Multidimensional Development and Management Strategy of Business Translation in the Internet Era

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Abstract: Considering the vigorous development of Internet and business translation, this paper analyzes the development of international business translation and the management of the dynamic development in business translation. Clarifying the factors of business translation project management, we establish a mathematical model. Through empirical analysis, we work out the impact of each factor on business translation project management. Based on the empirical analysis, we carry out strategic research, and give recommendations on the optimization of project management.

1. Introduction

With the global economic integration and the new normal situation of China’s economy, the openness of economic markets in various countries has increased, and business translation has developed strongly in cross-cultural business exchanges. With the development of science and technology, the media carrier, audience, language and content form of business translation are under multidimensional development. Project management gradually penetrates into the field of translation, affecting the quality, process and technology of translation, and even becomes the key of success.

2. Analysis on the Development of International Business Translation

Based on the multi-factor and multi-index comprehensive integration measurement method, we analyze the core factors of business translation, such as the type, dissemination and development of business translation. According to data availability, we select indicators as language, content form, text type and media, etc. With the comprehensive indicators, we use the quantitative model of polygon method to improve it and fit it into the business translation system. Then we carry out a comprehensive measurement study on the multi-dimensional development of domestic business translation in different years, in order to establish and improve the comprehensive quantitative measurement model of multi-dimensional development of business translation.

Multidimensional development refers to the development of different aspects including the type, communication and development of business translation, as well as the level of their developing degree. This paper creates the idea as the Business Translation Multi-Dimension Development Indicator (BTMDI) for representation.
Table 1. Indicators of Multidimensional Development in Business Translation.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Indicators</th>
<th>Measurement method</th>
<th>Indicators in 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Translation type</td>
<td>Languages</td>
<td>Percentage calculation</td>
<td>Chinese &amp; English: 92%</td>
</tr>
<tr>
<td></td>
<td>Content forms</td>
<td></td>
<td>Translation service: 39%</td>
</tr>
<tr>
<td>Dissemination</td>
<td>Media</td>
<td>ISO certification: 25.8%</td>
<td>Internet: 55%</td>
</tr>
<tr>
<td>Development</td>
<td>Qualification</td>
<td>Actual value</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of served enterprises</td>
<td>Growth rate: 25.7%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Market scale</td>
<td>Growth rate: 14.8%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prospect</td>
<td>Graded quantization</td>
<td>4.11/5.0</td>
</tr>
</tbody>
</table>

For the comprehensive measurement, this paper intends to use polygon method. The sequential polygon planimetry means to extend several lines with a fixed point as a common point and form a polygon. The lines with the common point represent the specific indicators items respectively, and the length of each line segment refers to the value of corresponding indicators. Apply the sequential method to calculate the area of each triangle formed by the adjacent lines with their common point, and obtain the polygon area, which is taken as the value of composite indicators. In this method, the corresponding indicators are represented by related line segments, which makes it easy to visualize the comparison between units. The number of served enterprises, content forms, prospect, market scale, languages, qualification and media are respectively represented by OA, OB, OC, OD, OE, OF and OG. The angle between them is marked as a (a = 360° / 7). In the calculation of BTMDI, we use the proportion of neither English nor Chinese translation, since more languages mean better for modern business translation, which is conducive to promoting the development of business translation.

Then the area of the heptagon abcdefg is defined as BTMDI, whose formula is:

\[
BTMDI = \frac{1}{2} \sin \alpha (h_a \times h_b + h_b \times h_c + h_c \times h_d + h_d \times h_e + h_e \times h_f + h_f \times h_g + h_g \times h_a)
\]

According to the data of 2016, this paper will put its normalized value into the BTMDI formula, and obtain BTMDI = 0.374.

From the BTMDI of 2016, we can see the boom of China’s business translation industry, with increased market size and the number of served enterprises. The industry maintains rapid development, but the BTMDI has not yet reached the average level.

The following improvements can be made:

1. The qualification ratio is low, and the ISO certification accounts for the largest part, which is applicable to any industry, lacking specialized qualification for China’s enterprises engaging in business translation. It is an urgent need to establish a national qualification standard system, and improve the relevant management standards, so as to promote the healthy and orderly development of business translation industry.

2. At present, English and Chinese are most frequently used, which reflects the market demand of Chinese translation service. But with the Belt and Road project, China will surely connect with
more non-English speaking countries, and the market of business translation will be larger and larger. Therefore, the development of business translation in other languages should be strengthened.

3. The Internet has gradually accounted for the largest proportion of the media, and keeps a growing trend. As for business translation, more opportunities, channels and means should be taken to promote the role of specialized translation services, and improve the social awareness of translation service industry. Make use of the rapid spread of the Internet and a wide range of audience, communicate the business needs, and enhance the scale of business translation industry.

3. Strategy to Dynamic Development of Business Translation

Since the 21st century, revolutionary changes have occurred in fields, contents, forms and means in translation activities. However, since the marketization and commercialization of our translation industry started late, the vast majority of translation companies have existed only 5 to 10 years, and the translation companies with independent project management are estimated to be less than 5%. Many translation service companies are still in the entrepreneurial stage, with the lack of standardized business process and enhanced management tools. Such companies often lag in the progress of projects, due to mismanagement, resulting in the quality deviation, cost out of control and other issues, which severely damaged their image.

