Research on the Co-evolution of Professional Managers and Enterprises under the Background of Transnational Technology Transfer in Service Industry

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Abstract. Transnational technology transfer of service industry has become a new trend of international economic development. By using second-hand data, the professional managers of ten service multinational companies from different countries in China are selected as the research objects for empirical research. Taking the degree of localization of middle-and high-level professional managers in the multinational companies as dependent variables, and the year when multinational companies entered China, the type of industries, the scale of enterprises and the geographical distance from China as independent variables, this paper deduces by SPSS18, and makes an empirical study on this basis. The conclusion of this paper is that cultural differences are the most important factors that determine the localization of professional managers serving multinational companies. Geographically close to China, the cultural gap will be smaller than that of countries far from China, and the degree of localization and operation of multinational enterprises will be higher, otherwise, the degree of localization will be lower.

1 Introduction

The concept of international transfer of service industry has only been put forward in recent years, and it has quickly become a new remarkable feature of current economic globalization, which is mainly manifested in foreign investment in service industry, offshore outsourcing of service business and projects, and service trade mainly providing franchise, business license and management contract [1]. On the basis of referring to international industrial transfer, Qu Fengjie [2] believes that international transfer of service industry can be divided into narrow sense and broad sense. The former refers to the process of the service industry from developed countries to low-cost countries, including customer relationship management, logistics management, product design, call center, accounting, financial services, data processing, computer programming, etc., which is comprehensively manifested as the substitution relationship between the service industry of the investing country and the host country; The latter refers to the entry of foreign investment in service industry due to the relaxation of market access conditions and the increase of market demand in the host country, which is mainly manifested in the expansion of the market scope of multinational service enterprises, the increase of the proportion of service industry in the host country and the improvement of service industry capacity.

On the basis of the above research, this paper holds that the transnational technology transfer of service industry is the process of the service industry from developed countries to low-cost countries, including telecommunications, software, management consulting, financial services, electronic chip design, bioinformatics and legal services, covering many service links such as product design, enterprise procurement, financial accounting, human resource management, transaction processing, call center, IT technical support and solutions, office back-office support and web page maintenance, etc., and its comprehensive performance is investment.

Generally speaking, the form of international transfer of service industry is manifested in four aspects. First, project outsourcing; Second, offshore outsourcing of multinational companies' business; Third, transnational direct investment [3]; Fourth, the transnational transfer of human capital in service industry. Among them, the transnational transfer of human capital is an important guarantee for the overseas strategy of macro enterprises, which involves the core issue of technology transfer of transnational investment in service industry[4].

2 Service multinational enterprises and professional managers co-evolution basis-retail industry as an example

This paper holds that in order to truly realize the coordinated evolution and development of China's multinational retail enterprises and their professional managers, the following four aspects of staffing should be achieved:

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The vice president of international affairs is dispatched by the company headquarters. This is because the vice president of international affairs should be very familiar with the company's overall development strategy and be able to effectively coordinate the overall distribution of resources between the company's headquarters and the development of its multinational companies[5]. At the same time, it is also required to have a strong international perspective and be familiar with the economic and social development rules, current situation and social customs of various countries, so as to develop the speed and scale of multinational companies while taking into account the development strategy of the company headquarters[6].

The regional president can be sent by the headquarters or localized. It is a very important talent development strategy for multinational companies to recruit a large number of senior managers and local managers with host country background, especially overseas students with local background [7]. There are many successful examples in this respect, such as Tang Jun, president of Microsoft (China) Co., Ltd., Lai Bingrong, president of Motorola (China) Co., Ltd., Cheng Meiqi, president of Ford Motor Company, Liu Xiaoming, general manager of Electrolux (China) Co., Ltd., etc[8].

Therefore, in order to realize the co-evolution of multinational corporations and their professional managers in China's retail industry, as far as the top managers are concerned, relevant personnel can be sent by the company headquarters in the early stage of the development of multinational corporations, and then with the development and perfection of multinational corporations, local senior talents with returnees background can be used as much as possible when conditions are available[9].

The regional manager, branch manager and grass-roots staff are taken by local people. This is because local people are familiar with the consumption needs of local consumers, their living habits and beliefs, etc., and can better manage and implement relevant systems and maximize business benefits. If these personnel are sent by the headquarters, they must also be overseas Chinese who have studied or lived in the local area.

Assistant store managers and general employees should be mainly localized or mixed. Localization of general managers, that is, grass-roots professional managers and grass-roots employees, is one of the successful experiences of many multinational enterprises. For example, Nokia has more than 5,000 employees in China, of which local employees account for more than 90%, and the management of the company is held by Chinese from the president to the regional manager. In addition, the "mixing" mentioned here means that when China's retail industry implements the development of multinational companies, basic employees can also hire people from third countries living in the local area [10]. Therefore, in order to effectively realize the co-evolutionary development of professional managers of retail enterprises in transnational operations, it is an important development direction to realize the localization development of professional managers of retail multinational enterprises to the greatest extent. In order to better verify the above research conclusions, the following research investigates the current development status of multinational companies in China, obtains the composition of middle and senior professional managers, company scale, year of entry, localization degree of professional managers, and replaces the cultural gap with geographical location, trying to analyze the relationship and co-evolution development between professional managers and multinational companies by establishing a model and using hierarchical regression method.

