Application of a Web Search Engine in Translating Business Terms in English-Chinese Dictionaries

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Web search engines are important tools for lexicography. This paper takes translation of business terms ("e-commerce" and "e-business") as an example to illustrate the application of web search engines in English-Chinese dictionary translation, including the methods of (1) finding the potential Chinese equivalents of the English business terms, and (2) selecting typical and proper Chinese equivalents in accordance with the frequencies and the meanings of the English business terms respectively.

Keywords: web search engine, business term, English-Chinese dictionary, translation

Introduction

Compilation of a bilingual dictionary involves a large amount of translation, as “(t)he basic purpose of a bilingual dictionary is to coordinate with the lexical units of one language those lexical units of another language which are equivalent in their lexical meaning” (Zgusta, 1971, p. 294). In addition, different styles or fields require different translation equivalent standards (Zhang, 2003). Yet, there are few complete equivalents between two languages. Furthermore, as a special genre, dictionaries have special requirements for the translation of equivalents. Compared with translations of other works with a richer linguistic context, it is more difficult to translate bilingual dictionaries (Huang, 1988).

The above difficulty can be solved with the help of web search engines (hereinafter called “search engine(s)”), which have powerful search functions and are important tools to solve the problems of dictionary translation. Bai et al. (2006) pointed out that “by selecting the right search engine, formulating a practical search strategy, and supplementing the necessary search skills according to different search requirements, users can obtain satisfactory search results in a short time”.

This article illustrates how to utilize search engines in dictionary translation, with special reference to translation of business terms of “e-commerce” and “e-business” in English-Chinese dictionaries.

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Related Studies and the Status Quo of Dictionary Translation

Related Studies on Use of Search Engines in Translation

Quite a number of studies have been conducted on the use of search engines in translation. While some thought that search engines and webpages should be utilized with caution (Ni et al., 2003), most claimed the usefulness of search engines in translation (Zhu & Xie, 2003; Wang, 2005; Zhou, 2007). However, research on dictionary translation is still rare at home and abroad. Zhao (2005) discussed the application of Google in dictionary compilation (especially in the aspect of English to Chinese translation) and pointed out that the way to solve the difficulty of translating new words in the dictionary was to use the search engines to find web resources. Kilgarriff and Grefenstette (2003) illustrated how to use AltaVista to find the most suitable English equivalent of the French noun phrase “groupe de travail” according to the frequency obtained.

Translation of Business Terms in English-Chinese Dictionaries

The translation of business terms of “e-commerce”, “electronic commerce”, “e-business”, and “electronic business” (as a separate headword or formed with combination of the headword “electronic”) in some well-known current business English-Chinese dictionaries and general English-Chinese dictionaries (which are quoted as comparison) are listed as follows:

- **e-commerce** (also **electronic commerce, Internet commerce**) 电子商务 (Parkinson & Li, 2011);
- **electronic commerce** 电子商务; 电子贸易 [亦作 e-commerce] (Zhang, 2004; Lu, 2007);
- **e-commerce** 电子商务[商业]1.

- **e-business** (also **electronic business**) 电子商务 (使用互联网进行的任何商务活动); 电子商务公司2 (Parkinson & Li, 2011); **e-business** 电子商务[商业]3.

So, the Chinese equivalents of the “e-/electronic commerce” and “e-/electronic business” are summarized as 电子商务, 电子贸易, and 电子商业. It can be seen that there is a discrepancy among the dictionaries in translating the two terms, and it is necessary to provide them with more consistent, accurate, and complete translations on the basis of the existing dictionaries.

One way to improve the translation of terms based on these dictionaries is to use search engines. In accordance with the requirements of dictionary term translation and with reference to the previous studies, like Zhu and Xie (2003), this paper demonstrates the application of search engines in business term translation of English-Chinese dictionaries from the perspective of finding and selecting equivalents.

The general research question is: How to apply search engines to improve current business term translation in English-Chinese dictionaries? Two specific questions are:

1. How to apply search engines to find potential equivalents?
2. How to apply search engines to select typical and proper equivalents based upon the frequencies and the meanings of the terms?

1 See the bilingualised Collins dictionary at Youdao online dictionary (dict.youdao.com).
2 This equivalent is not the concern of this article.
3 Idem.
Finding Potential Equivalents

Two terms “e-commerce” and “e-business” are covered in this and the next section as a case study.

First of all, the equivalents of 电子商务, 电子贸易, and 电子商业 in the current dictionaries should be regarded as potential equivalents. Of course, they should also be verified by a search engine. The equivalents of “e-commerce” as 电子商务, 电子贸易 and 电子商业 can be verified by searching "e-commerce" "电子商务" and "e-commerce" "电子贸易" respectively by Google. The same technique can be applied for “e-business”. To make the retrieved terms appear simultaneously as a whole, quotation marks were put at the beginning and the end of both the English terms and Chinese equivalents.

Then, with the help of search engines, more potential equivalents may be found. To find other potential equivalents by using search engines, the obvious part (电子商务 in this case) of the potential Chinese equivalents can be used, together with the English terms (here “e-commerce” and “e-business”) as hints. And to exclude the above three equivalents, -"商务", -"贸易", -"商业" were added into the search conditions.

The specific search conditions are "e-commerce" "电子商务" -"贸易" -"商业" and "e-business" "电子商务" -"贸易" -"商业".

