on time latitude

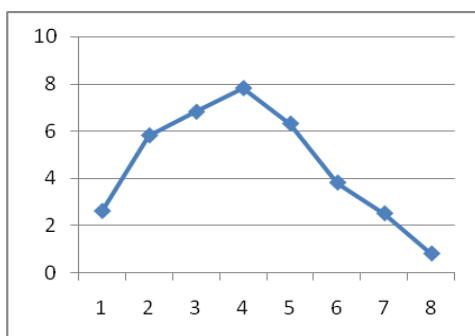


Figure 3 Value of VC based on time latitude

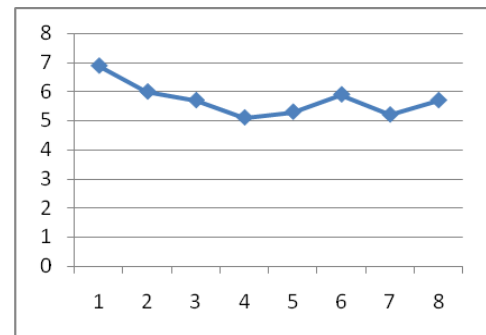


Figure 4 Value of R based on time latitude

6.3 Index weights at all levels

The calculation results of index weights are as follows:

$$\{U_1; U_2\} = \{0.3; 0.7\}$$

$$\{U_{11}; U_{12}; U_{13}; U_{14}; U_{15}\} = \{0.2; 0.3; 0.3; 0.1; 0.1\}$$

$$\{U_{111}; U_{112}; U_{113}; U_{114}\} = \{0.1; 0.4; 0.1; 0.4\}$$

$$\{U_{121}; U_{122}; U_{123}; U_{124}\} = \{0.3; 0.2; 0.2; 0.3\}$$

$$\{U_{131}; U_{132}; U_{133}; U_{134}\} = \{0.2; 0.2; 0.3; 0.3\}$$

$$\{U_{141}; U_{142}; U_{143}; U_{144}\} = \{0.25; 0.25; 0.25; 0.25\}$$

$$\{U_{151}; U_{152}\} = \{0.5; 0.5\}$$

$$\{U_{21}; U_{22}; U_{23}; U_{24}\} = \{0.2; 0.3; 0.3; 0.2\}$$

$$\{U_{211}; U_{212}; U_{213}; U_{214}\} = \{0.25; 0.25; 0.25; 0.25\}$$

$$\{U_{221}; U_{222}; U_{223}; U_{224}\} = \{0.3; 0.2; 0.3; 0.2\}$$

$$\{U_{231}; U_{232}; U_{233}; U_{234}\} = \{0.2; 0.3; 0.2; 0.3\}$$

$$\{U_{241}; U_{242}; U_{243}; U_{244}\} = \{0.2; 0.3; 0.3; 0.2\}$$

$$\{U_{31}; U_{32}; U_{33}; U_{34}\} = \{0.3; 0.2; 0.2; 0.3\}$$

$$\{U_{311}; U_{312}; U_{313}; U_{314}\} = \{0.3; 0.4; 0.1; 0.2\}$$

$$\{U_{321}; U_{322}\} = \{0.7; 0.3\}$$

$$\{U_{331}; U_{332}; U_{333}; U_{334}\} = \{0.3; 0.2; 0.25; 0.25\}$$

$$\{U_{341}; U_{342}; U_{343}; U_{344}\} = \{0.25; 0.25; 0.25; 0.25\}$$

6.4 Results analysis

From figure 1-figure 3, we can find that, the evolution diagrams of both national culture conflicts and corporate culture conflicts are consistent with the one of overall culture conflicts curve. All of them are inverted "U" type curves. It can also reflect that both national culture conflicts and corporate culture conflicts have positive influence on measured values of overall culture conflicts. And from figure 4 we can find that relational capital curve was a positive "U" type curve. Its evolution diagram showed a reverse trend to that of overall culture conflicts curve. It means that relational capital may reduce the culture conflicts and it has negative influence on measured values of overall culture conflicts. It also can be proved that we put the variable "relational capital" in the denominator of calculation formula of overall culture conflicts is correct.

From a psychological point of view, transnational M&A is the growth point of culture conflicts. Along with the contact between each other after the transnational M&A, discontent and even prejudice may take place in both sides due to the objective existence of culture differences. As time went on, it may gradually change to be culture conflicts. The process of culture conflicts is the one of actual behavior caused by psychological contradiction among people. Commonly culture conflicts curve is an inverted "U" type curve and experiences four stages, which are: honeymoon stage, depression (or hostile) stage, adjustment stage and adaptation stage.

7 CONCLUSION

Innovation of this paper lies in: firstly, it took the time factor into consideration, and do the research on culture conflicts of transnational M&As in stages. We innovatively set up a measurement range which was from the beginning of the completion of deal to the second year after the completion of deal. And in this range we set every three months as a measure-point. So we had 8 measure points altogether based on time latitude. We got the measured values of culture conflicts on each measure-point based on time latitude by the formula we put forward in this paper. According to the change of measured values in the range, we can find the evolution trend of the culture conflicts of transnational M&As, and do further research and analysis. Secondly, on the basis of predecessors' research, after the analysis on influence factors of culture conflicts of transnational M&As, we introduced an variable "relational

capital" in formula of calculating culture conflicts. And finally innovatively proposed a formula of calculating culture conflicts based on time latitude. The culture conflict curve of transnational M&As was drawn based on the proposed formula in this paper and it is well consistent with the culture conflict curve put forward by Kalvero Oberg[12] in 1960. It is also proved the correctness and applicability of the measure method we proposed in the research.

ACKNOWLEDGEMENT

This paper is supported by Beijing Research Base of Social Science Fund Project, "Study on the Coordinate Development of Modern Manufacturing Industry in Beijing, Tianjin and Hebei Based on System Dynamics (14JDJGC040)"

REFERENCES

- [1] Brown, J., Day, R.. Measures of manifest Conflict in Distribution Channel. *Journal of Marketing Research*, 1981, 18:263-274.
- [2] Chen Juan. *Cross-cultural Conflict Management of Enterprises*. Wuhan University of Technology, 2008.
- [3] Fan Lingzhi. *Studies on culture conflicts of transnational M&As of Chinese enterprises*. Tianjin Normal University, 2009.
- [4] Wang Lina. *The Study on Culture Conflicts of Multinational Mergers & Acquisitions*. Wuhan University of Technology, 2007.
- [5] Zhang De, *Organizational behavior*. Tsinghua university press, 2000.
- [6] Hofstede G. *Cultures and Organizations*. London: McGraw Hill, 1991. 22-98.
- [7] Tian Hui. *The Relationship between Cross-Cultural Conflicts in Sino-foreign Joint Ventures and their Performance*. Central south university, 2009.
- [8] Nahapiet, J., Ghoshal, S.. Social capital, and the organizational advantage. *Academy of Management Review*, 1998, 23(2):242-266.
- [9] Lee S. C. et al. The effect of knowledge protection, knowledge ambiguity and relational capital on alliance performance. *Knowledge and process Management*, 2007, 14(1):8-69.
- [10] Habib, G, Measures of manifest conflict in international joint ventures. *Academy of Management Journal*, 1987, 30(4): 808-816.
- [11] Guo Fenjun. *Research on culture conflict problem of mergers and acquisitions*. Minzu University of China, 2013.
- [12] Kalervo Oberg. Culture Shock: Adjustment to New "Cultural Environments", *Practical Anthropology New Canaan. Conn.*, 1960(7):177-182.