3 Empirical study on the co-evolution of service multinational enterprises and professional managers

3.1 Determination of research objects

In this paper, foreign-funded enterprises are selected as the research objects, that is, economic entities that meet the legal requirements, are approved by the Chinese government, are established in China, and are jointly operated by the home country and the host country according to equity or contracts, or are independently invested and operated by foreign investors, with independent accounting and self-financing. This paper follows the following principles to select the research object:

The selected objects are all enterprises in the Fortune 500 that have settled in China, and these enterprises are well-known world brands with mature and stable development.

The selected companies are headquartered in Japan, South Korea, the United States and Europe, with different cultural backgrounds.

Randomly select multinational companies in the service industry, involving retail, banking and diversification.

The middle and senior managers of multinational companies in China's subsidiaries are the research objects of this paper.

3.2 Data sources

Using second-hand data, this paper collects relevant information and data from the official website of China, a randomly selected multinational company. Select the data of 10 multinational companies, including the time when these companies entered China, their industries, the size of the companies, and the localization degree of professional managers of these multinational companies. See Table 1.
Table 1 Basic survey of China market of top ten multinational corporations

<table>
<thead>
<tr>
<th>country</th>
<th>company</th>
<th>scale</th>
<th>degree of localization (%)</th>
<th>entry time</th>
<th>distance (km)</th>
<th>industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netherlands</td>
<td>1</td>
<td>15000</td>
<td>90</td>
<td>1986</td>
<td>7900</td>
<td>retail</td>
</tr>
<tr>
<td>UK</td>
<td>2</td>
<td>5500</td>
<td>98</td>
<td>2007</td>
<td>8800</td>
<td>Bank</td>
</tr>
<tr>
<td>Japan</td>
<td>3</td>
<td>37000</td>
<td>14</td>
<td>1995</td>
<td>2478</td>
<td>diversification</td>
</tr>
<tr>
<td>Japan</td>
<td>4</td>
<td>300</td>
<td>34.6</td>
<td>1996</td>
<td>2478</td>
<td>bank</td>
</tr>
<tr>
<td>Japan</td>
<td>5</td>
<td>2400</td>
<td>0</td>
<td>1979</td>
<td>2478</td>
<td>diversification</td>
</tr>
<tr>
<td>Japan</td>
<td>6</td>
<td>286</td>
<td>12.5</td>
<td>1997</td>
<td>2478</td>
<td>bank</td>
</tr>
<tr>
<td>USA</td>
<td>7</td>
<td>16000</td>
<td>99</td>
<td>1996</td>
<td>14000</td>
<td>retail</td>
</tr>
<tr>
<td>USA</td>
<td>8</td>
<td>9500</td>
<td>100</td>
<td>1989</td>
<td>14000</td>
<td>diversification</td>
</tr>
<tr>
<td>UK</td>
<td>9</td>
<td>5400</td>
<td>100</td>
<td>1978</td>
<td>8800</td>
<td>bank</td>
</tr>
<tr>
<td>German</td>
<td>10</td>
<td>8500</td>
<td>50</td>
<td>1995</td>
<td>7594</td>
<td>retail</td>
</tr>
</tbody>
</table>

Because the calculation units and variability of the above six independent variables are not uniform, their contributions to the dependent variables cannot be directly compared by the magnitude of their own variables, so it is necessary to standardize the original data. This paper uses standardized data for statistics and calculation.

3.3 Measurement of variables

In this paper, the degree of localization of middle-and high-level professional managers in the multinational companies studied is taken as the dependent variable, and the year when multinational companies entered China, the type of industries, the scale of enterprises and the geographical distance from China are taken as the independent variables. The scale of the enterprise, the year of entering China and the industry type are taken as the control variables. At the same time, because cultural differences are conceptual definitions and cannot be directly quantified, this paper uses geographical differences instead of cultural differences.