For both “e-commerce” and “e-business”, a new equivalent 电子商贸 was found by initially browsing the first 100 pages returned by Google. More equivalents may be found if more scrutiny is to be made and more pages are to be analyzed. We stop at this point as the main purpose of this paper is to illustrate the methods of using a search engine.

So far, there are four potential equivalents, i.e. 电子商务, 电子贸易, 电子商业, and 电子商贸.

Selecting Typical and Proper Equivalents

After finding the potential equivalents, typical and proper equivalents should be selected as dictionaries have an authoritarian tradition (Wells, 1973). The selection can be carried out by two criteria: the frequencies and the meanings of the English business terms.

Selecting by the Criterion of Frequency

Selecting by the criterion of frequency is mainly concerned with the typicality aspect. Webs may be regarded as a corpus (Kilgarriff & Grefenstette, 2003), though some disagree with this (Ni et al., 2003). The frequency obtained by searching the webs should be able to explain the overall typicality of the actual use of terms and thus is of great reference value for the selection of equivalents. Of course, because what the webs contain are raw linguistic data, the number of frequency is not as accurate as that of a corpus with strict selection and verification. Yet, it is claimed that the frequency information may be used as a reference for selecting the equivalents.

The equivalent with a higher frequency should be taken into primary consideration. Statistical tests, such as Chi-square test, can be used to confirm whether there are significant differences among frequencies.

The following are the frequencies (approximate results indicated in Google) of the related English terms and their Chinese equivalents (with the search conditions of "e-commerce" "电子商务" -"贸易" -"商业" -"商贸", "e-commerce" "电子贸易" -"商务" -"商业" -"商贸", "e-commerce" "电子商业" -"商务" -"贸易" -"商贸", "e-commerce" "电子商贸" -"商务" -"贸易" -"商业", "e-business" "电子商务" -"贸易" -"商业" -"商贸", etc.)

Table 1

<table>
<thead>
<tr>
<th>Terms and Equivalents</th>
<th>Results</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-commerce 电子商务</td>
<td>450,000</td>
<td>1</td>
</tr>
<tr>
<td>e-commerce 电子贸易</td>
<td>3,710</td>
<td>4</td>
</tr>
<tr>
<td>e-commerce 电子商业</td>
<td>4,410</td>
<td>3</td>
</tr>
<tr>
<td>e-commerce 电子商贸</td>
<td>11,900</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 2

<table>
<thead>
<tr>
<th>Terms and Equivalents</th>
<th>Results</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>e-business 电子商务</td>
<td>91,900</td>
<td>1</td>
</tr>
<tr>
<td>e-business 电子贸易</td>
<td>1,290</td>
<td>3</td>
</tr>
<tr>
<td>e-business 电子商业</td>
<td>8,820</td>
<td>2</td>
</tr>
<tr>
<td>e-business 电子商贸</td>
<td>89</td>
<td>4</td>
</tr>
</tbody>
</table>

Judged by raw frequencies, the equivalents (in the order from high to low frequency) for “e-commerce” are 电子商务, 电子商贸, 电子商业, and 电子贸易; those for “e-business” are 电子商务, 电子商业, 电子贸易, and 电子商贸.

There is a significant difference among the frequencies of the four equivalents of “e-commerce” ($\chi^2 = 1254799, p < 0.05$) and those of “e-business” ($\chi^2 = 231893, p < 0.05$) by Chi-square tests ($\alpha = 0.05$). These findings further support the orders of the equivalents and the equivalents can be listed in the corresponding entries in a dictionary in these orders.

Selecting by the Criterion of Meaning

Selecting by the criterion of frequency is mainly related to the aspect of typical equivalents. The two English terms “e-commerce” and “e-business” are different in wording. Yet, as have been found in the previous section, the Chinese equivalents may be the same. This is not favorable to the accurate use of the English terms and their translation into Chinese and proper equivalents need to be selected.

Based on various webpages found by using Google, the main distinction between the two terms are summarized as follows:

The term “e-commerce” which involves customer or client interaction is a transaction of buying or selling of merchandises and services on the Internet and can be seen as a subset of “e-business”. Whereas the term “e-business” has wider extension than “e-commerce” and it may mean the behind-the-scenes digital machinations of making a company run smoothly and all business conducted online, or various business relationships through network.

4 The searches were made in 2018.
The above differences between the two terms can be added to the related entries in the dictionary. In terms of Chinese translation of the terms, “e-commerce” is supposed to be better translated into 电子商业, or (狭义) 电子商务 and “e-business” into 电子商务, or (广义) 电子商务 and placed at the initial positions of the component of equivalents if more than one of equivalents are listed in a dictionary, as dictionary users tend to choose the first equivalent in the dictionary entry for their translation (Li, 1998).

Conclusions

A search engine is a powerful tool for translating terms. Making full use of it will help solve the problem of bilingual dictionary translation and improve its translation quality. This paper only describes two aspects of finding and selecting equivalents to explain the application of the search engine in dictionary translation.

To obtain more accurate frequency information, we should consider collecting the relevant webpage files to create a small annotated corpus for English terms and their potential Chinese equivalents, and then use corpus retrieval tools (such as WordSmith and AntConc) to analyze the potential corresponding words. On the basis of the results of the analysis, detailed illustration can be made in the dictionary.

The variants (“electronic commerce/business”, “ecommerce/ebusiness”, “E-commerce/business”, etc.) of “e-commerce” and “e-business” are not dealt with in the main part of this paper and the issue of entry selection of them in a dictionary is to be tackled in the future.

References