Translation Project Management (TPM) is part of the translation management, referring to the completion of translation goals in a certain period of time, with full use of limited resources through a special form of operating mechanism of temporary organization. The management of a specific translation project begins with the start of the project, and ends with the end of the project. Project management mainly includes four factors - time management, cost management, quality management, and resource management. For translation agencies, to carry out translation management means to reserve a variety of resources. For translation projects, growing application of translation management will be a trend. Through reasonable project planning, people can effectively control the scope, progress, cost, quality, teamwork and communication of members, and so on.

How to design proper work flow according to the characteristics of each project? How to monitor each link in the project implementation process? How to identify and avoid the risk of projects? How to ensure the effective communication between internal and external personnel? These are the problems that must be solved in translation project management. Only with reasonable assumption can the management process of translation project form its characteristics in terminology and corpus management, translator management, translation quality and so on, so as to provide the basis for the definition and optimization of the process. Case study has proved that the translation practice following the translation management process will greatly improve the quality of translation and meet the additional requirements of translation projects.

Under normal circumstances, the optimization of project management mainly contains three aspects: duration optimization, cost optimization and resource optimization. And this study intends to cover the quality optimization, as the business translation industry comes up with higher requirements on project management. Moreover, the objects of business translation pursue high quality. Therefore, in the management of the dynamic development in business translation, these four goals influence and restraint one another.

In the actual project management, the duration, cost, resource and quality are closely connected. In order to achieve the comprehensive optimization of management strategies, the duration, cost, resource and quality need to be optimized to be more in line with the actual needs, and we need to find the best plan with relatively short duration, lowest cost, most balanced use of resources and the highest quality.

This study aims at the aspect of “fixed time-balanced resource”, and establishes an optimization model to solve the problem with genetic algorithm. The various activities and their plans for resource usage will have a series of impacts on the overall project. The resource usage of one
activity can be in various conditions. The decision variables of this study are the possible patterns of resource usage, which are obtained based on the different combinations of resources and construction measures required by activities.

In this multi-objective model of management strategy, we have to achieve the optimal management strategy of “duration-cost-quality-resource”. Therefore, we establish the mathematical model of objective function as follows:

\[ \begin{align*}
\min T &= \sum_{i=1}^{N} T_i^j \\
\min C &= \sum_{i=1}^{N} \left( M_i^j + D_i^j \times U_i^j \right) \\
\max Q &= \sum_{i=1}^{N} \sum_{k=1}^{K} w_{i,k} \times Q_{i,k}^j \\
\min R &= \sqrt{\frac{1}{T} \sum_{i=1}^{T} \left( R_i - \bar{R} \right)^2}
\end{align*} \]

Where \( T \) means the total duration, \( C \) the total cost, \( Q \) the quality, and \( R \) the resource.

- \( T \): sequential time of activity \( i \) on the critical path with \( j \) types of modes;
- \( M \): direct cost of activity \( i \) with \( j \) types of modes;
- \( D \): duration of activity \( i \) with \( j \) types of modes;
- \( W_i \): the weight of activity \( i \) in the project;
- \( W_{ik} \): the weight of the quality standard \( k \) in activity \( i \);
- \( Q_{ijk} \): the quality standard achieved by activity \( i \) with \( j \)-th mode based on the quality indicator \( k \),
- \( R \): deviation of resource standard, used to measure the balance of resources;
- \( R_t \): amount of resource required for the first day of the construction period;
- \( \bar{R} \): average strength of resource used in the construction.

In the design of multi-object genetic algorithm, genetic algorithm can deal with multiple individuals in the group at the same time, characterized by parallelism, and its search ability is panoramic, with high Robustness and so on. Multi-object optimization contains multiple sub-targets, which are always conflicting. We always want to take a smaller investment in exchange for greater gains. So in this method, the selection operator mainly refers to the parallel one.

Through the effective planning and control of duration, cost, resource and quality, management strategies can be carried out comprehensively. First, after designing the corresponding genetic algorithm, we can get a series of non-inferior optimal solutions, that is, multiple optimization schemes. Project managers can choose the optimization management strategy based on the actual situation, and thus achieve the purpose of improving economic efficiency.

Moreover, the development of new business has further promoted the transformation of translation business management. Translation service needs to gradually shift from traditional individuals or small workshops to crowdsourcing mode with large-scale, proper process and fine collaboration, so as to improve the use of limited resources.

Finally, in the modern translation project management system, “Internet +” (Internet Plus) is one of the most significant features. The use of “Internet +” on the traditional translation project management can drive the innovation, liberating and innovating the productivity, which will become the new engine of language service industry in the future. As for the most important process innovation, it will achieve a fully automated production service process, greatly improving the efficiency of project management.

4. Conclusion

The development of business translation concerns not only its internal factors, but also various
external factors. We should strengthen the comprehensive analysis of the development of domestic business translation, pay attention to the dynamic transmission of international business translation development, enhance the management of business translation project in the Internet era, and improve the research system of business translation project.

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