3.4 Research methods

This paper mainly uses the method of hierarchical regression, and gradually adds independent variables to test the influence on dependent variables. Hierarchical regression method is mainly suitable for exploratory

...
The square of Guan indicates the square of the complex correlation between independent variables and dependent variables.

\[ a = s_{r1}^2 = R_{y12}^2 - r_{y1}^2 \] (1)

Where \( R_{y12}^2 \) represents the square of the correlation between the dependent variable Q and the independent variable P2.

\[ b = s_{r2}^2 = R_{y12}^2 - r_{y1}^2 \] (2)

Where \( R_{y12}^2 \) represents the square of the correlation between the dependent variable Q and the independent variable P2.

\[ R_{y12}^2 = (r_{y1}^2 - r_{y2}^2 - 2r_{y1}r_{y2}r_{y12})/(1 - r_{y2}^2) \] (3)

\[ R_{y12}^2 = r_{y1}^2 + r_{y2}^2 - r_{y12}^2 + sr_{21}^2 \] (4)

\[ s_{r2}^2 = r_{y12}^2 - r_{y1}^2 = b \] (5)

\[ s_{r1}^2 = r_{y(12)}^2 = r_{y12}^2 - r_{y2}^2 = a \] (6)

Where \( R_{y12}^2 \) represents the square of the correlation between the dependent variable Q and the independent variable P2.

3.5 Empirical analysis

In this paper, when analyzing the relationship between cultural differences and the localization of professional managers, SPSS.18 software is used. According to the requirements of hierarchical regression method, the model construction is mainly divided into three processes:

Step 1: Take the dependent variable Q-the localization degree of professional managers, and the independent variable-geographical distance, and fit the simple regression equation. The results are as follows:

<table>
<thead>
<tr>
<th>Table 2 Descriptive statistics</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of localization Geographical distance</td>
<td>59.8100</td>
<td>41.87554</td>
<td>10</td>
</tr>
<tr>
<td>Degree of localization Geographical distance</td>
<td>8242.0280</td>
<td>5261.40953</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 3 Sample Overview</th>
<th>Change Statistics</th>
<th>R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>R Square</td>
<td>Adjusted R Square</td>
<td>Std. Error of the Estimate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>.974(a)</td>
<td>949</td>
<td>942</td>
<td>10.06650</td>
<td>.949</td>
<td>147.742</td>
</tr>
</tbody>
</table>

The results show the complex correlation coefficient R of the model is 0.974a, the determining coefficient R2 and the quasi-partial correlation coefficient. Therefore, the fitted regression model passed the significance test, which was statistically significant. At the same time, the results show that the constant term and coefficient term are tested by Ttest, both of which are statistically significant, and their P values are equal to the test results of regression model.

Step 2: Take the dependent variable Q-the localization degree of professional managers in multinational companies, the independent variables P1-geographical distance, P2-enterprise scale, P3-years of entry, P4, P5, P6-virtual variables of industries, and gradually add the independent variables into the model to fit the regression equation.

The results show the complex correlation coefficient R, determining coefficient R2 and quasi-partial...
correlation coefficient of the four models respectively. It shows that the constant term and coefficient term of the four models are tested by T test, except the P value of the first model is statistically significant, the other three models are not.

This shows that in the process of stepwise regression, the addition of independent variables P2, P3, P4, P5 and P6 makes the model lose its statistical significance, so these five factors cannot be added to the model of localization degree of professional managers-geographical distance, that is, except geographical distance, other variables have no direct impact on localization degree of professional managers.

Step 3: Take the dependent variable Q-the localization degree of professional managers, the independent variable P1-the geographical distance, the control variable P2-the scale of enterprises, P3-the years of entry, P4, P5, P6-industries, add them into the model and fit the regression model.

According to the results of partial correlation analysis after the influence of P2, P3, P4, P5 and P6, the partial correlation coefficient of professional managers' localization Q and geographical distance is 0.974, which has high statistical significance.

3.6 Research conclusion

Through the investigation of 10 multinational companies in China, combined with regression analysis, it shows that cultural gap has a positive impact on the localization of professional managers in multinational companies. The results show that the degree of localization of professional managers has a high level of significance to the geographical location, that is, the difference of educational level, which shows a positive correlation. This shows that Japanese and Korean companies close to China have a low degree of localization in multinational companies in China, while professional managers of multinational companies from European and American countries far away from China have a high degree of localization in China. Combined with the analysis of relevant data, we can see that the factors such as company size, year of entering China and industry type have little influence on the localization of professional managers in multinational companies.

4 Conclusions

The above argument shows that cultural differences are the most important factor to determine the localization of professional managers serving multinational companies. Therefore, when China's service industry develops transnational operations, if it is located in a country close to China and has a better understanding of its cultural customs, such as Japan and South Korea, the degree of localization of its professional managers can be relatively low. On the contrary, in order to truly realize the harmonious evolution and development of their multinational enterprises and professional managers, China's service multinational companies in Europe, America and other regions, which have great cultural differences with China, should select a large number of outstanding local managers as their professional managers. Only in this way can we better promote our service multinational companies to penetrate the local market faster and better, understand and adapt to their culture and environment as soon as possible, grasp the real needs of the local market, and realize their development goals of transnational operation.

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References:

9. Kelly C(2022) .Research on the improvement of international brand localization social media advertising strategy-based on BM's marketing in China market. Donghua University .4-44.
10. Liu HW; Feng WX(2022). Social demand, localization and the cultivation of professional